

Interim Report

November, 2008

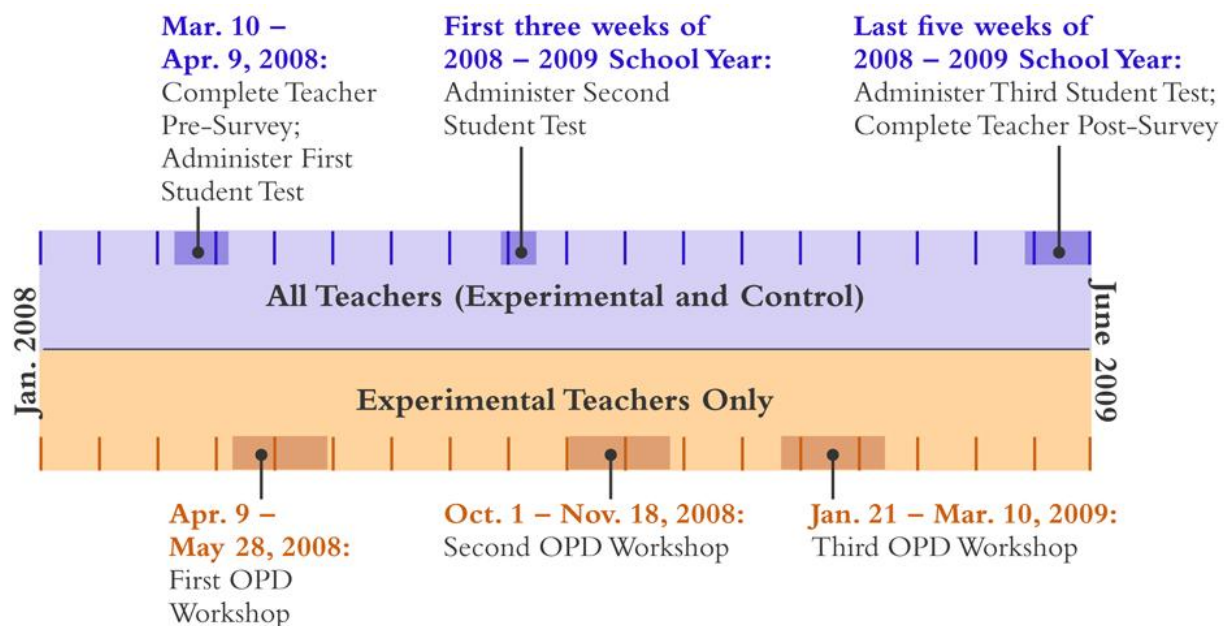


The e-Learning for Educators initiative is a federally-funded Ready to Teach program that aims to develop an effective and sustainable model of online professional development (OPD) for teachers. This professional development model is designed to help address state-wide teacher quality needs and have an impact on student achievement in eight participating states (Alabama, Delaware, Kentucky, Mississippi, Missouri, New Hampshire, Pennsylvania, and West Virginia). Part of the e-Learning for Educators initiative involves conducting four concurrent research studies to evaluate the impact of OPD on teacher knowledge, teacher practices, and, ultimately, student achievement. This interim report details the research study design, details of the current implementation, current participation and attrition rates, and current feedback on the OPD workshops.

Research Study Design and Implementation

The Technology and Assessment Study Collaborative (inTASC) at Boston College is conducting concurrent research studies in 4th grade English language arts (ELA), 5th grade mathematics, 7th grade ELA, and 8th grade mathematics. The research studies implement an experimental design and as such each participating teacher is randomly assigned to either the experimental group or to the control group. Each study spans three semesters: spring of one school year and fall and spring of a second school year. Therefore, the research study targets two classes of students (of the same grade and subject area) for each teacher. Two rounds of each study were conducted: Round 1 started in spring 2007 and Round 2 started in spring 2008. Figure 1 depicts the timeline of events for teachers participating in Round 2 (Round 1 teachers followed a similar timeline).

Figure 1: Timeline of Activities for Round 2 Teachers



Teachers in the experimental group are required to participate in three OPD workshops over the duration of the study. The first OPD workshop is offered in the spring/summer of the first school year, the second in fall of the second school year, and the third in spring of the second school year. The OPD workshops were designed by the Education Development Center, Inc. specifically for this research study.

Table 1 lists the OPD workshops. Teachers assigned to the control group of the study were not permitted to participate in the OPD research workshops, but were free to pursue any other professional development opportunities (online or face-to-face).

Table 1: Online Professional Development Workshops

Grade	Workshop 1	Workshop 2	Workshop 3
4 th ELA	Best Practices for Vocabulary Instruction in the Elementary Classroom	Promoting Reading Comprehension Skills in the Elementary Classroom	Teaching Writing in the Elementary Classroom
5 th Math	Using Models to Understand Fractions	Algebraic Thinking in Elementary School	The Complexities of Measurement
7 th ELA	Best Practices for Vocabulary Instruction in the Middle School Classroom	Promoting Reading Comprehension Skills in the Middle School Classroom	Teaching Writing in the Middle School Classroom
8 th Math	Proportional Reasoning	A Conceptual Introduction to Function: Using Visual Models	Geometric Measurement Models

Both experimental and control group teachers complete several instruments and administer several instruments to their students. Teachers complete a Pre-Survey and Post-Survey at the beginning and end of all research activities. These surveys are designed to collect data about teacher practices and pedagogical beliefs. Teachers administer an initial Student Pre-Survey at the beginning of all research activities (spring of their first school year). This survey is designed to collect information about teacher practices from the students’ point of view. Teachers also administer a Pre-Test and Post-Survey/Test at the beginning and end of the second school year (to a different group of students than those that completed the Student Pre-Survey). The student Pre- and Post-Test are aligned outcomes tests designed to measure student content knowledge in specific areas. The data measuring the teacher beliefs, teacher practices, and student knowledge of the participants in the experimental and control groups will be compared to evaluate the effect of the OPD workshops on these constructs.

As of November 2008, Round 1 data collection has been completed. Table 2 shows the requirements completed by Round 1 teachers. Teachers in Round 2 are currently participating in the study. Table 3 lists the completed research activities of Round 2 teachers and those that have not yet been completed (listed in italics).

Table 2: Participation Activities Completed by Round 1 Teachers

Date	Requirement—All Teachers	Additional Requirement— Experimental Group Teachers Only
Spring 2007	Teacher Pre-Survey	
Spring 2007	Administer Student Pre-Survey	
Spring/Summer 2007		Workshop 1
Fall 2007	Administer Student Pre-Test	
Fall 2007		Workshop 2
Spring 2008		Workshop 3
Spring 2008	Teacher Post-Survey	
Spring 2008	Administer Student Post-Survey	
Spring 2008	Administer Student Post-Test	

Table 3: Participation Activities Completed by Round 2 Teachers

Date	Requirement—All Teachers	Additional Requirement— Experimental Group Teachers Only
Spring 2008	Teacher Pre-Survey	
Spring 2008	Administer Student Pre-Survey	
Spring/Summer 2008		Workshop 1
Fall 2008	Administer Student Pre-Test	
Fall 2008		Workshop 2
<i>Spring 2009</i>		<i>Workshop 3 (begins Jan. 21, 2009)</i>
<i>Spring 2009</i>	<i>Teacher Post-Survey</i>	
<i>Spring 2009</i>	<i>Administer Student Post-Survey</i>	
<i>Spring 2009</i>	<i>Administer Student Post-Test</i>	

Participation and Attrition

Teachers were recruited at different times for participation in Rounds 1 and 2 of the research study. Teachers were recruited from both within and beyond the eight partner states, although recruitment focused primarily on the partner states. Tables 4–7 display the total number of teachers that began the research study (listed as Recruited), the number of teachers that dropped out of the research study (listed as Attrition), and the number of teachers that completed all requirements.¹ Table 8 lists the number of students that completed both the Pre- and Post-Test for Round 1 teachers.

Table 4: 4th Grade Round 1

State	Recruited		Attrition		Completed	
	Control	Exp.	Control	Exp.	Control	Exp.
AL	11	11	4	6	7	5
DE	2	4	0	2	2	2
KY	12	9	4	7	8	2
MS	1	2	0	2	1	0
MO	11	14	3	10	8	4
NH	7	5	1	2	6	3
PA	9	15	4	9	5	6
WV	13	11	3	6	10	5
OT ²	0	1	0	1	0	0
Total	66	72	19	45	47	27

¹ If multiple teachers from the same grade and school participated in the study, they are considered “duplicate” teachers. Duplicate teachers cannot be used in analysis because of the potential for increased school-level effects. All but one of these teachers will be randomly removed from the data analysis. Therefore, the tables describing participation list only *countable* teachers, not including duplicates.

² Teachers from “other” states participating in 4th grade Round 1 were from Utah.

Table 5: 5th Grade Round 1

State	Recruited		Attrition		Completed	
	Control	Exp.	Control	Exp.	Control	Exp.
AL	11	12	5	9	6	3
DE	1	4	1	3	0	1
KY	6	8	3	7	3	1
MS	3	5	3	4	0	1
MO	6	9	1	6	5	3
NH	5	4	2	1	3	3
PA	18	12	9	7	9	5
WV	12	7	7	5	5	2
OT ³	6	5	4	3	2	2
Total	68	66	35	45	33	21

Table 6: 7th Grade Round 1

State	Recruited		Attrition		Completed	
	Control	Exp.	Control	Exp.	Control	Exp.
AL	8	9	5	8	3	1
DE	1	2		1	1	1
KY	11	12	6	8	5	4
MS	3	6	1	4	2	2
MO	4	4	1	1	3	3
NH	4	2	2	1	2	1
PA	14	13	4	10	10	3
WV	7	6	4	4	3	2
OT ⁴	2	3	1	2	1	1
Total	54	57	24	39	30	18

³ Teachers from “other” states participating in 5th grade Round 1 were from Colorado, Iowa, Massachusetts, New Mexico, Oklahoma, Utah, and Vermont.

⁴ Teachers from “other” states participating in 7th grade Round 1 were from Florida, Maine Minnesota, and North Carolina.

Table 7: 8th Grade Round 1

State	Recruited		Attrition		Completed	
	Control	Exp.	Control	Exp.	Control	Exp.
AL	4	7	3	5	1	2
DE	1	1	1			1
KY	4	5	2	3	2	2
MS	1	2	1	2		
MO	4	6	3	4	1	2
NH	4	4	3	1	1	3
PA	9	8	5	7	4	1
WV	7	8	2	5	5	3
OT ⁵	4	7	2	3	2	4
Total	38	48	22	30	16	18

Table 8: Number of Round 1 Students that Completed the Pre- and Post-Test

Grade	Control	Experimental	Total
4 th	702	461	1,163
5 th	586	335	921
7 th	776	370	1,146
8 th	318	598	916
Total	2,382	1,764	4,146

⁵ Teachers from “other” states participating in 8th grade Round 1 were from Arkansas, Connecticut, Louisiana, Iowa, Maine, Maryland, North Carolina, Texas, Vermont, and Wisconsin.

The goal for the research study was to retain 40 experimental and 40 control group teachers in each grade. Tables 9–12 list the number of teachers that began the research study (listed as Recruited), the number of teachers that have thus far dropped out of the study (listed as Attrition), and the number of teachers that are currently in progress completing the research study; these numbers are current as of November 2008. During Round 2 of the research studies, teachers were randomly assigned to experimental and control group based on the attrition trends that had been observed during Round 1 of the study. Specifically, the attrition rate was higher for the experimental group than it was for the control group. Therefore, the random assignment procedure for Round 2 placed more teachers in the experimental group than in the control group.

Table 9: 4th Grade Round 2

State	Recruited		Attrition		In Progress	
	Control	Exp.	Control	Exp.	Control	Exp.
AL	2	8	0	5	2	3
DE	0	0	0	0	0	0
KY	5	12	3	10	2	2
MS	7	13	6	9	1	4
MO	4	5	0	3	4	2
NH	1	3	1	1	0	2
PA	6	5	1	2	5	3
WV	5	2	4	0	1	2
OT ⁶	3	10	1	9	2	1
Total	33	58	16	39	17	19

⁶ Teachers from “other” states participating in 4th grade Round 2 were from California, Louisiana, and Massachusetts.

Table 10: 5th Grade Round 2

State	Recruited		Attrition		In Progress	
	Control	Exp.	Control	Exp.	Control	Exp.
AL	2	6	0	5	2	1
DE	1	0	1	0	0	0
KY	1	9	1	4	0	5
MS	6	10	2	9	4	1
MO	2	3	0	1	2	2
NH	2	2	0	1	2	1
PA	3	7	0	1	3	6
WV	2	2	2	1	0	1
OT ⁷	7	9	3	8	4	1
Total	26	48	9	30	17	18

Table 11: 7th Grade Round 2

State	Recruited		Attrition		In Progress	
	Control	Exp.	Control	Exp.	Control	Exp.
AL	1	9		7	1	2
DE						
KY	6	15	2	14	4	1
MS	6	5	2	3	4	2
MO	6	7	3	5	3	2
NH	3	3	1	2	2	1
PA	4	7	1	2	3	5
WV	1	9		5	1	4
OT ⁸	1	10	1	7		3
Total	28	65	10	45	18	20

⁷ Teachers from “other” states participating in 5th grade Round 2 were from California, Louisiana, Massachusetts, and Texas.

⁸ Teachers from “other” states participating in 7th grade Round 2 are from Armed Forces of Europe, Arizona, Illinois, Kansas, Louisiana, and Massachusetts.

Table 12: 8th Grade Round 2

State	Recruited		Attrition		In Progress	
	Control	Exp.	Control	Exp.	Control	Exp.
AL	2	6		6	2	
DE	1				1	
KY	17	21	8	18	9	3
MS	10	6	7	5	3	1
MO	1	5		4	1	1
NH	2	7		5	2	2
PA	3	1	3	1		
WV	3	4		2	3	2
OT ⁹	11	8	5	7	6	1
Total	50	58	23	48	27	10

Table 13 lists the attrition rates of the experimental and control groups, as well as the overall attrition rates, for each grade. Attrition has been higher than originally anticipated, especially in the experimental group.

Table 13: Attrition Rates

Group	Attrition Rate
4 th Control	35%
4 th Experimental	65%
4th Total	52%
5 th Control	47%
5 th Experimental	66%
5th Total	57%
7 th Control	41%
7 th Experimental	69%
7th Total	58%
8 th Control	51%
8 th Experimental	74%
8th Total	63%

⁹ Teachers from “other” states participating in 8th grade Round 2 are from California, Georgia, Illinois, Louisiana, Maine, Massachusetts, New York, Texas, and Wyoming.

Round 2 of the research study is scheduled to complete in June 2009. At that time, full data analysis will begin. Results about the effects of OPD on teacher and student characteristics will not be available until this full analysis is complete. The only data currently available is related to feedback on the OPD workshops. At the end of each workshop, teachers have the opportunity to complete an evaluative survey about their workshop experiences. One question asks teachers to “rate the overall quality of the workshop.” Table 14 lists the average responses to this question.

Table 14: Average OPD Workshop Ratings
(Excellent = 5, Very good = 4, Good = 3, Fair = 2, Poor = 1)

	Workshop	Average Rating
4th ELA	Best Practices for Vocabulary Instruction in the Elementary Classroom	4.51 <i>n</i> = 68
	Promoting Reading Comprehension Skills in the Elementary Classroom	4.65 <i>n</i> = 20
	Teaching Writing in the Elementary Classroom	4.69 <i>n</i> = 29
5th Math	Using Models to Understand Fractions	4.20 <i>n</i> = 59
	Algebraic Thinking in Elementary School	4.45 <i>n</i> = 22
	The Complexities of Measurement	4.14 <i>n</i> = 22
7th ELA	Best Practices for Vocabulary Instruction in the Middle School Classroom	4.31 <i>n</i> = 48
	Promoting Reading Comprehension Skills in the Middle School Classroom	3.88 <i>n</i> = 17
	Teaching Writing in the Middle School Classroom	4.5 <i>n</i> = 18
8th Math	Proportional Reasoning	4.3 <i>n</i> = 42
	A Conceptual Introduction to Function: Using Visual Models	4.48 <i>n</i> = 23
	Geometric Measurement	4.35 <i>n</i> = 20