AN INVESTIGATION OF THE IMPACT
OF A TRAITS-BASED WRITING MODEL
ON STUDENT ACHIEVEMENT

PAPERWORK REDUCTION ACT
CLEARANCE REQUEST

SUPPORTING STATEMENT PART A

Prepared For:

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Prepared By:

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SUPPORTING STATEMENT FOR PAPERWORK REDUCTION ACT SUBMISSION

A. JUSTIFICATION

1. Circumstances Making Collection of Information Necessary

The Regional Educational Laboratories were authorized by Congress in the Education Sciences Reform Act of 2002, Part D, Section 174, (20 U.S.C. 9564). The central mission for the regional laboratories is to "support applied research, development, wide dissemination, and technical assistance activities by … developing and widely disseminating, including through Internet-based means, scientifically valid research, information, reports, and publications that are usable for improving academic achievement, closing achievement gaps, and encouraging and sustaining school improvement …." This section goes on to include as part of this mission: "in the event such quality applied research does not exist as determined by the regional educational laboratory or the Department, carrying out applied research projects that are designed to serve the particular educational needs (in pre-kindergarten through grade 16) of the region …." The act further specifies that one of the key activities undertaken by regional educational laboratories should be to "Identify successful educational programs that have either been developed by such laboratory in carrying out such laboratory's functions or that have been developed or used by others within the region served by the laboratory…." The current research study addresses this authorization by conducting an experimental evaluation of a widely used and promising approach to the teaching of writing.

To guide the work of the Regional Educational Labs, annual needs assessments are administered by each laboratory, pursuant to the legislative directive to conduct "a continuing survey of the educational needs, strengths, and weaknesses within the region ...." Recent needs assessments conducted by the Northwest Regional Educational Laboratory (NWREL) have indicated that improving student literacy is a high priority, with both teachers and principals expressing a need for professional development for the teaching of writing, and for research-based practices to support the various writing modes.

Improving student literacy is also one of the main goals of the No Child Left Behind Act (NCLB), which includes goals to narrow the achievement gap for a number of student subgroups.

While writing is not a specific focus of the Annual Yearly Progress (AYP) provisions of NCLB, it is a critical component of language and literacy broadly, and includes an essential set of skills for continued academic development as well as for success in many occupations. Writing is obviously crucial for higher educational achievement and the development of higher order thinking skills, and is also one of the Foundation Skills identified by the U.S. Department of Labor's Commission on Achieving Necessary Skills for a broad range of jobs (U.S. Department of Labor, 1991).

Despite the importance of writing, the results of the 2002 National Assessment of Educational Progress (NAEP) – the nation's education "report card"— are disappointing, with only about a quarter of fourth grade students (27 percent) exhibiting proficiency in writing, with similar proficiency levels at 8th grade (31 percent) and 12th grade (24 percent). In the Pacific Northwest, overall fourth grade proficiency rates on the 2002 NAEP writing tests were even lower than the national average in three states: Idaho, Montana, and Oregon; all had proficiency rates of 22 percent (Washington had a proficiency rate of 30 percent; Alaska did not participate in state-level NAEP).

Proficiency rates on the NAEP writing test were much lower among at-risk groups. For students eligible for free or reduced price lunch, the proficiency rates ranged from 13 to 17 percent in Idaho, Montana, Oregon, and Washington, which is near the national average of 16 percent. Proficiency rates for black students were 14 percent in Oregon and 20 percent in Washington, compared to the national average for this group of 17 percent; for Hispanic students, the proficiency rates were 9 percent in Oregon, 11 percent in Idaho, and 12 percent in Washington, all below the national average of 17 percent for this group. American Indian and Alaska Native students, a subgroup encompassing 5 percent of all students in the Northwest region, had a proficiency rate of only 8 percent in Montana, well below the national average for this group of 15 percent.

In statewide achievement test results, students in the Northwest region demonstrate lower rates of proficiency in writing than in other aspects of language arts. For example, in the 2005 Oregon Statewide Assessment Testing (OSAT) results, 32 percent of Oregon fourth graders met state writing standards. This is less than half the rate of students meeting state reading and literature standards. Similarly, in the 2005 Idaho Direct Writing Assessment (DWA) results, 34 percent of fifth graders were proficient or advanced. This is less than half the rate of fifth graders meeting state reading standards. Only 17 percent of Idaho Hispanic students and 21 percent of American Indian students scored at the proficient or advanced levels in writing. In Alaska, a substantial achievement gap exists between Alaska Native and white students in writing. In fifth grade, 54 percent of Alaska Native students met standards in 2005, compared to 84 percent of white students. In sixth grade, 51 percent of Alaska Native students met standards in 2005, compared to 87 percent of white students.

These assessment results raise concerns because writing is a critical life skill and writing also supports the development of problem solving and thinking skills. There is a strong connection between writing and learning to think systematically (Sommers, 1982; Zinsser, 1988). While reading and mathematics are typically the core subjects of greatest concern to schools, writing also received a substantial emphasis in regional needs assessments (Barnett & Greenough, 2004; 2005).

This study is designed to test the effectiveness of an analytical trait-based model for teaching and assessing student writing, called 6+1 Trait® Writing, by examining its impact on the writing achievement of 5th graders. The model is designed to improve student writing through an integrated approach to teaching and assessing writing skills, and it incorporates ten instructional

strategies to develop the specific traits of writing. Key components of the model include effective feedback to students and the engagement of students in self-assessment.

The trait-based approach to writing instruction is a popular model in widespread use in the Northwest region and across the nation. Many school staff members, administrators, policy makers and parents view this as a valuable approach to the teaching of writing, and it is the subject of numerous publications and training programs. The model has been incorporated into major published language arts curriculum materials, guides to writing instruction provided by several major educational publishers, and a host of training workshops, Web sites, and other resources for schools.

However, this popularity is based largely on rational arguments for the underlying model, perceived face validity of the assessment instruments and training materials, and practitioner perceptions that the model has utility and improves student performance. Only two experimental studies have been completed examining the efficacy of the model (Arter, Spandel, Culham and Pollard, 1994; Kozlow & Bellamy, 2004), and these are insufficient to provide the broad research base that should underlie such a widely implemented approach. Therefore, the aim of this project is to provide a rigorous, relatively large scale scientific test of the approach, in conditions that are commensurate with the way the intervention is typically implemented in many school settings. The present study will improve on previous studies by involving a larger number of schools, strengthening implementation fidelity, and improving the research methodology, including properly modeling the nested data structure.

Given the widespread interest in this approach to writing instruction, it is important that the education community has access to high quality scientific evidence on the effectiveness of the model. Schools and policy makers will benefit from improved understanding of the extent to which the approach works, for whom, and under what conditions. The proposed research will contribute to that knowledge base, so that decisions about whether to expand or modify the adoption of this approach can be based on reliable data.

Purposes and Uses of the Data

This information to be gathered in this study will be used to complete and report on an experimental study of the effectiveness of the 6+1 Trait® Writing model with 5th graders in a sample of 64 schools in Oregon. Approximately half of the schools will begin during the 2007-08 school year and half the following year. From a pool of 64 schools, 32 will be randomly selected into the treatment group and the remaining 32 schools will serve as the control group. The teachers in the treatment group will receive training in the writing program, while control group teachers will receive no training until the data collection phase of the study is complete. This counterfactual condition will, therefore, represent the regularly planned writing curriculum. The data collection will provide educators and policy makers with better information on which to base decisions about the teaching of writing.

The overall goal of this study is to determine if the 6+1 Trait® Writing model can improve the writing achievement of 5th graders. Specifically, the study is designed to answer the following research questions:

> *What is the impact of 6+1 Trait Writing on student achievement in writing?*
>
> *How do student impacts vary by pre-existing characteristics of schools, teachers, and students?*

In addition, descriptive studies of both treatment and control classrooms will be conducted to help interpret and understand the results of the experimental research questions, including the fidelity

of treatment implementation and the differences and similarities between treatment and control classrooms. The questions with respect to implementation are the following:

To what extent did teachers in the treatment group implement the intervention with fidelity to the intended model?

What differences and similarities exist with respect to implementation of writing instruction between treatment and control classrooms?

Data to answer these questions will come from three sources – student essays, a teacher survey, and a brief listing of coded, non-personally identifiable student indicators related to completion of the essay assessment – the instruments for which clearance is requested in this submission.

Student Outcome Measure. Student achievement in writing will be measured using the Writing Essay Assessment modeled very closely after the Oregon State Writing Assessment. Baseline writing samples will be collected in September or early October of each data collection year; follow-up samples will be collected the following May. All prompts for the writing assessment will be in the expository mode for consistency of performance comparison across all subgroups of students. Students will work on their essays for 45 minutes on each of 3 successive days, to provide the opportunity for a natural writing process including planning, drafting, and revision. The intervention is largely aimed at improving the willingness and ability of students to substantively revise their writing after reflection upon first drafts; therefore, it is not possible to estimate the impact of the intervention based on an assessment of first drafts produced during a single writing session. The essay writing sessions will be proctored by the participating teachers in both control and treatment groups. The student essays will be scored by teams of raters, using a process parallel to that used in the 4th and 7th grade Oregon statewide writing assessment. Active parental consent is not required for this study; no individually identifiable data will be released to researchers, there is no more than minimal risk to children, and the procedures involve normal and widely used educational activities that would not require informed consent outside of the research context.

Teacher Implementation Measure. The teacher survey will be administered three times during the treatment year to all teachers in both treatment and control schools. The survey contains Likert-type questions about teacher practices, descriptive information about use of instructional time, and open-ended questions about instructional and learning issues. This will provide data on both fidelity of implementation in the treatment group schools and contamination in the control group schools. As described later in this document, these data will be used in a rigorous analysis to estimate the impact of the 6+1 Trait® Writing model on student achievement.

Coded Student Data Form. This spreadsheet will be used to insure that student essays in the fall and spring are coded with a consistent ID number (created just for the study) before being sent to the research team. In addition, this form will be used to code whether students complete the essay according to the regular protocol, and to note student gender and race/ethnicity.

2. Use of Technology to Reduce Burden

Information on relevant characteristics of the selected study schools will be obtained from existing electronic data sources and therefore will not require a burden on school personnel; research staff will be responsible for this task. The primary school-level covariate will be the schoolwide aggregate student performance on the 4th grade writing component of the Oregon statewide assessment system. Subsequent analyses will test the effect of additional demographic covariates at the school and teacher levels. These data are readily available from electronically available public records.

The Writing Essay Assessment will be administered as a paper-and-pencil test. Computer-based assessment at this grade level is not ideal, as it may introduce a confounding due to variations among students in their experience in writing with the computer, including their ability to use a keyboard.

The teacher survey will also be administered as a paper form. This short survey, which will be used three times during the year, takes the same amount of time in either format, but the paper version gives teachers greater flexibility in when and where they complete the survey.

An electronic spreadsheet will be provided to sites for the management and collection of student individual data, which will be in a coded form so that researchers will never have identifiable information for each student. The forms will be emailed to the research team.

3. Efforts to Identify Duplication

The Writing Essay Assessment employs a similar administration process as the Oregon State Writing Assessment (OSWA). However, it is not a duplication of effort since the OSWA is not administered to 5th grade students in Oregon. The Teacher Surveys are specific to teacher background and practices relevant to this study and do not duplicate existing data measures.

4. Methods to Minimize Burden on Small Entities

A number of procedures have been designed to minimize the data collection burden on schools and teachers participating in this study. District personnel involved in the study will be trained on the procedures and provided with explicit documentation of the necessary steps to facilitate the collection and processing of data. Documentation will include check-off lists of study activities and forms to keep records. Project staff will be available by e-mail and phone to answer questions and will initiate contact monthly to identify and address potential problems.

Consequences of Not Collecting the Data

As noted above, the 6+1 Trait® Writing model and similar instructional methods are currently being used in a relatively large number of schools, yet the effectiveness of this approach has not been established using a scientifically rigorous method. The current study will enable a scientific test of the model that meets the current scientific standards and priorities of the US Department of Education's Institute of Education Sciences (IES). The study will be a cluster-randomized trial (CRT), which enables a test of causality. Without the study, schools and districts will continue to make decisions about whether to use this model based only on preliminary, non-experimental evidence of its effectiveness. That would hinder the current effort of NCLB and IES – promoting the use of interventions that have been tested for effectiveness in experimental studies, such as randomized-controlled trials (RCTs) and cluster-randomized trials (CRTs).

5. Special Circumstances

No special circumstances will exist in connection to the data collection for this study.

6. Federal Register Comments and Persons Consulted Outside the Agency

The notice for the data collection was announced on page 17526 in the April 9, 2007 issue of the Federal Register. No public comments were received in response to this listing.

The study team has drawn on the methodological expertise of two outside consultants – Michael Puma and David Connell from Chesapeake Research Associates, LLC – in planning the current study, including the design, instrumentation, and plans for analysis. Additional review of the study design has been obtained from members of the external technical working group (TWG). The names and institutional affiliations of the TWG members appear in Exhibit 1.

In addition, the study design has gone through extensive review by staff of the Analytical and Technical Support (ATS) group contracted by IES to review all of the research being conducted by the 10 Regional Educational Laboratories.

Exhibit 1. Methodology Consultants and Technical Working Group Members

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Technical Working Group
▪ Ray Barnhardt (University of Alaska)
▪ Hans Bos (Berkeley Policy Associates)
▪ Audrey Champagne (SUNY Albany)
▪ Bill Demmert (Western Washington University)
▪ Allen Glenn (University of Washington)
▪ Dan Goldhaber (University of Washington)
▪ Brian Gong (National Center for the Improvement of Educational Assessment)
▪ Joan Herman (University of California, Los Angeles)
▪ Michael Kamil (Stanford University)
▪ LeAnne Robinson (Western Washington University)
▪ Lynn Santelmann (Portland State University)
▪ Sam Stringfield (University of Louisville)

7. Payment or Gifts

No gifts or incentives will be provided to respondents for their completion of specific data collection activities, except that providing the intervention itself to both treatment and control groups could potentially be viewed as an incentive. The intervention cost is dependent on the number of teachers a school wishes to have trained. For example, if a school wished to train their 5th grade teachers in a design similar to that of this study, the cost would be $600 per trainee for the three day summer institute, plus $300 per trainee for the three days of follow-up training and planning during the school year, plus any salary, benefits, travel and per diem costs associated with the specific district, contract year, and locale.

8. Assurances of Confidentiality

NWREL follows the confidentiality and data protection requirements of IES (The Education Sciences Reform Act of 2002, Title I, Part E, Section 183). NWREL will protect the confidentiality of all information collected for the study and will use it for research purposes only. No information that identifies any study participant will be released. Information from participating institutions and respondents will be presented at aggregate levels in reports.

Information on respondents will be linked to their institution but not to any individually identifiable information. No individually identifiable information will be maintained by the study team. All institution-level identifiable information will be kept in secured locations and identifiers will be destroyed as soon as they are no longer required. NWREL obtains signed NCEE Affidavits of Nondisclosure from all employees, subcontractors, and consultants that may have access to this data and submits them to our NCEE COR. All members of the study team having access to the institution-level data have been certified by [Name's] Institutional Review Board as having received training in the importance of confidentiality and data security.

Study participants will be assured that any information obtained for the purpose of the study will be held confidential to the extent allowed by law, and that any information obtained for the study will be used by NWREL and the U.S. Department of Education solely for evaluating the effectiveness of the 6+1 Trait® Writing intervention. All data collection activities will comply with the Privacy Act of 1974, the Family Educational and Privacy Act of 1974, and related regulations, including regulations on protection of human research subjects provided in 34 CFR Part 97. All NWREL staff members working with the data have been trained in the application of these laws and guidelines.

NWREL will ensure that only the staff members directly involved with the study will have access to the information. NWREL will receive student information from districts that is coded by ID numbers created for the study; the research team will not receive any student names or personally identifiable data. Student essay booklets and teacher survey forms will be stored in a locked file cabinet during the study and will be destroyed at the end of the study. Electronic files will be maintained in a secure, password-protected network environment.

Justification on Sensitive Questions

No sensitive information will be collected through the instruments for which clearance is sought.

9. Estimates of Hour Burden

Fifth grade students at participating schools (i.e., both the treatment and the control condition schools) will take the Writing Essay Assessment twice during the year of the study. Each administration requires three 45-minute class periods. Treatment condition teachers and control condition teachers will take the brief teacher survey three times: near the beginning of the study year, again in the middle of the year, and again near the end of the year. Each teacher will also provide a limited set of information on each student, which will be coded so that student identities are not revealed. Hour burden is summarized in Exhibit 2 for each year data collection period.

Exhibit 2. Annual Hour Burden for Respondents

Measure	Expected Number of Respondents Per Year	Average Hour Burden Per Administration	Frequency of Administration Per Year	Total Hour Burden Per Year	Average Respondent Wage Rate	Total Cost Per Year	
Student Essay	1,536	2.25	2	6912	N/A	0	
Teacher Survey	64	.5	3	96	$28	$2,688	
Coded Student Data Form	64	. 5	2	64	$28	$1,792	
Total	1,600	N/A	N/A	7072	N/A	$4,480	

10. Estimate of Cost Burden to Respondents

Aside from the hour burden detailed in Item #12, no additional cost burden to respondents is expected.

11. Estimate of Annual Cost to the Federal Government

The total budget for the study is $2,982,260 over the five years, making the average annual budget of the study $596,452.

12. Program Changes or Adjustments

The information collection activities described in this request are all new and therefore do not represent a change or modification to a previously submitted Clearance request.

13. Plans for Tabulation and Publication of Results

Data analyses will take place during the Year 4 of the study, in 2009/10. Dissemination of the results will take place in the Year 5, in 2010/11.

Student outcome data will be entirely quantitative, and will be analyzed using the hierarchical linear modeling (HLM) to reflect the nested structure in the data. For the analysis of the difference between the treatment and control groups in student achievement, HLM will be reduced to a mixed model ANCOVA in which the effect of the experimental manipulation is

estimated as a fixed effect, while the effects of school level variables and the individual differences among teachers and students will be estimated as random effects. Details are provided in section B.2.

Data from the teacher surveys will be analyzed to characterize the fidelity of trait-based writing implementation in the treatment schools, and to describe classroom conditions and practices in both treatment and the control schools. These analyses will help contextualize the student achievement results.

The time schedule for the entire project is shown in Exhibit 3.

Exhibit 3.   Study Timeline

Activity	Contract Year 1				Contract Year 2				Contract Year 3				Contract Year 4				Contract Year 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2006				2007				2008				2009				2010			
	Feb thru April	May thru July	Aug thru Oct	Nov thru Jan	Feb thru April	May thru July	Aug thru Oct	Nov thru Jan	Feb thru April	May thru July	Aug thru Oct	Nov thru Jan	Feb thru April	May thru July	Aug thru Oct	Nov thru Jan	Feb thru April	May thru July	Aug thru Oct	Nov thru Jan
			2006-07 school year				2007-08 school year				2008-09 school year				2009-10 school year					
Refine design; approval by TWG & IES	⇨	⇨	x																	
Refine Web support procedures			⇨	⇨	⇨	⇨	x													
Refine and pilot data collection instruments		⇨	⇨	x																
Obtain IRB and OMB clearance			⇨	⇨	x															
Wave 1																				
Recruit sites and assign teachers			⇨	⇨	x															
Collect baseline data on teacher practices					⇨	x														
Train & support treatment group teachers						⇨	⇨	⇨	⇨	x										
Student pre-assessments							x													
Post-assessments of teacher practices									⇨	x										
Student post-assessments										x										
Train & support control group teachers									⇨	⇨	⇨	⇨	x							
Wave 2																				
Recruit sites and assign teachers			⇨	⇨	⇨	⇨	⇨	⇨	x											
Collect baseline data on teacher practices									⇨	x										
Train & support treatment group teachers										⇨	⇨	⇨	⇨	x						
Student pre-assessments											x									
Post-assessments of teacher practices													⇨	x						
Student post-assessments														x						
Train & support control group teachers													⇨	⇨	⇨	⇨	x			
Analyze data and prepare reports											⇨	⇨	⇨	⇨	⇨	⇨	⇨	x		
Disseminate reports																		⇨	⇨	⇨

14. Approval to Not Display OMB Expiration Date

Exemption from the required display of the OMB expiration date is not requested. All the data collection instruments will include the OMB expiration date.

15. Explanation of Exceptions

No exceptions are requested.

REFERENCES

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