

**U.S. Department of Education**

**Evaluation of the Impact of Teacher  
Induction Programs**

*Office of Management and Budget  
Statement for Paperwork Reduction Act Submission*

*Part A: Justification*

Contract ED-04-CO-0112/0001

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This package represents a request for a short extension of 9 months for data collection instruments previously approved by OMB (OMB Control No. 1850-0802, approval notice dated August 16, 2005). The clearance initially granted was for a period of 3 years, with an expiration date of August 31, 2008. Data collection for the final administration of the teacher retention survey (Appendix I) is planned to begin in October 2008, and therefore an extension on the clearance is needed. Because the design for and burden of the final round of data collection was included in the original package, this current package is identical in content to the package approved by OMB. (Minor changes in wording have been made to the section headings to reflect the current OMB headings.)

## **PART A. JUSTIFICATION**

This request for OMB clearance addresses data collection activities for the Evaluation of the Impact of Teacher Induction Programs. Teacher induction refers to a program of services provided to novice teachers, typically in their first year. These services often include multiple forms of instructional and emotional support during the critical first year, such as working with a mentor, participating in professional development workshops, and obtaining structured feedback on classroom practices. This study is designed to test rigorously whether the use of a high-intensity teacher induction program improves teacher retention rates, teacher practices, and student achievement. Through qualitative and quantitative data collection, the study will compare the effectiveness of high-intensity teacher induction programs with that of lower-intensity programs, which are the norm in many school districts nationwide.

Three reasons motivate this rigorous study of the impacts of high-intensity teacher induction programs. First, research evidence suggests that the single most important factor in student achievement is the quality of the classroom teacher (Mayer et al. 2002). In response to this evidence, the No Child Left Behind (NCLB) Act of 2001 calls on state and local educators to increase the numbers of highly qualified teachers in our nation's public schools. At the same time, some states are mandating the use of induction for novice teachers, and several proposals for the Higher Education Act include funds for such programs. In response, the percentage of

novice public school teachers who participated in such a program increased from 51 percent in 1990-1991 to 83 percent in 1999-2000 (Smith and Ingersoll 2003).

Second, the need for this study also stems from a growing body of evidence related to teacher turnover. About 14 percent of teachers leave the profession after one year, and subsequent years also have high exit rates (Ingersoll 2003). High turnover rates limit the stock of experienced teachers, who have greater impact on student achievement than those with less experience (Sanders and Rivers 1996). Frequent turnover, especially in districts with high poverty rates, also requires that thousands of dollars be spent to recruit, hire, and train a replacement for each departing teacher. The Alliance for Excellent Education (2004) estimates the annual cost of teacher attrition to be \$2.6 billion nationwide.

Third, the need for this study stems from a lack of scientifically based information on whether more intensive, and hence more expensive, induction programs are the most appropriate type of program to implement. States and local districts, which invest substantial funding in induction programs, do not have a sound understanding of the worthiness of their investments. Considerable consensus exists about the potential value of components such as intensive, structured mentoring by experienced and carefully selected expert teachers; formative assessments of teaching practices; ongoing professional development workshops; and a clear focus on the instructional aspects of teaching. Nevertheless, only about one percent of novice teachers participate in a program with such elements (Smith and Ingersoll 2004). Policymakers and educators need better evidence to understand whether a comprehensive, or “high-intensity,” teacher induction model is an effective use of resources.

To inform this debate, Institute of Education Sciences (IES) of the U.S. Department of Education (ED) has funded the Evaluation of the Impact of Teacher Induction Programs. The study will compare the benefits and costs of the programs to examine whether high-intensity

teacher induction programs lead to higher teacher retention rates, better teacher practices, and higher student achievement, and whether such programs are worthwhile investments.

To do so, the study will randomly assign schools to receive either the district's current low-intensity induction program (the control group) or one of two high-intensity programs (the treatment group). Use of random assignment ensures scientifically valid estimates of the impacts of the high-intensity teacher induction programs on outcomes, compared with those of lower-intensity programs.

Two organizations will provide high-intensity programs—Educational Testing Service (ETS) and the New Teacher Center (NTC)—to increase confidence that impact estimates are not dependent on the specific aspects of a particular provider. ETS and NTC are two prominent providers of high-intensity teacher induction in the United States, so including both will boost the study's credibility and broaden the possible applicability of its findings. An analysis that pools the results from the two programs is reasonable, because the two models selected are quite similar in their structure, focus, and content. Nevertheless, implementing each model in about half the districts does provide an opportunity to study the effects of each one separately, though the study is not designed to permit a direct comparison of the impacts of one program to the other. In addition, the study will include two benefit-cost analyses. The first will compare the direct financial costs of the high-intensity programs with the direct financial benefits arising from reduced teacher turnover. The second will examine the cost-effectiveness of the high-intensity programs in affecting teacher practices, student outcomes, and the number and types of teachers who are retained.

## **1. Explanation of Circumstances That Make Collection of Data Necessary**

### **Introduction**

Section 9601 of the NCLB Act stipulates that federal funds are to be used to evaluate programs that the Act authorizes. NCLB, which reauthorized the Elementary and Secondary Education Act of 1965 (ESEA), emphasizes the importance of teacher quality in improving student achievement. Title II, Part A of ESEA—the Improving Teacher Quality State Grants program—provides nearly \$3 billion a year to states to prepare, train, and recruit high-quality teachers. The purpose of Title II, Part A is to help states and local school districts ensure that all students have effective teachers. The impact evaluation is thus essential to determining whether state and local efforts to implement high-intensity teacher induction programs are having a measurable impact on teacher retention patterns, teacher practices, and student achievement.

## **2. How, by Whom, and for What Purpose Information Is to Be Used**

The main purpose of the impact evaluation is to determine the effectiveness of high-intensity induction programs in terms of teacher retention rates, teacher practices, and student achievement. The study will also shed light on the nature of teacher induction services typically provided in the selected districts and the characteristics of new teachers who participate in these services.

The data collected for the study will be used to address research questions in six areas: (1) characteristics of new teachers when they enter the teaching profession, (2) induction services received by novice teachers, (3) teacher retention, (4) classroom practices, (5) student achievement, and (6) benefits and costs of implementing the high-intensity induction programs. In each of these areas, the following questions will be explored:

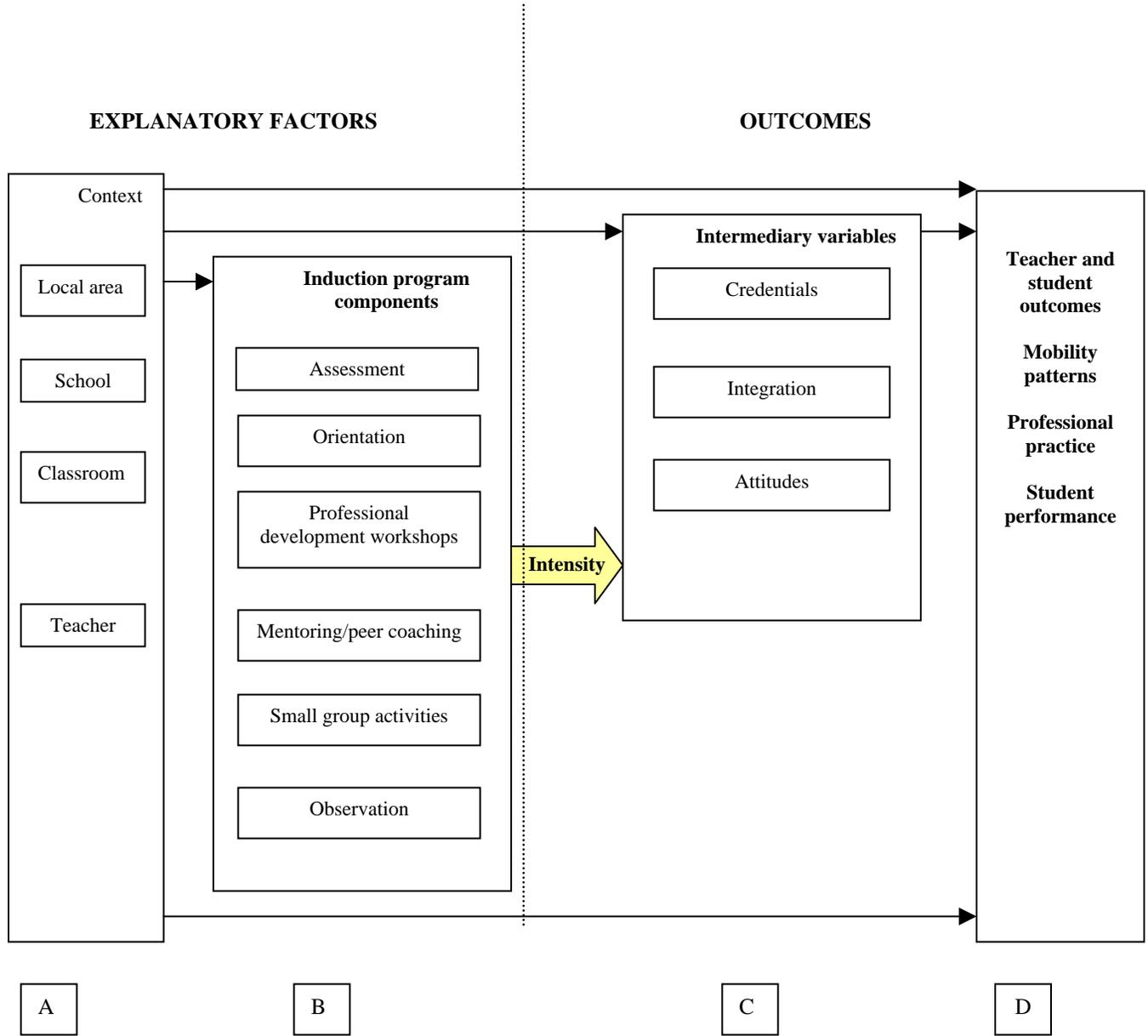
1. **Baseline Characteristics of Novice Teachers.** What are the characteristics of novice teachers when they begin teaching, such as their professional and personal background characteristics? To what degree do they feel prepared to handle various aspects of teaching? What are their expectations for teaching as a career?
2. **Induction Services Received by Novice Teachers.** What are the types and intensities of teacher induction activities in different induction programs for novice teachers? What forms of support are provided in such areas as pedagogy and classroom management? Who are the mentors who provide this support? What are teachers' levels of satisfaction with teaching?
3. **Teacher Mobility.** How does high-intensity teacher induction affect new teachers' mobility patterns and, more specifically, the retention rates for districts? Do teachers who leave a particular school transfer to another school within the same district, transfer to another school district, transition into another type of position in the education field, or leave the profession entirely? What reasons account for teachers' leaving the schools where they begin their careers? What are the characteristics of teachers who are retained compared with those of teachers who leave the school, district, or profession?
4. **Classroom Practices.** How does teacher induction affect new teachers' classroom practices? Do the high-intensity programs positively affect the quality of novice teachers' planning and preparation, classroom management, and instructional techniques?
5. **Student Achievement and Other Student Outcomes.** Does high-intensity teacher induction ultimately result in improved student achievement? Does high-intensity induction reduce the incidence or severity of disciplinary actions?
6. **Benefits and Costs.** Do benefits of increased retention rates associated with high-intensity induction programs outweigh the financial costs associated with implementing such programs? What are the benefits in addition to increased retention?

The collection of information to address these questions will permit analyses that can inform the policy debate on appropriate strategies for helping new teachers make the transition into the profession and also helping them to remain high-quality, effective teachers. Each piece of the data collection package will provide vital information toward developing a policy framework for future decisions regarding teacher induction. The intended audiences for the study's results are ED, state education policymakers, and state and local induction program and school district staff.

**Conceptual Framework for the Study.** Many factors can distinguish novice teachers from one another. To understand the contribution of teacher induction models on teacher retention, classroom practices, and student performance, it is important to account for differences in teachers' personal and professional background characteristics, in addition to differences in the content and intensity of the teacher induction programs themselves. A conceptual framework for the study is depicted in Figure 1.

FIGURE 1

CONCEPTUAL FRAMEWORK FOR THE EFFECTS OF TEACHER INDUCTION PROGRAMS ON TEACHER, SCHOOL, AND STUDENT OUTCOMES



This framework indicates core areas for exploration under the research questions posed in each of the topical areas listed above. The framework highlights the important linkages between explanatory factors and outcomes. First, Column A includes the contexts of local communities, schools, classrooms, and teachers, including such characteristics as neighborhood demographics,

the degree of administrative financial support, the percentage of a classroom's students with special needs or special education status, and teachers' employment history. Second, Column B, induction program components, includes factors such as the quality, duration, and frequency of induction activities, including orientation, assessment, professional development workshops, mentoring/peer coaching, small group activities, and observations. Third, Column C, intermediary variables, indicates the intermediate effects that these program components might have on teachers' attainment of additional credentials, integration and socialization in their school communities, and attitudes about teaching. Finally, Column D, teacher and student outcomes, shows the longer-term effects of an induction program. Teacher outcomes include increased retention rates and improvement of instructional practices. Student outcomes include improved academic achievement and a reduction in behavioral problems related to attendance, tardiness, and disciplinary incidents.

**a. Structure of the Data Collection Effort**

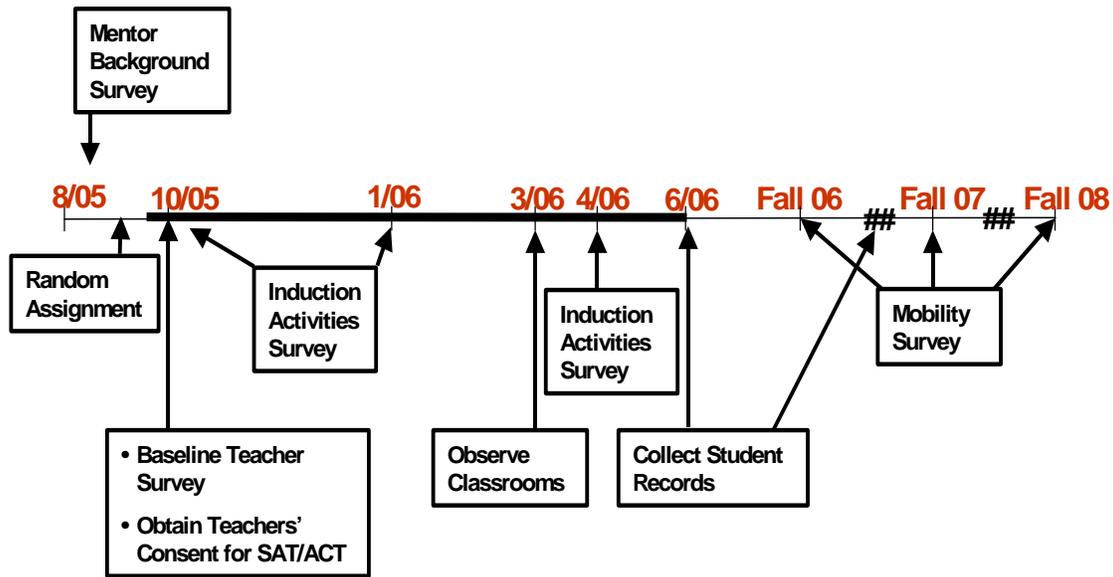
To address the study's research questions, the evaluator, Mathematica Policy Research, Inc. (MPR), will utilize a number of different data collection methods. Data collection instruments will include a mentor background survey, a baseline teacher survey, a consent form requesting permission for the evaluator to collect teachers' college entrance exams, a classroom observation protocol, a teacher induction activities survey, and a teacher retention survey.<sup>1</sup> The study also will include collection of aggregated student records data and a review of program documents.

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<sup>1</sup> Formally, the baseline teacher survey is called the Background Survey and the teacher retention survey is called the Mobility Survey.

Data will be collected from up to 400 different, geographically dispersed schools, and each data collection activity will be uniformly administered. Figure 2 displays a timeline for the data collection activities. A brief description of each data collection activity is provided below.

FIGURE 2  
DATA COLLECTION TIMELINE



**Notes:**

The bold portion of the timeline, from 9/05 to 6/06, indicates the induction program period.  
Items above the timeline apply only to those in the Treatment Group.  
Items below the timeline apply to both treatment and control teachers.

Instruments are included in accompanying appendices , and the matrix presented in Figure 3 displays the role of each activity in providing information that is relevant to the conceptual framework.

**b. Mentor Background Survey**

In summer 2005, at the time of the initial mentor training sessions, a background survey will be administered to the mentors selected for both the NTC and ETS induction programs. Topics

FIGURE 3

DATA SOURCES AND DATA COLLECTION METHODS

Topic Areas	Data Collection Methods			
	Survey	Observation	External Data	Document Review
<b>Beginning Teacher Outcomes</b>				
Credentials	TB, TR			
Integration/Socialization	TB, TR			
Attitudes	TB, TR			
Mobility patterns	TR			
Professional practice components				
Planning and preparation		C		
Classroom environment		C		
Instruction		C		
<b>Student Outcomes</b>				
Academic achievement			S	
Behavior			S	
<b>Induction Program Components</b>				
Assessment	TI			D
Orientation	TI			D
Professional development workshops	TI			D
Mentoring/peer coaching	TI			D
Mentor selection			M	D
Mentor support				D
Mentor training				D
Small group activities	TI			D
Observation	TI			D
<b>Context</b>				
Local area conditions			CCD, Cen	
School characteristics			CCD, S	
Classroom characteristics			S	
Teacher characteristics	TB		SAT/ACT	

Key: Data Sources

- C Classroom Observations
- CCD Common Core of Data (NCES)
- Cen U.S. Census
- D Program Description
- S School Records
- SAT/ACT Teacher SAT/ACT Consent
- TB Baseline Teacher Survey
- TI Teacher Induction Activities Survey
- TR Teacher Retention Survey
- M Mentor Background Survey

will include their professional and personal background characteristics. The survey takes about 10 minutes to complete and appears in Appendix A.

**c. Baseline Teacher Survey**

In October 2005, a baseline survey will be administered to the treatment and control teachers. A cover letter will briefly summarize the study, explain its purpose, and assure teachers that the confidentiality of the requested information will be maintained. Topics to be covered are the teacher's professional credentials, perceptions of the teaching profession, and personal background characteristics, many of which (marital status, spouse's occupation and relocation history, number of young children, and salary at the start of the first year) may affect retention. The survey will then ask teachers to provide their name, Social Security number, the grade they are teaching, and contact information for follow-up. Teachers will receive the survey by mail at their school, along with a letter asking that they complete it within two weeks and return it in the pre-addressed, postage-paid envelope included in the survey packet. The survey takes about 30 minutes to complete. The cover letter to teachers and the baseline teacher survey appear in Appendix B and Appendix C, respectively.

**d. Teacher ACT/SAT Scores**

Teachers with different levels of academic ability may demonstrate different levels of effectiveness, regardless of their participation in induction activities. Therefore, it will be important to control for differences in their academic ability. All treatment and control group teachers will be asked to give the College Board or ACT permission to release their college entrance exam scores for the study. The collection of these test scores will provide an objective measure of teachers' cognitive ability and will place no additional burden on teachers. It will be

made clear to teachers that they may decline to provide access to their scores. Appendix D displays the consent form, which will be included in the baseline teacher survey packet.

**e. Student Records Data**

The basic purpose of improvements in teacher quality are intended to result in improvements in student achievement and other student outcomes. We will collect information on student outcomes by obtaining school records data, aggregated to the classroom level (Table 1). Student records data will be collected during summer 2006 and summer 2007 for study classrooms in both treatment and control schools; these data will include scores from standardized tests that the districts already plan to administer, as well as attendance and behavioral incidents such as tardiness and disciplinary actions. Because aggregated student records data do not require identification of individual students, active parental consent will not be required. Appendix E is the notification letter that explains what is planned. Permission and procedures for accessing these data will be discussed with each district at the time of their recruitment into the study. Agreement to obtain the school records will be included in the memorandum of understanding with each district.

**f. Classroom Observation Protocol**

A key hypothesis of the evaluation is that high-intensity teacher induction will lead to improvements in teachers' instructional practices, which ultimately will affect student achievement. Because classroom practices are difficult to quantify, the impact evaluation will include classroom observations conducted by trained observers.

These classroom observations will be conducted to gain firsthand knowledge of each study teacher's approach to teaching in terms of pedagogical practices and classroom management (see

TABLE 1  
SCHOOL RECORDS DATA ITEMS

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**Data Item**

School name/identifier  
Teacher identification number (Provided by MPR)  
Classroom identifier  
Grade level (supplied by MPR, to verify)  
Number of students in class

**Classroom Average**

Score on mathematics test  
Number with valid math score  
Score on reading test  
Number with valid reading score  
Days enrolled (or average daily enrollment)  
Days attended (or average daily attendance)  
Days tardy (or average daily tardy rate)  
Suspensions (occurrences)  
Days suspended  
Expelled  
Disciplined (other, if available)

**Number or Percentage of Students**

Retained in grade  
Promoted to next grade  
With promotion contingent on summer school/retest  
Eligible for free school lunch program  
Eligible for reduced price lunch  
African American  
Hispanic or Latino  
English language learners  
Classified as having special needs, such as those with an Individual Education Plan

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Note: The initial request for school records data will include these data items. We expect to work with each school district to determine which data items are available. If appropriate, we also will discuss whether alternative formats for the data items can more easily be provided to us.

Figure 3). Each treatment and control teacher from the 400 schools in our sample will be observed twice, on consecutive days, in late spring 2006, before schools close for the summer. Site visitors will be trained how to complete a classroom observation protocol developed by the Vermont Institutes. Prior to each classroom observation, 10-minute semistructured interviews will be conducted with each teacher. These interviews will address the teacher's goals and objectives for the lesson to be observed.

Appendix F contains a cover letter that will be sent to each teacher to confirm arrangements for the classroom observations, and Appendix G contains the protocol for this 10-minute pre-observation teacher interview. The observations themselves require no interaction with the teachers. The protocol for the classroom observations (the Vermont Classroom Observation Tool) is a proprietary document and is therefore not included in this document.

#### **g. Teacher Induction Activities Survey**

It will be important to understand the differences in the services delivered by the high- and low-intensity programs. Information about services delivered by programs operated at different intensity levels will be useful for interpreting impacts and for identifying any district that needs technical assistance to strengthen adherence to its high-intensity program model. Furthermore, information about services received by control group teachers will be useful for characterizing what would have happened in the absence of the high-intensity programs.

So that these retrospective self-reports are more accurate, a teacher induction activities survey will be administered to both treatment and control teachers at three points (October 2005, January 2006, and April 2006). Since the nature of induction activities may change often during the school year, surveying three times will reduce any difficulties teachers may have in recalling induction activities. Survey items will include questions applicable to activities delivered by

both the high-intensity programs and the “business as usual” (low-intensity) programs in participating districts. The survey will ask questions about the focus of the induction activities, the duration of each activity, the extent to which participants thought that each activity was useful, and which additional types of help teachers would like to receive from mentors (topics 12 through 17 in Figure 3). Teachers will receive the surveys by mail, along with a letter requesting completion of the surveys within two weeks. Teachers will be asked to return the survey in a pre-addressed, postage-paid envelope that will be included in the survey packet. Completion time for each survey is estimated to be 20 minutes. The cover letter to teachers and the teacher induction activities survey appear in appendices H and I, respectively.

#### **h. Teacher Retention Survey**

In the fall of 2006, 2007, and 2008, the teacher retention surveys, which will concentrate on the mobility of teachers to different schools, districts, or professions, will be administered. Items will include the teacher’s current place of employment (the original school, a different school within the same district, a different school in another district, or a temporary or permanent nonteaching job), the timing of the change in employment, job satisfaction, the reason(s) for leaving last year’s school, and the reason(s) for leaving the teaching profession, if applicable (topic 4 in Figure 3). Completion time for each survey is 20 minutes, and teachers will receive the survey by mail, along with a letter requesting completion of the survey within two weeks. Teachers will be asked to return the survey in a pre-addressed, postage-paid envelope that will be included in the survey packet. The most recent contact information (home address, home phone number, cell phone number, email address, and Social Security number) that they provide in the baseline teacher survey, as well as locating software, will be used to follow up with teachers who

move from a particular school. The cover letter to teachers and the teacher retention survey appear in appendices J and K, respectively.

**i. Document Review**

A document review of materials supplied by the two high-intensity induction program providers will be conducted to supplement the information collected through the teacher induction activities survey. Data collected will focus on assessment, orientation, professional development workshops, mentoring/peer coaching, small group activities, and teacher observations (topics 12 through 17 in Figure 3). These materials will include items such as training agenda and materials, curriculum guides, and assessment tools. This information will be collected directly from the two participating high-intensity induction program providers.

**j. Data to Measure Benefits and Costs**

The benefit-cost analysis will not involve additional systematic data collection. Published data and data collection activities already mentioned will provide the information needed to estimate benefits and costs of teacher induction.

The Induction Activities survey will indicate the time spent in mentoring, orientation, professional development, and other activities among beginning teachers in both the treatment and control groups. We will combine this information with administrator and teacher salary data gathered from public sources to compute the value of time spent by all those involved in induction efforts. For the treatment programs, we can compute unit cost information that includes materials and activities not reflected in the Induction Activities Questionnaire from their detailed contract information. For the control programs, districts can provide us with budget data that indicates the cost of the district's own induction services.

We will use published estimates of the costs of hiring and separation (including advertising, recruiting, interviewing, administrative processing, and severance pay) to determine the cost of replacing a teacher. We will consider a broader range of benefits of induction, including student achievement and behavior and teacher satisfaction, in the cost-effectiveness analysis that will complement the benefit-cost analysis. All this information will be gathered through existing data collection efforts.

### **3. Use of Improved Information Technology to Reduce Burden**

The data collection plan reflects sensitivity to issues of efficiency, accuracy, and respondent burden. Where feasible, information will be gathered from existing data sources, such as program and school records, using straightforward reporting forms or preexisting documents. Districts (and schools, when appropriate) will have the option of delivering school records data electronically, filling out a straightforward reporting form manually, or submitting hard-copy documents that already exist.

In other cases, necessary data can be obtained only from school staff or teachers. Every effort will be made to reduce burden and maximize efficiency of the process. The baseline teacher survey and the induction activities survey will include a toll-free telephone number and email address so that teachers can easily contact researchers with questions. Mail and telephone followup will be conducted for nonresponse. These procedures are all designed to minimize burden on respondents.

### **4. Efforts to Identify and Avoid Duplication**

There is much interest in obtaining an accurate assessment of how high-intensity induction programs affect teacher behaviors and, thus, student achievement. To date, however, no studies

of this kind have been conducted.<sup>2</sup> This impact evaluation thus will be an important contribution to the policy debate. Its rigorous methodological design, incorporating random assignment of schools, will ensure that highly credible evidence about the impact of high-intensity teacher induction models on teacher retention, classroom practices, and student performance is obtained.

In most cases, the evaluation will gather data on baseline and outcomes measures that will not require duplication of effort. For example, the evaluation will collect information on teacher induction program activities only from the treatment and control group novice teachers and not from the mentors. In contrast, the study will need to collect data on teacher performance from more than one source, since measuring this is challenging and complex. The inclusion of classroom observations of all teachers—which will afford the opportunity to observe teaching practices firsthand—will enrich our understanding of teacher practices and our interpretation of the study’s findings. In addition, teacher performance will be further measured by examining student achievement through aggregated standardized test scores.

## **5. Efforts to Minimize Burden on Small Businesses and Other Entities**

Although both districts and schools will be involved in the impact evaluation, the burden that each of these types of entities will incur should be minimal, particularly given the potential benefits they will have the opportunity to receive. Districts and schools that agree to participate in the study will need to work with either NTC or ETS to implement a high-intensity induction program, and work with evaluators to provide school records data. Principals of these schools will need to allow evaluators access to the teachers and their classrooms. Importantly, these burdens will be mitigated by the opportunity that the districts and schools will gain from

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<sup>2</sup> The Teacher Follow-Up Survey, administered by the National Center for Education Statistics, asks a few questions about induction practices. However, it has a one-year followup only.

receiving high-intensity induction services, which have the potential to increase teacher retention, improve the quality of teaching by novice teachers, and produce better student outcomes.

Participants will be asked to provide only the minimum information required to meet the study objectives. The burden will be minimized through the careful specification of information needs and the restriction of questions to information that is generally available to participants. In addition, all data collection will be coordinated by trained staff so as to minimize the burden on school staff.

## **6. Consequences of Less-Frequent Data Collection**

In the absence of the impact evaluation, IES will not be able to detect differences in teacher retention rates, classroom practices, or student achievement stemming from differences in intensity levels of teacher induction programs. Only the most basic of information addressing the value of and approach to effective teacher induction is currently available, and much of that information is methodologically suspect. Nevertheless, thousands of new teachers are hired every year and make a transition into teaching with little or no scientifically based knowledge of which types of support teachers need to remain in the profession and be effective in the classroom.

The impact evaluation will fill this gap in policy-relevant knowledge, using a study design containing several components. Because high-intensity teacher induction programs have multiple objectives (to increase teacher retention, improve classroom practices, and bolster student achievement), the data collection plan is diverse. Nevertheless, it has been designed to allow us to answer questions of policy importance with minimal burden to sample members.

**7. Special Circumstances Regarding Collection of Information in a Manner Inconsistent with Section 1320.5(d)(2) of the Code of Federal Regulations**

There are no special circumstances involved with this data collection.

**8. Federal Register Comments and Persons Consulted Outside the Agency**

**a. *Federal Register* Announcement**

A 60-day notice to solicit public comments was published in the *Federal Register*. No public comments have been received as a result of this notice.

**b. Consultations Outside the Agency**

During preparation of the data collection plan for this evaluation, professional counsel was sought from a number of people. Early in the study planning, input was solicited from a broad range of researchers who are members of the Technical Working Group under contract to design the impact evaluation and to provide ongoing input throughout the evaluation. Their counsel has continually been sought on numerous issues. These people include:

- Carol Bartell, California State University at Los Angeles, 323-343-4300
- Larry Hedges, University of Chicago, 773-256-6275
- Hamilton Lankford, State University of New York at Albany, 518-442-4743
- Rebecca Maynard, University of Pennsylvania, 215-898-3558
- Sandra Odell, University of Nevada at Las Vegas, 702-895-3232
- Jeff Smith, University of Maryland, 301-405-3532
- Todd Stinebrickner, University of Western Ontario, 519-661-2111

**c. Unresolved Issues**

None.

## **9. Payments to Respondents**

In March 2005, NCEE submitted a paper to OMB outlining the Guidelines for Incentives for NCEE Evaluation Studies. The incentives proposed for the Evaluation of the Impact of Teacher Induction Programs conform to the incentives discussed within this paper.

The Evaluation of the Impact of Teacher Induction Programs is one that employs randomization of schools. With a random assignment design, it is critical to maintain the integrity of the treatment and control groups and ensure equivalence of the groups. This study's ability to detect effects of high intensity induction programs will be compromised to the extent there is attrition of either the treatment or control group teachers, and especially if there is differential attrition. If a significant portion of either the treatment or control group teachers declines to participate, it will not be possible to conduct meaningful analyses based on "intent to treat," since it is not possible to add new members to either group. To the extent that members of the treatment or control group are lost from the study, the findings are biased, and study funds are wasted.

To encourage response and acknowledge that participation is not without some burden, we plan to offer payment to teachers for completing the surveys and participating in classroom observations. We will offer:

1. \$30 for the Baseline (Background) questionnaire (a 25 minute survey and 5 minute permission form, administered once)
2. \$20 for the Induction Activities questionnaire (a 20 minute survey, administered three times during the first school year)
3. \$20 for the Retention (Mobility) questionnaire (a 20 minute survey, administered once in each of the subsequent school years)
4. \$25 per classroom observation (we will observe each teacher twice during the spring of the first school year)

The maximum amount a teacher could be paid over four years is \$200. The target population for this study of novice teachers in self-contained elementary school classrooms are reported to be the object of numerous requests to complete surveys. Collective bargaining agreements in many districts do not allow teachers to complete surveys during school time. Incentives are therefore needed to encourage teachers to complete the surveys. This is particularly true for teachers in the control group, who do not receive any of the potential benefits of the high intensity induction program, but are asked to complete the surveys and have their classrooms observed. These teachers receive burden from the data collection without receiving any potential benefit from the treatment.

Providing a \$30 incentive for the Baseline questionnaire near the start of the school year will help to ensure that we get the highest response rates possible on critical items that will be used to control for background characteristics and to define subgroups in our analyses, as well as provision of contact information so that all subsequent surveys can be successfully administered.

Providing the \$20 incentive for each completion of the Induction Activities questionnaire is essential given that the questionnaire will be administered three times during the 2005-2006 school year and high response rates during each administration are necessary to ensure documentation of the contrast in induction services received by teachers in the treatment and control groups. Providing the incentive to teachers in the treatment and control groups will help to ensure that we get equivalent response rates from teachers in both groups without compromising the quality of the data in any way. Teachers in the treatment group could be encouraged to complete these surveys by their mentors and, thus, not need an incentive to do so, but this could bias the actual responses provided and we do not want to risk such an outcome.

The classroom observations, which will provide us data for one of our key outcome variables, need to be conducted during a fairly narrow window of time, so that teachers are all

observed at close to the same point in time near the end of the school year. However, many teachers may feel uneasy about their classroom practices being observed and rated. Providing teachers with an incentive to cooperate with the scheduling and conduct of these observations will help to prevent large gaps of time in when the observations are conducted, which would compromise the usefulness of these data.

This impact evaluation requires a lengthy field period, requiring data collection in four consecutive years. Providing compensation for completion of the Retention questionnaires will help us obtain high response rates on another core outcome measure. The Retention questionnaire is a key data collection that is particularly at risk for low response rates. This is because novice teachers tend to have high mobility rates. Teachers are therefore unlikely to be retained in the control group, and perhaps in the treatment group if the high intensity program does not prove to be effective in curbing mobility. Teachers who leave the school or profession will have no incentive to continue to complete the surveys, and may be lost from the sample if an incentive is not offered. In addition, regardless of whether the teacher remains in the school or profession after the first year, achieving high response rates will be harder to do in the follow-up years when the teachers are not receiving induction activities. By compensating teachers for completing these mail questionnaires, we will reduce the need for the more expensive approach of using field interviewers to go to the sample members' schools or homes to attempt interviews.

## **10. Assurances of Confidentiality**

All data collection activities will be conducted in full compliance with ED regulations. Data collection activities will be conducted in compliance with The Privacy Act of 1974, P.L. 93-579, 5 USC 552 a; the "Buckley Amendment," Family Educational and Privacy Act of 1974, 20 USC 1232 g; The Freedom of Information Act, 5 USC 522; and related regulations, including but not limited to: 41 CFR Part 1-1 and 45 CFR Part 5b and, as appropriate, the Federal common rule or

ED's final regulations on the protection of human research participants. This is to maintain the confidentiality of data obtained on private persons and to protect the rights and welfare of human research subjects as contained in ED regulations. Each self-administered instrument will include a reminder on the protection of confidentiality. Where data are collected through interviewer-administered interviews—for instance, with teachers who do not complete a self-administered version and are interviewed by telephone—interviewers will remind respondents of the confidentiality protections provided, as well as their right not to answer questions. All data collectors and interviewers will be knowledgeable about confidentiality procedures and will be prepared to describe them in full detail, if necessary, or to answer any related questions from respondents.

MPR has a long history of protecting confidentiality and privacy of records and considers it a critical aspect of the scientific and legal integrity of any study. The integrity the company brings to protecting data confidentiality and privacy extends to every aspect of survey operations and data handling in the field for the impact evaluation. MPR plans to use its ongoing, long-standing techniques, which have proven effective in the past. Every data collector will be required to sign a pledge to protect the confidentiality of respondent data. The pledge indicates that any violation or unauthorized disclosure may result in legal action or other sanctions by MPR. A copy of this pledge will be kept on file and will be available upon request.

### **Specific Procedures to Maintain Confidentiality**

MPR removes personal identifying information from respondents' data as soon as practical. Should MPR use a linking methodology, it is secured to prevent unauthorized linkage of the respondent information and the personal identifiers. Hard-copy questionnaires completed by teachers and mentors are returned to MPR in pre-addressed, postage-paid envelopes. However,

identifying information (such as contact sheets and locating information used by field interviewers) is sent separately when possible.

To protect confidential data stored on hard-copy media, MPR keeps these materials in controlled-access areas and locked rooms. When not in use, hard copies, floppy disks, and computer tapes are also stored in these areas. In addition, we use log sheets to track and record access to the confidential information and maintain this log as part of the project's documentation and records. Important raw data and intermediate and final analytical files are copied to cartridge and assigned an expiration date or disposed of in accordance with the contract requirement or data use agreement. Paper documents are then shredded.

A privacy impact assessment was conducted and the Privacy Act System of Records Notice was published in the federal register on June 17, 2005.

## **11. Questions of a Sensitive Nature**

School-based disciplinary events among students of sampled teachers can be considered sensitive information. School records will be collected on such events as absenteeism, tardiness, suspension, expulsion, and promotion among all the students of sampled teachers. However, the student record data will be provided in aggregate form and linked to each teacher, and individual students will not be identifiable.

The teacher questionnaire will contain background questions on sample members' income, marital status, education, race, ethnicity, age, household composition, and home ownership. Some teachers may consider this information sensitive. However, data on these topics are important to collect because of their strong relationship to teacher outcomes, such as retention. Obtaining Social Security numbers is also important so that we can locate sample members if they move and so that we can obtain college entrance exam data, which is also expected to be a strong predictor of outcomes. Questions used to obtain this potentially sensitive information

have been asked frequently in other surveys and have been successfully pretested for this study. In addition, we will request that teachers voluntarily sign a consent form to release their SAT and ACT scores—further information that some teachers may consider sensitive.

## 12. Estimates of Respondent Burden

Table 2 provides an estimate of time burden. The total reporting burden for this data collection effort is 3,066 hours. Most of these hours are for administering three types of surveys: (1) a baseline teacher survey, which will take 30 minutes; (2) three teacher induction activities surveys, each of which will take 20 minutes; and (3) three teacher retention surveys, each of which will take 20 minutes. Additional time is included for the 10 minute mentor background survey, the 10-minute teacher interviews that precede classroom observations and for extraction of records data (about 20 hours per school district).

TABLE 2  
BURDEN IN HOURS TO RESPONDENTS

Data Collection Activities	Number of Completions	Average Burden Hours/ Respondent	Total Burden Hours	Estimated Total Burden Costs (Dollars) <sup>a</sup>
Baseline survey	960	.50	480	10,781
Induction survey	2,880	.33	950	21,337
Retention survey	2,735	.33	903	20,281
Mentor survey	40	.17	7	157
Pre-observation interviews	1,920	.17	326	7,322
Extraction of student records	20	20	400	8,984
<b>Total</b>			<b>3,066</b>	<b>68,862</b>

<sup>a</sup>These estimated costs are based on an estimate derived from the National Compensation Survey of \$22.46 as the mean hourly earnings of elementary school teachers in 2003.

The numbers of teacher survey completions are calculated as follows. Survey completion estimates are based on a sample of 20 districts, 20 schools per district, and 2.4 teachers per school (yielding a total of 960 teachers included in the study). The baseline survey and the

induction surveys are completed in the 2005-2006 school year. We anticipate a 100 percent response rate for these surveys, so we expect to obtain 960 baseline surveys and 2,880 (960 teachers  $\times$  3 surveys/teacher) induction surveys. The number of survey completes that we will achieve for the retention surveys depends on our expected response rate with sample members. We have assumed a 97 percent response rate in the 2006-2007 school year, which will yield 931 (960 teachers  $\times$  0.97 response rate) survey completes for the first retention survey. We anticipate achieving 94 percent response rates for the retention surveys conducted in the 2007-2008 and 2008-2009 school years, which will yield 902 (960  $\times$  0.94) survey completes each for the second and third retention surveys.

We expect to complete background surveys with all mentors included in the study—these are mentors who are working with NTC or ETS in providing induction services to teachers in the treatment schools. Since they will all be present for the initial training session (as a condition of their being hired for the position), there should be no problem in achieving a 100 percent response rates with this group.

One way that we will examine the impact of induction program participation on teacher practices is to conduct classroom observations. MPR will observe all teachers (960) twice in spring 2006 (yielding 1,920 observations). Classroom observations will be conducted to gain firsthand knowledge of each study teacher's approach to teaching in terms of the teacher's content knowledge, pedagogical practices, and classroom management. Prior to each classroom observation, the site visitor will conduct a 10-minute semistructured interview with each teacher to understand the teacher's goals for the class, to obtain copies of handouts, and to determine the teacher's preferences on seating and other logistical issues so that the observation is as minimally disruptive as is possible. The observations themselves require no interaction with the teachers and thus will impose minimal burden.

Student records, containing standardized test scores, attendance, and disciplinary information, will be provided in aggregate form for teachers' classrooms, so that individual students cannot be identified. Based on experience obtaining similar data for other research studies, and assuming that district staff will be able to provide these data in an extract of their files, we anticipate that the average burden will be 20 hours per school district.

### **13. Estimate of the Cost Burden to Respondents**

There are no direct costs to individual participants.

### **14. Estimates of Annualized Government Costs**

The estimated cost to the federal government of designing the Evaluation of the Impact of Teacher Induction Programs; designing and administering all data collection instruments; collecting other data, such as student records; processing and analyzing all the data; and preparing reports summarizing the results is \$4,470,553. All activities will take place over five years (from fall 2004 to fall 2009). Thus, the average annual cost of the evaluation activities described within this package is \$894,111. This estimate is based on MPR's previous experience in management of other research and data collection activities of this type.

### **15. Change in Hour Burden**

This is a request for an extension in the time needed to complete the final year of data collection for an existing data collection and therefore does not require any changes in hour burden.

### **16. Time Schedule, Publication, and Analysis Plan**

Our discussion of tabulation and publication plans focuses on the analyses we will conduct and the reports we will produce. In Section 16.1, we discuss our approach to analyses, including

plans to (1) tabulate descriptive information gathered on teachers' characteristics, school districts, and induction services; (2) estimate impacts of the high-intensity induction programs; (3) examine the types of teachers who stay in teaching as a result of the high-intensity program; and (4) conduct analyses of program benefits and costs. Section 16.2 discusses the reports that will be provided, and Section 16.3 discusses the schedule for the work.

## **1) Tabulation Plans**

This section describes the four sets of analyses listed above.

**a) Tabulating Descriptive Information Gathered on Teachers' Characteristics, School Districts, and Induction Services.** To provide a context for the study, and specifically for the impact and benefit-cost analyses, the evaluation will describe the characteristics of the school districts, mentors, schools, and teachers included. Through the three periodic induction activities surveys, we will also be able to assess adherence to the high-intensity program models in the treatment schools, as well as whether any contamination of the control group is occurring, such as if the induction services that should be delivered by control schools begin to mimic the services offered through the high-intensity programs in the treatment schools.

Using the baseline survey data and publicly available data, we will describe the baseline characteristics of teachers in the treatment and control groups, as well as the schools and communities in which they teach. Doing so serves three purposes. First, it will guide us in defining important subgroups. Second, it will facilitate interpretation of impact estimates if we find different results between simple comparisons of treatment-control group differences and regression-adjusted impact estimates. (Impact estimation is described in detail in the following section.) Third, we will be able to understand how the teachers and school districts that participated in the study differ from teachers and schools nationwide.

**b) Estimating Impacts of the High-Intensity Induction Programs.** The main use of the data will be to compare outcomes for teachers in the high-intensity teacher induction programs (the treatment group) to those for teachers in low-intensity induction programs (the control group). The teacher surveys, classroom observations, and school records will provide evidence of the effect of the program at the end of the induction year and during the subsequent three years. By randomly assigning schools to the two conditions (the high-intensity group and the low-intensity group) at the outset of the study, we will be able to attribute differences (“impacts”) to the introduction of high-intensity teacher induction. Impacts can be estimated by simply computing the average difference in outcomes between treatment and control teachers in each district, then computing the average of those district-level impacts.

In practice, we will refine this simple comparison of means by using regression methods to compute the impact estimates. Research shows that the outcomes of interest to the study are strongly related to characteristics of teachers and their schools (Hanushek 2004). We will adjust for these characteristics when computing impacts by including them in an appropriately specified regression model, thereby improving the precision of the impact estimates.<sup>3</sup>

In addition to computing the overall impacts of the high-intensity programs, we will examine impacts for policy-relevant subgroups of teachers. One of the most important subgroups is the program provider, whether ETS or NTC. Findings of impacts on other subgroups, defined by district, school, and teacher characteristics, can provide important information on how to interpret aggregate results and target the high-intensity induction

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<sup>3</sup> The regression methods will fully account for the sampling and random assignment design. For example, the teachers are clustered within schools, which means that comparisons of groups of teachers will include measures of data that are not independent of each other. The standard errors, which describe the level of uncertainty associated with the impact estimates, will be computed in a way that recognizes the non-independence of teachers who are in the same school.

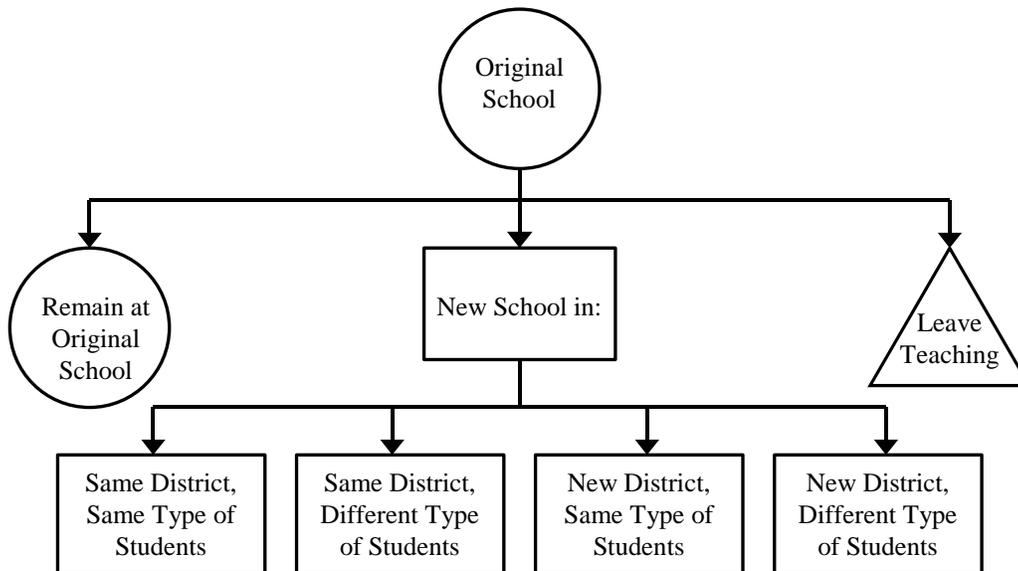
programs toward those areas and persons most likely to benefit most from them. We will also examine impacts for subgroups defined by characteristics of the low-intensity programs that exist in the districts to determine whether aspects of a district's preexisting induction program are related to the effectiveness of the high-intensity programs. Additional subgroups will be defined using data collected as part of the baseline teacher survey and through public-use data sets that contain information about districts and schools, such as ED's Common Core of Data (CCD).

However, we will not analyze impacts in each district, because the number of teachers that could be used to compute those results will be too small for results to be meaningful.

**Effects on Retention.** Teacher retention, a key study outcome, can be defined in various ways. (See Figure 4). Broadly speaking, we can refer to groups of teachers as *stayers*, *movers*, and *leavers*. A new teacher can stay in his or her original school throughout the follow-up period (a stayer) or leave the original school to go to a new one (a mover). The new school could be in the same district or in a new one, or it could be nonpublic. The original and new schools could have the same types of students (as measured by characteristics such as poverty rates or dropout rates) or different types. Finally, the teacher may leave the teaching profession altogether (a leaver).

To provide a comprehensive understanding of the impact of the high-intensity programs on teachers' probabilities of staying, moving, and leaving, we will compute impacts for all the definitions of retention described above. Such computation is important, because the implications of each type of transition are different depending on one's perspective. For example, an increase in between-school (within-district) mobility can hurt individual principals, who must hire replacements, but this movement may benefit the district by placing a teacher in an environment that allows that person to teach effectively. For example, someone who is a poor match for a specific school may be better off in a new school, and the other staffs of both schools

FIGURE 4  
VARIOUS TYPES OF TEACHER TRANSITIONS



also may benefit. Also, the desirability of any given teacher’s remaining in the classroom depends on the teacher’s effectiveness or potential for effectiveness in the future. We also will examine the effect of the high-intensity programs on persistence. For example, we will examine how a high-intensity program affects a teacher’s likelihood of remaining in his or her original school throughout the three-year follow-up period.

Teacher retention will be measured through follow-up surveys administered to all treatment and control teachers in fall 2006, fall 2007, and fall 2008. The followup is necessary to track mobility in the critical early years of a teachers’ career, when most transitions are likely to occur. The surveys are described in detail in Section A.2.

**Effects on Teacher Practices and Student Outcomes.** Professionals in any field are likely to feel greater job satisfaction, and hence be less likely to quit, if they believe they are doing a good job. Teachers who are more successful in managing their classes and instructing their students may feel more confident in their abilities and experience greater job satisfaction, thereby

leading to greater retention. Furthermore, recent studies have begun to find relationships between teacher quality and student achievement, which suggests that students may also benefit from improved teacher practices (Wenglinsky 2002; Hanushek et al. 1998). The study will examine whether the high-intensity programs affect teacher quality by analyzing teacher practices and student outcomes.

We plan to collect information about teacher practices and student outcomes through direct observations of the classrooms and through the collection of school records. (These data collection efforts are described in detail in Section A.2.) The observations will be conducted in the spring of 2006, toward the end of the intervention year, and the school records will be collected both in the summer of 2006, after the end of the induction year, and in the summer of 2007, after the second year.

**c) Examining the Types of Teachers Who Stay as a Result of the Program.** Higher rates of teacher retention benefit school districts through lower turnover costs and can benefit students by increasing the overall experience level of teachers. However, the benefit of increased teacher retention to students also depends on the characteristics of the teachers retained, especially compared with those of the teachers who would have replaced them. Put differently, having a high-intensity induction program may affect the types of teachers in the school. Whether or not that effect is desirable depends on the types of teachers being retained.

To examine the types of teachers who stay as a result of a high-intensity program, we will use information from the baseline teacher survey and college entrance exam scores. These data will make it possible to describe the qualifications of teachers who stay and leave, in terms of their credentials, preparation, general education, and cognitive ability. We will also be able to characterize the types of teachers who leave and stay in terms of their demographic and

household characteristics, their self-reported career expectations and job satisfaction, and their teaching practices. Another dimension along which we can characterize stayers and movers is the average test score gains of their students in the first year of the study.

**d) Comparing the Benefits Versus Costs of the Program.** Teacher induction programs have the potential to benefit school districts by reducing costs associated with teacher turnover and by improving children's education. They also have the potential to retain high-quality teachers in poor urban schools, where children's need for quality teachers is highest. To determine whether the costs of a high-intensity program are worthwhile, ideally, we would like to consider all the potential benefits.

However, because of the many possible indirect benefits of an induction program, conducting a comprehensive benefit-cost analysis is challenging in this setting. While it is possible to calculate the direct financial benefits to a school district in dollar terms, the other benefits are difficult to assess in those terms. For example, teacher induction programs may increase the average experience level of teachers by increasing retention rates, which may improve student achievement, which may in turn improve student outcomes—such as lifetime earnings. Higher retention rates may also affect the cohesiveness of a school's staff and the overall school environment.

Given these challenges of analysis, we will conduct two less-comprehensive, but still useful, analyses of costs and benefits. The first analysis compares the direct financial costs associated with a high-intensity induction program and the direct financial benefits to a school district of reducing teacher turnover. This analysis takes into account the recruiting and training costs of hiring a replacement after a teacher leaves. It does not account for any beneficial effects that a

high-intensity program has on students, staff cohesiveness, labor market dynamics, or other secondary factors that are not measured through the data collected for the study.

The second analysis will examine the cost-effectiveness of the high-intensity programs in affecting many outcomes—including teacher practices, the types of teachers retained, the ability of schools serving at-risk populations to retain high-quality teachers, and student achievement. Though the benefits of affecting these outcomes are difficult to quantify in dollar terms, many educators and policymakers will find it useful to know the costs associated with these important outcomes.

## **2) Publication Plans**

The central tasks during the last three years of the study are to analyze the data and write one report and two briefs about results. The report will contain a description of all aspects of program implementation, monitoring, and technical assistance that occurred. It also will report on the first-year impacts of the high-intensity induction programs. The first brief will describe, in detail, all costs and effort associated with implementing the induction programs, as well as the second-year effects of the programs. The costs will be presented on both a per-teacher and a per-district basis. The second brief will present third-year effects and the benefit-cost analyses.

MPR will submit the draft report about first-year effects to ED in February 2007. A revised version, which addresses the comments of ED and the expert panel, will be delivered in April 2007, while a final version that incorporates minor editorial revisions will be delivered in May 2007. The draft of the first brief, about second-year effects, will be delivered in February 2008, while a final version that addresses ED's comments will be delivered in March 2008. Likewise, draft and revised versions of the second brief, about third-year effects and benefit-cost analyses, will be delivered in February and March 2009, respectively.

We also will prepare both public- and private-use data files, along with supporting documentation. The private-use file will contain all the data collected for and used by the evaluation, including personal identifiers of teachers, in case ED would like to conduct further followup of the teachers in the study. The public-use file will contain all the data in the private-use file, except the personal identifiers. It will enable other researchers, outside of ED, to conduct their own work and to replicate the study's findings. Both files, along with their documentation, will be submitted to ED by August 2009.

### **3) Schedule**

The full timeline for the evaluation (shown in Table 3) calls for design and district selection activities between October 2004 and August 2005. Implementation of the high-intensity induction programs, as well as baseline and induction activities data collection, will occur during the 2005-2006 school year. We will collect outcomes data on teacher practices in spring 2006, student achievement in summer 2006, and teacher retention in fall 2006, fall 2007, and fall 2008. The report that describes program implementation and presents the first-year impact effects will be provided in spring 2007. The briefs on second- and third-year effects of the program will be provided in spring 2008 and spring 2009.

### **17. Display of Expiration Date for OMB Approval**

Approval not to display the expiration date for OMB approval is not requested.

### **18. Exceptions to Certification Statement**

No exceptions to the certification statement are requested or required.

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