Increasing Student Achievement in Writing
Through Teacher Inquiry:
An Evaluation of Professional Development Impact

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Executive Summary

This study examines the effects of a yearlong professional development inservice program conducted in the Ferguson-Florissant School District, near St. Louis, Missouri. Gateway Writing Project provided the inservice, which was based on established National Writing Project principles. Using an inquiry model, the program aimed to increase teachers’ understanding of writing pedagogy and improve their application of writing pedagogy in the classroom. Program effectiveness was measured in terms of the teachers’ classroom use of writing process skills and strategies, as well as their students’ performance in writing.

To assess the effectiveness of the program, we used a quasi-experimental design comparing 7 program teachers and their intact classes totaling 82 students to a carefully matched set of 7 nonparticipating teachers and their 78 students. Teachers and students were matched to ensure comparability on a number of qualitative and quantitative demographic and performance features. Data included interviews and classroom observations, as well as tests of student writing achievement.

Analysis of student writing in a nationally scored assessment demonstrated that program group students’ overall achievement increased more than comparison students’. According to both holistic assessment and component analysis of six analytic traits, these differences were statistically significant. Qualitative analysis suggests the extent to which participating teachers implemented the inservice professional development in their classrooms. In terms of writing instruction, three key differences were noted between program and comparison teachers’ classrooms: range of writing tasks, duration of writing tasks, and an explicit reading/writing connection.
Increasing Student Achievement in Writing Through Teacher Inquiry: An Evaluation of Professional Development Impact

This study examines the effects of a professional development program provided by the Gateway Writing Project (GWP) for the Ferguson-Florissant School District (FFSD). For some years, the two have worked together to provide inservice and summer institute opportunities for district employees. However, in recent years there has been extensive turnover among the district’s teachers. Demands on teachers’ time—summer school, new program initiatives, personal commitments—have also made attendance at GWP summer institutes nearly impossible for some teachers who might otherwise attend.

The FFSD student population is also changing. All of the district’s elementary schools receive Title I funding. Up from 48% in the 2000–01 school year, 57% of students are now eligible for free or reduced-price lunch. In over one third of the district’s elementary schools, at least 75% of the students receive free or reduced-price lunch; in some schools this rate is as high as 92.4%. African American, Hispanic, Asian American, and Native American groups make up 73% of the district’s student population. In 2000–01 these groups made up 63% of the districts’ student population.

In the context of a rapidly changing student socioeconomic profile, the Ferguson-Florissant School District—as is true for all school districts—must meet standards as assessed by high-stakes testing. As a result of No Child Left Behind (NCLB) legislation and Missouri Department of Elementary and Secondary Education (DESE) directives, teachers in the district feel an added impetus to improve student performance on standardized writing tasks. Yet as Anne Ruggles Gere, Leila Christenbury, and Kelly Sassi (2005) note, when faced with the high stakes of testing, “preparation for writing on demand . . . often [becomes] largely disconnected from the curriculum and puts teachers in the position of teaching to the test while students develop an impoverished concept of writing” (5). Like Gere, Christenbury, and Sassi, we believe that an integrated program steeped in sound writing pedagogy is the best way for educators to improve writing ability, even as measured by standardized tests.

PROGRAM FOCUS AND BACKGROUND

Program and Participant Description
The goal of this inservice program was simple: Using National Writing Project principles and accepted professional development practices, we sought to replicate essential elements of the GWP Summer Institute—in particular teacher inquiry and reflection—for teachers in the Ferguson-Florissant School District. We worked to affect, to change, and to improve teacher knowledge and practice regarding writing pedagogy. This change in practice, we hoped, would also improve student performance on writing tasks. We assessed the efficacy of the inservice by both teacher growth (as measured by classroom observations, artifact analysis, and semistructured interviews) and student growth (as measured by an on-demand, timed writing assessment).
Teachers throughout the district were invited to apply for the inservice, which was piloted in 2003–04. To be considered for the program, teachers wrote a short narrative explaining why they thought they would benefit from the inservice. Principals were also encouraged to recommend teachers for participation. In the pilot year, 25 teachers participated. The next year (2004–05), 9 of the original participants continued with the project, and another 12 joined in summer 2005. Because word of mouth from the first-year participants proved to be very effective marketing, program participants were clustered in 5 of the district’s 17 elementary schools.

Program Context
Teachers began the program by attending an eight-day intensive summer workshop. (See appendix A for syllabus.) The class, for which teachers could opt to receive graduate credit or a stipend, was taught by GWP instructors and grounded in National Writing Project philosophy. Specifically, the course operated under the premise that teachers teach writing better when they themselves are writers. Therefore, a strong emphasis was placed on developing the program participants’ writing skills and reflecting on personal writing processes. Participants studied writing theory and practitioner action research. The course engaged participants in sharing their knowledge of practice with each other and honing their research skills. By the end of the summer session, participants had identified writing-centered inquiry topics that they wished to investigate in the upcoming school year.

When school resumed in the fall, program participants continued to further develop, refine, and carry out their inquiry projects. Monthly meetings provided an opportunity to support teachers as they conducted classroom action research. Teachers reviewed established means of measuring student writing, and learned how to collect, analyze, and evaluate classroom artifacts and student writing samples. Participants shared monthly progress reports as they implemented their studies. To encourage teachers to articulate their knowledge, and in keeping with the professional development practice of teachers teaching teachers, participants formally shared their research project and results with the entire group during a culminating activity.

RESEARCH QUESTIONS

This research evaluated the inservice program in terms of both its effect on teachers (e.g., did they become better teachers of writing?), and its effect on students (e.g., did they become better writers, having had teachers who participated in the project?). Additionally, we wished to identify and describe features of the model that we felt could be replicated in other schools.

The study framed these goals in terms of three major questions:

1. To what extent and in what ways does professional development that subsumes teacher inquiry as a central element build teachers’ capacity to teach writing and literacy skills?
2. How, specifically, do teachers apply skills learned in their inquiry project to their classroom practice?
3. Do any such changes in practice positively affect student writing growth and development?

The first question unpacks the inservice program, looking specifically for ways in which professional development that subsumes teacher inquiry might affect teachers’ knowledge and delivery of effective writing instruction. For instance, in addition to forming projects based on their own interests, teachers investigated their questions by reading professional literature and designing and implementing new writing strategies for their classrooms. Reflective practice was also encouraged as teachers wrote detailed field notes and memos, and examined student work using protocol analysis.

To answer the second question, we not only relied on teachers’ self-reporting of skills they applied in their classrooms, but also sent trained GWP teacher-consultants to conduct on-site observations. A semistructured interview followed each observation. In addition, we reviewed teachers’ field notes and memos as they documented progress with their projects and with their students.

The third question was answered by observing changes on a pre/post, on-demand writing assessment. These tests were scored off-site by NWP and yielded both a set of analytic scores and a holistic score for each student.

**RESEARCH DESIGN AND METHODS**

**Overall Research Design**

Our research employed a pre/post quasi-experimental design. (A true experimental design was not possible as we needed to utilize intact classrooms and could not randomly assign students or teachers.) In order to control for as many extraneous variables as possible, we matched our program teachers and their intact classrooms with nonparticipating teachers and their intact classrooms. Teachers were matched based on grade level, teacher experience, and certain demographics of the students they served (i.e. free/reduced-price lunch status and ethnicity). Data, collected from teachers and students in both groups, included interviews, classroom observations, artifact analysis, and tests of writing achievement.

The research team was carefully selected and utilized to minimize bias. As lead teacher, Diane Scollay conducted most of the class sessions and was responsible for grading the participants’ final projects. The lead researcher, Nancy Singer, acted as a participant-observer. She was not responsible for assigning final grades, but did review class artifacts.

**Sample**

Because the Ferguson-Florissant School District did not include secondary classrooms in its internal writing assessment program, none of the three participating secondary
teachers were included in this study. Nonregular teachers (e.g., reading specialists, alternative school teachers; n = 3) were also excluded from the sample because they did not have students exclusively assigned to them. Additionally, it was determined that writing samples from students in primary grades 1–2 could not be scored reliably by our external scoring group, so those teachers (n = 3) were also eliminated from the study.

Our original number of participants included 9 program and 9 comparison teachers. One comparison teacher did not comply with requests for data. Further, none of the sixth grade teachers—either program or comparison—administered all four writing prompts; therefore, their students were eliminated from the analysis. The total number of study participants for the research initiative during the 2004–2005 school year comprised 7 program teachers, 7 comparison teachers, and their students (n = 160).

Our first criterion in selecting comparison teachers was to find teachers who had not been involved in past GWP professional development. This proved to be quite challenging. For the last twenty-five years, the school district has had an extremely active professional development program and many of the in-district professional development opportunities were writing process-oriented. As a result, we saw evidence of writing process implementation in all teachers’ classrooms—both program and comparison. Thus, while the comparison group is appropriate in that it is both typical of the school system generally and not involved in the subject program, it is nonetheless a fairly sophisticated reference for the comparisons subsumed in the analytic design for the research.

Additionally, teachers were matched by the grade level they taught, the number of years of teaching experience, and level of education (e.g., bachelor’s degree, master’s degree, certifications). We also matched groups by student characteristics including free/reduced-price lunch status, ethnicity, and gender.

Table 1 below outlines characteristics of program and comparison teachers; table 2 outlines characteristics of program and comparison students in these teachers’ classes.

### Table 1
**Characteristics of Program and Comparison Teachers**

<table>
<thead>
<tr>
<th></th>
<th>Program Teachers</th>
<th>Comparison Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number</strong></td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td><strong>Grade Levels Taught</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; grade</td>
<td>3 teachers</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; grade</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt; grade</td>
<td>2 teachers</td>
<td>4&lt;sup&gt;th&lt;/sup&gt; grade</td>
</tr>
<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt; grade</td>
<td>2 teachers</td>
<td>5&lt;sup&gt;th&lt;/sup&gt; grade</td>
</tr>
<tr>
<td><strong>Mean Years Teaching</strong></td>
<td>15.0</td>
<td>20.0</td>
</tr>
<tr>
<td><strong>Level of Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor’s</td>
<td>0 teachers</td>
<td>Bachelor’s = 2 teachers</td>
</tr>
<tr>
<td>Master’s</td>
<td>7 teachers</td>
<td>Master’s = 4 teachers</td>
</tr>
<tr>
<td>Doctorate</td>
<td>0 teachers</td>
<td>Doctorate = 1 teacher</td>
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</table>
Table 2
Characteristics of Program and Comparison Students

<table>
<thead>
<tr>
<th></th>
<th>Program Students</th>
<th>Comparison Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>82</td>
<td>78</td>
</tr>
<tr>
<td>Grade Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd grade - n=58 (71%)</td>
<td></td>
<td>3rd grade - n=13 (17%)</td>
</tr>
<tr>
<td>4th grade - n=8 (10%)</td>
<td></td>
<td>4th grade - n=49 (63%)</td>
</tr>
<tr>
<td>5th grade - n=16 (20%)</td>
<td></td>
<td>5th grade - n=16 (21%)</td>
</tr>
<tr>
<td>% Free and Reduced-price Lunch</td>
<td>54%</td>
<td>37%</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>49% Female</td>
<td></td>
<td>41% Female</td>
</tr>
<tr>
<td>51% Male</td>
<td></td>
<td>59% Male</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
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<td></td>
</tr>
<tr>
<td>61% African American</td>
<td>56% African American</td>
<td></td>
</tr>
<tr>
<td>37% White</td>
<td>41% White</td>
<td></td>
</tr>
<tr>
<td>0% Hispanic</td>
<td>01% Hispanic</td>
<td></td>
</tr>
<tr>
<td>02% Asian American</td>
<td>01% Asian American</td>
<td></td>
</tr>
<tr>
<td>Mean Gates-MacGinitie Pretest Reading Score</td>
<td>47.78</td>
<td>46.69</td>
</tr>
</tbody>
</table>

All participation in this study was completely voluntary. Program participants were part of an inservice project and received either graduate credit or a $1,000 stipend from the school district for their participation. Nonprogram participants were strictly volunteers in the project and received no remuneration.

Data Collection and Analysis
Table 3 provides a summary of the research questions and the data sources that addressed each one. Each data source is then described in more detail following table 3.

To the extent possible, data were gathered and analyzed independently. Two teacher-consultants not affiliated with the inservice program conducted the classroom observations used in the data analysis (see appendix B). All student writing samples were scored independently by NWP during a national scoring conference. All quantitative data were analyzed by Dr. Jon Marshall, an independent education research consultant.
Table 3
Summary of Data Collection Methods

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data Sources</th>
<th>Administration</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent and in what ways does professional development that subsumes teacher inquiry as a central element build teachers’ capacity to teach writing and literacy skills?</td>
<td>Participants’ field notes and memos, Semistructured interviews</td>
<td>Collected throughout the inservice, Conducted after each classroom visit</td>
<td>Program teachers only; N = 7, Program teachers; N = 7, Comparison teachers; N = 7</td>
</tr>
<tr>
<td>How, specifically, do teachers apply skills learned in their inquiry project to their classroom practice?</td>
<td>Semistructured interviews, Classroom observations, Participants’ field notes and memos</td>
<td>Conducted after each classroom visit, Program teachers were observed twice (fall and spring); comparison teachers once (spring), Collected throughout the inservice</td>
<td>Program teachers; N = 7, Program teachers; N = 7, Comparison teachers; N = 7, Program teachers only; N = 7</td>
</tr>
<tr>
<td>Do such changes in practice positively affect student writing growth and development?</td>
<td>Student writing samples from on-demand district-administered prompts</td>
<td>Administered 4 times/year (October, November, April, and May); scored using both holistic and analytic rubrics.</td>
<td>Program students; N = 82, Comparison students; N = 78</td>
</tr>
</tbody>
</table>

**Teacher data**
Several data sources were employed to help capture multiple dimensions of teacher practice. To determine to what extent the inservice affected teacher practice, we conducted semistructured interviews and used classroom observations. We also collected qualitative data in the form of field notes that focused on activities and conversations conducted during the inservice. Participants’ reflective writing provided further insight into their struggles and progress as teacher-researchers, and helped to lend thick description to this study. These multiple sources of data, described below, also helped us
validate our outcomes and tease out elements of the professional development that were particularly useful for teachers and ultimately beneficial for their students.

**Classroom observations.** Two GWP teacher-consultants not directly affiliated with the program were trained to use the Classroom Observation Protocol (appendix B). The research team discussed the instrument with all observers and discussed the level of detail needed in the field notes. These on-site classroom observations helped identify the kinds of writing practices and the level of implementation that program teachers were employing in their classrooms. To the extent possible, program teachers were observed twice during the study year (fall and spring) and comparison teachers once (spring). Observation times were mutually agreed upon, and teachers were asked to invite the observer when they were teaching a writing lesson. In addition, the observers noted other qualitative data such as the physical arrangement of the classroom (e.g., whether there were spaces for writing/sharing/publishing student work). We collected these data to help us discern subtle differences between program and comparison teachers. For the same reasons, we asked observers to transcribe the teachers’ lessons (to the extent possible) and to specifically note any features of the lesson that they felt were unique or effective uses of pedagogy.

**Teacher interviews.** At the end of each classroom observation, teachers participated in a short, semistructured interview (see end of appendix B). These interviews sought specifically to understand and explain the efficacy of the professional development model. Teachers were asked to reflect on the writing lesson they had just completed and to provide more detailed descriptions of typical writing tasks in their classrooms. Responses were recorded in detailed field notes, but were not transcribed verbatim. The lead researcher reviewed the interview field notes, and conducted follow-up interviews when a comment or observation seemed particularly interesting or problematic and required additional information.

**Field notes, memos, and reflective writing.** Field notes, memos, and reflective writing were collected from the program teachers at each monthly meeting. Project facilitators used these as a way to respond to teachers’ questions and to gauge the level of implementation of writing project principles in program teachers’ classrooms. The lead researcher also took detailed field notes and wrote reflective memos after each monthly meeting.

**Student data**
To determine if the teachers’ professional development produced gains in student writing achievement, we collected four writing samples, written in response to on-demand writing prompts administered in a pre/post fashion. Additionally, we compared student reading scores on standardized tests to gain a wider purview of student literacy skills.

**Standardized test scores.** For all students, the school district provided Gates-MacGinitie pre (September) and post (May) reading scores. The pretest scores were used to help match program and comparison teachers. The pre/post reading scores were compared to gain a wider purview of the students’ literacy skills.
Student writing samples. To measure student growth in writing, we collected four on-demand writing samples. The assessments were administered by FFSD in pre/post fashion—two in the fall (October, November) and two in the spring (April, May)—as part of a district initiative. Students had up to one hour to complete each writing sample. Over the course of the research one comparison teacher (and consequently the students in her class) was unable to continue in the study. The teachers and students described here represent the remaining samples that were included in the analyses.

On-demand student writing assessments were not new to the FFSD teachers. For several years elementary teachers had been required to administer district writing prompts periodically during the school year, holistically assessing them and recording students’ scores. Our research piggybacked onto these existing district writing assessments. To further minimize certain threats to validity, specifically prompt and measurement effects, we used a partially counterbalanced design in the administration of the pre/post student writing assessment. Table 4 shows the counterbalanced design for administering the writing assessments.

### Table 4
Counterbalanced Design for the Administration of Writing Assessments

<table>
<thead>
<tr>
<th>Time of Administration</th>
<th>Group 1 (One half of program and comparison teachers)</th>
<th>Group 2 (One half of program and comparison teachers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>September</td>
<td>Prompt A</td>
<td>Prompt B</td>
</tr>
<tr>
<td>October</td>
<td>Prompt C</td>
<td>Prompt D</td>
</tr>
<tr>
<td>April</td>
<td>Prompt D</td>
<td>Prompt C</td>
</tr>
<tr>
<td>May</td>
<td>Prompt B</td>
<td>Prompt A</td>
</tr>
</tbody>
</table>

Evaluative framework. To ensure technical rigor and credibility, scoring and data processing were conducted independently of the local site. The scoring used a modified version of the Six+1 Trait Writing Model (Bellamy 2005). This evaluative framework includes a rubric that attends to six attributes of a student’s writing:
- Ideas / Content Development—establishing purpose, selecting and integrating ideas, including details to support, develop, or illustrate ideas
- Organization—creating an opening and closing, maintaining focus, ordering and relating events, ideas, details to provide coherence and unity in the writing
- Voice—communicating in an engaging and expressive manner, revealing the writer’s stance toward the subject
- Sentence Fluency—constructing sentences to convey meaning, controlling syntax, creating variety in sentence length and type
- Word Choice—choosing words and expressions for appropriateness, precision, and variety
• Conventions—controlling grammar, punctuation, spelling, capitalization, and paragraphing.

A national panel of experts on student writing, along with senior NWP researchers, determined that the Six +1 Trait model, while sufficiently comprehensive, required certain modifications to make it more appropriate for use in research studies. The following modifications were implemented in the rubric prior to the scoring conference:

• The scale of the rubric was extended from four to six points in order to ensure sufficient discrimination and therefore to allow increased sensitivity to any changes that might be observed.
• The language defining the traits was clarified to enhance the reliability of evaluative judgments.
• The evaluative judgments were modified to focus exclusively upon the student writing (where, on occasion, the rubric previously included references to the reader’s reactions or to the writer’s personality as the basis for judgment).

Scoring. The FFSD writing samples were among those from all five LSRI sites scored at a national conference held in June 2005. Student writing was coded, with identifying information removed so that scorers could not know any specifics of the writing sample being evaluated (e.g., site of origin, group [program or comparison], or time of administration [pretest or posttest]). Of the papers from students in the elementary grades—which included all of the student samples reported in this research project—11% were scored twice so that reliability could be calculated.

The scorers participated in six hours of training at the beginning of the conference. Their scoring was calibrated to a criterion level of performance at that time, and was then recalibrated following every major break in the scoring (meals and overnight). Overall, reliabilities (measured as interrater agreement, defining agreement as two scores being identical or within one single score point of each other) ranged from 90% to 95%, with an aggregate across all scores of 92%. At the elementary level, which was the focus of this study, reliabilities ranged from 87% to 95%, with an aggregate across all scores of 89%. (See appendix C for complete analysis of the reliability of the scoring of student writing). All scores were double-entered independently and the files compared. The resolution of all discrepancies produced a highly accurate data file for use in our analysis.

RESULTS/FINDINGS

Classroom Practices
Classroom observations, field notes, and interviews documented a wide range of practices by both program and comparison teachers. In all of the classrooms we visited, one element was consistent: a clear focus on literacy and the teaching of writing. However, three key differences between program and comparison teachers emerged from the qualitative data: writing task focus, extension over time, and modeling of using reading/writing connections.
**Focus**
In program teachers’ classrooms, observers saw students encountering a wider range of writing tasks, such as poetry, autobiography, and multigenre writing. These writing tasks largely allowed for student choice not only in topic, but also in how the topic was approached. A multigenre project, taught by a pair of teachers, illustrates this type of opportunity for students. This was among the most highly developed projects offered by program teachers. Over a two-month period, students researched topics of their choice—chosen topics included the Negro Baseball League and Rosa Parks. Students also chose the type of writing they wanted to use including biography, informational writing, poetry, and memoir. When it came to issues of grammar and mechanics, teachers in the program group were more likely to use sentence-combining activities or teach brief minilessons on a specific topic, rather than use grammar handbooks or structured worksheets.

In comparison teachers’ classrooms, the writing tasks we observed were highly structured and predictable. Students wrote on topics the teachers provided, and mirrored the kinds of constructed-response writing that students might be asked to complete on the Missouri Assessment Program test. One comparison teacher said, “I focus mostly on constructed responses and writing throughout the curriculum. I am not as comfortable writing like this [a descriptive piece] and don’t do much formal writing.” Classroom observations also documented more frequent use of grammar handbooks and worksheets in the comparison teachers’ classrooms. On the other end of the continuum from the multigenre project noted above, an observer made this notation: “[The teacher] wrote the word ‘persuasive’ on the board and explained it was another form of the word [persuade] and elicited from the class that this form of the word was an adjective. Students were then called upon to read from the language handbook. As students complete[d] small sections, [the teacher] stopped students and directed them to the persuasive writing worksheet.”

**Time**
A second difference between program and comparison teachers was their use of time for writing tasks. Observations and artifacts (e.g., writer’s notebooks, portfolios) from the program teachers’ classrooms clearly pointed to more extended writing and recursive writing. It was not unusual for observers to note writing that had occurred over days or weeks. In one third grade classroom, the teacher spent several days working with students on developing the setting, leads, and conclusions for stories they were writing. By focusing on developing a story over several class periods, the class could read stories that ended in different ways and discuss what characterizes a good ending.

Although comparison teachers knew the mechanics of process writing (i.e., they often allotted time for prewriting, drafting, and revision), all of these steps were usually compressed into a single-class block of writing time. Students moved through the steps in a linear fashion and were sometimes given very tight parameters. For example, an observer noted: “[The teacher] told students that she wanted at least seven lines, set a clock, and directed students to begin.”
**Modeling**

Finally, a strong difference was documented in program and comparison teachers’ classrooms when it came to modeling of using a reading/writing connection. Although teachers were asked to invite the observer when they were “teaching a writing lesson,” many of the lessons in the program teachers’ classrooms included modeling using a reading/writing connection. Repeatedly, program teachers asked their students to “read like writers,” to observe how professional authors used craft and then to employ those techniques in their own writing. An observer in a third grade classroom noted: “Throughout the lesson, students were asked to look at the text for evidence of vivid language, details, and author’s craft.” Sometimes these models were even cross-curricular. In a social studies lesson on Lewis and Clark, one program teacher had students examine the lead sentence, explaining that its goal was “to pull the reader in.” She then asked the children to identify ways in which a writer might engage a reader. In another lesson, a teacher had students refer to their science text to visualize a description of how the layers of the earth might appear.

In contrast, in all but one of the comparison teachers’ classrooms we observed lessons that were writing-oriented but contained no reading. Students were directed to complete an assignment using the teacher’s prompt and had little or no freedom in topic selection. The type of modeling observed in these classrooms supported students in carefully reading teacher-directed writing prompts and preparing to write. In one typical comparison classroom, the teacher walked the students through the process of reading a prompt similar to ones they would encounter on the state test, asking them to focus on what the prompt asked them to do. She followed this with a minilesson on creating a graphic organizer and reminders to use this to create a good paragraph.

**Student Performance**

Students in both the program and comparison groups were assessed four times during the study. Their mean scores are reported below in table 5. While all students’ writing scores increased during the year, students of program-group teachers made significantly higher gains than those in the comparison group. With the exception of “word choice,” we found statistically significant positive effects for students of program teachers, according to all tests and across all grade levels.
Table 5
Mean Scale Scores for Writing Assessment and
Related Repeated-Measures Analyses of Variance

<table>
<thead>
<tr>
<th>Score</th>
<th>Group</th>
<th>Mean Time 1</th>
<th>Mean Time 2</th>
<th>Mean Time 3</th>
<th>Mean Time 4</th>
<th>$F^1$</th>
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<tbody>
<tr>
<td>Holistic</td>
<td>Program</td>
<td>3.03</td>
<td>2.90</td>
<td>3.41</td>
<td>3.51</td>
<td>6.24*</td>
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<tr>
<td></td>
<td>Comparison</td>
<td>2.77</td>
<td>3.16</td>
<td>2.95</td>
<td>2.74</td>
<td></td>
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<tr>
<td>Ideas</td>
<td>Program</td>
<td>3.16</td>
<td>3.06</td>
<td>3.43</td>
<td>3.58</td>
<td>5.42*</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>2.94</td>
<td>3.26</td>
<td>3.12</td>
<td>2.87</td>
<td></td>
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<tr>
<td>Organization</td>
<td>Program</td>
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<td>2.73</td>
<td>3.21</td>
<td>3.38</td>
<td>7.47**</td>
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<td></td>
<td>Comparison</td>
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<td>5.39*</td>
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<td></td>
<td>Comparison</td>
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<td>3.05</td>
<td>2.99</td>
<td>2.61</td>
<td></td>
</tr>
<tr>
<td>Sentence fluency</td>
<td>Program</td>
<td>2.99</td>
<td>2.87</td>
<td>3.27</td>
<td>3.58</td>
<td>6.07*</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>2.89</td>
<td>3.04</td>
<td>2.89</td>
<td>2.71</td>
<td></td>
</tr>
<tr>
<td>Word choice</td>
<td>Program</td>
<td>3.02</td>
<td>2.93</td>
<td>3.29</td>
<td>3.48</td>
<td>.54</td>
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<tr>
<td></td>
<td>Comparison</td>
<td>2.70</td>
<td>3.15</td>
<td>2.94</td>
<td>2.85</td>
<td></td>
</tr>
<tr>
<td>Conventions</td>
<td>Program</td>
<td>3.01</td>
<td>3.02</td>
<td>3.50</td>
<td>3.62</td>
<td>11.20**</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>3.06</td>
<td>3.27</td>
<td>3.18</td>
<td>2.96</td>
<td></td>
</tr>
</tbody>
</table>

$^1$ *F* values correspond to the test of significance of the interaction between group and time.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>$p \leq .05$</td>
</tr>
<tr>
<td>**</td>
<td>$p \leq .01$</td>
</tr>
</tbody>
</table>
Additional Results

Reading
Additional results based on the Gates-MacGinitie test are also provided in tables 6 and 7. Initially the pretest data (collected in September) was gathered only as a means of matching program and comparison teachers; however, an analysis of the posttest data (collected in May) produced results that we felt were worthy of further analysis. When we sampled the same student scores used in the writing achievement analysis, we found that both the program and the comparison students gained significantly in reading achievement during the school year. Using a time-by-group repeated measures ANOVA, however, we found that the program students gained in reading level at a significantly faster rate than the comparison students.

While reading was not a question addressed per se in the research design or in the professional development—and thus we do not claim that our intervention helped improve student reading abilities—we believe that this evidence strongly supports the notion that the professional development teachers received in writing instruction, and the subsequent implementation in their classrooms, did not detract from other literacy instruction or initiatives.

Table 6
Repeated Measures ANOVA for Gates-MacGinitie Reading Scores

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>10769.214</td>
<td>1</td>
<td>10769.214</td>
<td>204.094**</td>
<td>.57</td>
</tr>
<tr>
<td>Time * Group</td>
<td>324.577</td>
<td>1</td>
<td>324.577</td>
<td>6.151*</td>
<td>.04</td>
</tr>
<tr>
<td>Error</td>
<td>8178.741</td>
<td>155</td>
<td>52.766</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>489.172</td>
<td>1</td>
<td>489.172</td>
<td>.663</td>
<td>.00</td>
</tr>
<tr>
<td>Error</td>
<td>114422.541</td>
<td>155</td>
<td>738.210</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p ≤ .05
** p ≤ .01

Table 7
Comparison of Means for Gates-MacGinitie Reading Test

<table>
<thead>
<tr>
<th>Group</th>
<th>Sample Size</th>
<th>Time of Administration</th>
<th>Difference (Post – Pre)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Fall (Premeasure)</td>
<td>Spring (Postmeasure)</td>
</tr>
<tr>
<td>Program</td>
<td>81</td>
<td>47.16 (18.6)</td>
<td>60.91 (17.3)</td>
</tr>
<tr>
<td>Comparison</td>
<td>76</td>
<td>46.70 (22.3)</td>
<td>56.38 (21.3)</td>
</tr>
</tbody>
</table>
DISCUSSION

This study attempted to measure the effectiveness of a professional development model centered on teacher inquiry. One measure of efficacy should be student performance; in this study, the program group students’ writing achievement increased more than comparison students’. All of the program and comparison teachers in this study were excellent, experienced teachers, and our observations noted a preponderance of literacy events in both program and comparison teachers’ classrooms. Yet program teachers’ students clearly performed better on multiple measures of their writing. We believe this is due to a purposeful and systemic approach to the teaching of writing. While comparison teachers could articulate facets of process writing (e.g., they could describe a task as “prewriting”), their approach to the teaching of writing was lock-step and linear. Contrarily, program teachers seemed to have a more internalized notion of process writing. Their instruction was recursive; they seemed to understand and embrace the complexity of writing—allowing students choice and time in which to complete writing tasks.

In attempting to tease out the subtle differences that could account for the greater improvement made by students of program teachers, we found qualitative differences in three areas: focus of the writing assignment, time allowed for the writing task, and modeling of using a reading/writing connection. However, we recognize that there are many other differences we may not have recognized, and we encourage future research into designing observation protocols that may help researchers discern these subtle differences in classroom practice. It is particularly reassuring to note that a focus on writing did not detract from reading achievement and may have been an excellent supplement to it. Further studies into this reading/writing connection are also worthy investigations.

We believe the changes we noted in teacher practice—and the improvements in student scores—are tied closely to the inquiry manner in which the teachers themselves learned. When we asked participants to allow their own students latitude to investigate and write about topics that mattered to them, we provided the same freedom for the teachers’ own inquiry projects. When participants felt they had hit a dead end with their action research, we asked probing questions and encouraged new lines of inquiry. Although program participants selected their own inquiry groups and questions, most chose to work with teachers from their own schools. Thus they were able to share insights and strategies for the same groups of students. Those who participated in the research for two years could also observe differences between grade levels and across time. Teachers cited the ability to spend concentrated planning and reflective time together—a precious commodity in most schools—to be a particular benefit of the inservice.

The effects of this professional development may last well beyond the two years we worked in the Ferguson-Florissant School District. This project sought to develop a core group of teachers with a deep understanding of effective approaches to writing instruction who could not only improve instruction and student performance in their own
classrooms, but also provide future direction and leadership both in their individual school buildings and at the district level. Because inquiry was at the center of this professional development, we expected that teachers would leave the inservice better equipped to pose questions and generate solutions in their classrooms. As one participant said, “The important part was that we created something that works for us that is our own.”

REFERENCES


Appendix A: Course Syllabi

Studies in Teaching Writing: Tch Ed 5850
Writing Process and Teacher Leadership—Part I
The Gateway Writing Project in the Ferguson-Florissant School District

Instructors: Nancy Singer, M. Ed., Instructor-UM-St. Louis
Diane Scollay, M.A., M. Ed., Gateway Writing Project Director

Location: Ferguson-Florissant School District

The Gateway Writing Project in the Ferguson-Florissant School District—Part I is designed to develop district leaders in the teaching of writing. Since the course operates from the premise that teachers teach writing better when they practice writing themselves, a strong emphasis is placed on developing the participants’ writing skills and reflecting on their own writing process. Participants will also concentrate on the theoretical background needed to guide their decisions about the teaching of writing.

Three hours graduate credit

Note: The Gateway Writing Project in the Ferguson-Florissant School District—Part II will follow this course during the 2004-2005 school year. An additional three graduate credits will be awarded. Part II of this program includes a major action research project and presentation of findings.

Course Objectives
- Participants will read theories of writing that provide a rationale and context for the strategies and assessment practices.
- Participants will write in a variety of genres to learn how writing promotes learning as well as to improve their own writing skills.
- Participants will participate in small and large group discussions, peer edit/revision sessions and oral presentations to sharpen their perceptions of the links between speaking, writing, and reading.
- Participants will design a plan for implementation of a research-based approach to writing that will be studied later as part of an action research project.

Academic Honesty
Academic honesty is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person’s work has been responsibly and honorably acquired, developed, and presented. Collaborative projects assume serious contributions by all members. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards academic dishonesty as an extremely serious matter, with serious
consequences that could lead to failure of the class. When in doubt about plagiarism, paraphrasing, quoting, or collaboration, consult the course instructor.

Assignments
- Reader response log
- Three writing pieces, two of which have been revised (rubrics provided)
- Group presentation of an analysis of their reading about a significant issue in the teaching of writing
- Summary reflection

Participants met in May and were assigned to read Donald Murray’s *Crafting a Life*, one of the books from the suggested reading list, and five articles from a binder of collected articles before the start of class.

Course Content
Day 1
- Introductions, program overview, and expectations
- Establishing “group norms”
- Participate in Writing Marathon. (Participants will go to the Little Creek Nature Area in the Ferguson-Florissant School District where they will write and share writing in small groups and later share writing and reflect on the experience with the entire group.)

Assignment: Write draft of first writing piece (WP 1) for Day 2. Read articles from binders and suggested books that inform the issue selected for reading circles; write responses to reading.

Day 2
- Elements of good writing
- Reflection: Describing ourselves as writers
- Writing dialectical journal entries. Choose one article and write an entry into journal
- Reading circles (The group will be divided in half to discuss the readings. An instructor will facilitate each group. The purpose of the first session of reading circles is to identify five to six critical issues in the teaching of writing. Participants will later choose an issue to study in-depth.)
- Discussion of Murray’s *Crafting A Life* and implications for our own lives as writers.
- Writing time
- Peer response groups

Assignment: Revise draft of WP 1 for Day 3. Read articles from binders and suggested books that inform the issue selected for reading circles; write responses to reading.

Day 3
- Reflect on writing piece
- Strategies for revision
- Presentation/demonstration: What makes a good peer response group?
- Peer response session
- Reading Circles: Defining issues (Groups of five to six participants will meet to discuss the issue they have chosen to study in depth. The purpose of the discussion is to begin to narrow their focus and be able to clearly articulate the issue to be studied.)
- Reflection on first week of the Writers Project

Assignment: Revise writing piece 1 for Day 4
  Continue reading for reading circles; write responses to the reading
  Consider a topic that can be discussed in a persuasive piece (WP 2)
  Prepare for idea exchange groups for Day 4

**Day 4**

- Share WP 1 with peer response group; written reflections on improvements in the piece
- Presentation/demonstration: Writing persuasively
- Time to plan and begin WP 2
- Reading Circles/Issue Groups: Continue to define and study the issue discussed in the groups reading; make a brief status report to the whole group
- Round table discussions: Idea exchanges—Here’s what works for me.

Assignment: Write draft of WP 2
  Continue reading for reading circles; write responses to reading

**Day 5**

- Reflection
- Discussion: The Ferguson-Florissant Youth Summer Writers Camp
- Peer response groups
- Presentation: Japanese Lesson Study. (Participants will use the Japanese lesson study model to determine how they will translate what they have learned about their issue to classroom practice.)
- Reading Circles/Issues Groups: Participants will work in pairs or groups of three to begin planning an approach to writing that results from their reading. (The group will study this approach during the first semester of the school year and make a presentation about their findings to the whole group some time during the winter semester.)
- Reading Circles/Issues Groups Presentation: Groups will give a preliminary report about what they plan to do in their classrooms as a result of their reading and reflection about their own writing.
- Round table discussions: Idea exchanges—Here’s what works for me.

Assignment: Revise WP 2
  Continue reading for reading circles; write responses to reading

**Day 6**

- Presentation/demonstration: National Writing Project Study on Assessing Student Work and Developing Good Assignments
- Looking at Student Work Together: Using the National Writing Project protocol, participants will look at samples of their students’ writing, assess them, and then discuss what their students’ work reveals about their strengths and weaknesses.
• Peer response for WP 2
• Issue presentations: Each reading circle group will present 10 critical points to remember about their issues to the whole group.
• Reflections on the week
Assignment: Revise WP 2
    Write a one to three page reflection on how you have grown as a writer and what you have learned about the teaching of writing. (WP 3)

Day 7
• Presentation: Using Six Traits to Assess Writing
• Discussion: How might using Six Traits help your assessment program? What are some other alternatives?
• Peer response to WP 2
• Issue groups: Plan for implementation of an approach to teaching writing. (This approach will be the focus of an action research project during the 2003-2004 school year.)
• Issue presentations: Each issue group presents the implications for classroom practice from their reading.
Assignment: Prepare piece for oral publication; prepare presentation of “Plan for implementation”

Day 8
• Present implementation plans
• Oral publication of selected writing piece
• Final reflections

Evaluation/Grading
Attendance and participation 20 points
Readers response log (10 entries) 20
Portfolio of participant writing 100
    • Includes three writing pieces developed in three different genres—narrative, letter, poem, etc.
    • Two pieces carried through process to publication, one oral, one print; save all drafts and peer responses
Group presentation on issue research 10 points
Plan for issue implementation for 2003-2004 10 points
(This will be the plan for an action research project.)
Total 160 points

Grading scale
A- to A=144-160 points
B- to B= 128-143 points
C- to C=112-127 points
F=111 and below
Selected Bibliography


**Other topics**


Writing Process and Teacher Leadership in the Ferguson-Florissant School District

Writing Process and Teacher Leadership in the Ferguson-Florissant School District has been designed to develop district leaders in the teaching of writing. Since the course operates from the premise that teachers teach writing better when they practice writing themselves, a strong emphasis is placed on developing the participants’ writing skills and reflecting on their own writing process. Participants also concentrate on the theoretical background needed to guide their decisions about the teaching of writing.

In Part I, teachers studied writing theory and engaged in a variety of writing experiences. They learned an array of strategies that help them improve their personal and professional writing as well as their teaching repertoire. Each participant identified an issue and developed a research question to study during the 2003-2004 school year. These participants have met with each other during the first semester and have had contact with the instructors during that time.

Writing Process and Teacher Leadership in the Ferguson-Florissant School District—Part II will follow Part I of this course during the 2004 spring semester. An additional three graduate credits will be awarded. Part II of this program includes a major action research project and an oral and written presentation of findings.

Three hours graduate credit in English or Education

Course Objectives

- Participants will read research about current theories on the teaching of writing that provide a rationale and context for the strategies and assessment practices.
- Participants will carry out their plans for implementation of a research-based approach to writing as part of an action research project.
- Participants will write an article about their findings and submit it to at least one professional journal with the goal of publication.

Academic Honesty

Academic honesty is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person’s work has been responsibly and honorably acquired, developed, and presented. Collaborative projects assume serious contributions by all members. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards academic dishonesty as an extremely serious matter, with serious
consequences that could lead to failure of the class. When in doubt about plagiarism, paraphrasing, quoting or collaboration, consult the course instructor.

Assignments
- Classroom field notes and reflections
- Development of a professional portfolio
- Presentation of group and individual findings during research project
- Continued reading of books from the GWP bibliography and from collection of articles provided
- Written analysis of action research findings in a format suitable for publication. (Models will be provided.)
- Contribution to a group synthesis of research studies conducted during this course

Course Content
Each of the March and April after-school meetings will use the following format:
- Small group sharing of developments in their studies
- Time to follow a protocol for looking at student work with study groups
- Debriefing of progress with the whole group
- Small group and large group discussion of readings
- Conferences with instructors

Each of the May after-school meetings will include time for the above elements but will also include one or two group presentations that describe their research study and their findings.

In June, the group will work to develop a written synthesis of the entire project in the Ferguson-Florissant School District and identify ways to share work with district leaders.

Evaluation/Grading
 Attendance and participation  20 points

Field notes and reflections  20

Portfolio of lessons, student work and reflections  40

Group presentation of findings from each person’s action research on an approach to the teaching of writing  40

Article on participants’ study and findings  100

Participation in group synthesis  20

Total  240 points
Grading scale
A- to A=216-240 points
B- to B= 192-215 points
C- to C=168-191 points
F=167 and below

Selected Bibliography


**Related topics**


Schmocker, Mike. 1996. *Results: The Key to Continuous School Improvement.* Alexandria, VA: ASCD.


Appendix B: Classroom Observation Protocol

Classroom Observation Protocol
Gateway Writing Project

Context: This instrument is designed to be used on a continuum with other measures of classroom practice. Teachers have already completed a self-report survey of their classroom practices. This observation and the brief interview attached are intended to provide further evidence to support the survey data. The observation cycle will be followed by an in-depth interview that will occur at a separate time.

<table>
<thead>
<tr>
<th>Observation Date</th>
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</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Observer’s Name</th>
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</thead>
<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Teacher’s Name</th>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Class/Grade Level</th>
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<table>
<thead>
<tr>
<th>School</th>
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</thead>
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</tbody>
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<table>
<thead>
<tr>
<th>Observation Time/Length</th>
</tr>
</thead>
<tbody>
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<td></td>
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</tbody>
</table>

I. Physical Setting/Classroom Context
Briefly describe the classroom setting. For instance, consider the room arrangement and what’s on the walls/board. Also consider what’s not there. Do the details suggest student-centered or teacher-centered instruction? What are the details that stand out to you concerning the teaching of writing? If helpful, sketch the layout of the classroom designating desk/work and writing spaces/supports (e.g. computers).
II. Lesson Flow and Summary
Please record the major events of the lesson. Cite evidence, examples, and direct quotations if possible.

| Time (Min.) | Observation | Comments | Materials |
|-------------|-------------|----------|-----------|-----------|
|             |             |          |           |           |
|             |             |          |           |           |
|             |             |          |           |           |
|             |             |          |           |           |
|             |             |          |           |           |
|             |             |          |           |           |
|             |             |          |           |           |
|             |             |          |           |           |

31
III. Strategies

Listed below are strategies/concepts participants rated on a self-assessment survey. To the extent possible, please mark “yes” if you saw evidence of the following:

What kinds of writing did you see used? (Leave blank if not observed.)

<table>
<thead>
<tr>
<th>Yes</th>
<th>Notes/Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quickwrites/free writes</td>
<td></td>
</tr>
<tr>
<td>Constructed responses</td>
<td></td>
</tr>
<tr>
<td>Point of view writing</td>
<td></td>
</tr>
<tr>
<td>Dialogues/plays</td>
<td></td>
</tr>
<tr>
<td>Poetry</td>
<td></td>
</tr>
<tr>
<td>Personal narratives/memoirs</td>
<td></td>
</tr>
<tr>
<td>Stories</td>
<td></td>
</tr>
<tr>
<td>Essays of various kinds</td>
<td></td>
</tr>
<tr>
<td>Book reports</td>
<td></td>
</tr>
<tr>
<td>Research papers/projects</td>
<td></td>
</tr>
<tr>
<td>Reading response journals</td>
<td></td>
</tr>
<tr>
<td>Learning logs/classroom notes</td>
<td></td>
</tr>
<tr>
<td>Personal journals</td>
<td></td>
</tr>
<tr>
<td>Letters</td>
<td></td>
</tr>
<tr>
<td>Editorials</td>
<td></td>
</tr>
<tr>
<td>Summaries</td>
<td></td>
</tr>
<tr>
<td>Interviews</td>
<td></td>
</tr>
</tbody>
</table>

What strategies did you see used? (Leave blank if not observed.)

<table>
<thead>
<tr>
<th>Yes</th>
<th>Notes/Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphic organizers</td>
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</tr>
<tr>
<td>Writers notebooks</td>
<td></td>
</tr>
<tr>
<td>Word walls/word banks</td>
<td></td>
</tr>
<tr>
<td>Word building activities</td>
<td></td>
</tr>
<tr>
<td>Sentence combining/sentence building</td>
<td></td>
</tr>
<tr>
<td>Minilessons</td>
<td></td>
</tr>
<tr>
<td>Modeling</td>
<td></td>
</tr>
<tr>
<td>Running records</td>
<td></td>
</tr>
<tr>
<td>Student-teacher conferences</td>
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</tr>
<tr>
<td>Scoring guides</td>
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</tr>
<tr>
<td>Portfolios</td>
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</tr>
<tr>
<td>Daily Oral Language</td>
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<tr>
<td>Power Writing</td>
<td></td>
</tr>
<tr>
<td>Literature Circles</td>
<td></td>
</tr>
<tr>
<td>Other major strategy (specify)</td>
<td></td>
</tr>
</tbody>
</table>
What aspects of the writing process did you observe? (Leave blank if not observed.)

<table>
<thead>
<tr>
<th>Yes</th>
<th>Notes/Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Prewriting
- Drafting
- Peer responding
- Revision
- Editing
- Publishing student work

Did you observe support as students developed a major writing assignment?

<table>
<thead>
<tr>
<th>Yes</th>
<th>Notes/Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Discuss the assignment in class
- Provide choice within an assignment
- Allow the students to work on the assignment over time
- Give opportunities for writing in class
- Conference with individual students
- Provide opportunities for revision
- Use examples of finished products as models
- Discuss and analyze these models
- Give students opportunities for feedback from peers on drafts
- Provide some instruction in how to respond to drafts
- Allot time for editing and proofreading of drafts before they are submitted.
- Other (specify topic)

Did you observe response to student writing?

<table>
<thead>
<tr>
<th>Yes</th>
<th>Notes/Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Write comments in the margins or at the end
- Offer students specific written suggestions for revision
- Provide comments and a grade
- Write comments on post-it notes
- Use editing symbols and abbreviations
- Put comments on a response form
- Conference with individual students
- Not applicable
Did you observe the sharing of student writing?

<table>
<thead>
<tr>
<th>Yes</th>
<th>Notes/Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publishing</td>
<td></td>
</tr>
<tr>
<td>Read arounds</td>
<td></td>
</tr>
<tr>
<td>Bulletin board displays</td>
<td></td>
</tr>
<tr>
<td>Author’s Chair</td>
<td></td>
</tr>
<tr>
<td>Websites or online conference boards</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

IV. Post-observation Interview

1. How do you feel today’s lesson went?

2. Is today’s lesson typical of your classroom?

3. What would you hope students would learn from this lesson?

4. How does this lesson relate to the overall unit objectives? To other lessons previously taught?

5. Do you have any questions for me?

V. Other Observations

Please record any additional notes/observations/insights you might have.
Appendix C: Interrater Reliability

Interrater Reliabilities by Trait and by Grade Level

<table>
<thead>
<tr>
<th>Level</th>
<th>Total N of Papers</th>
<th>Number of Papers Double Scored (Rate)</th>
<th>Overall (Across All Scores)</th>
<th>Holistic % agree</th>
<th>Ideas % agree</th>
<th>Organization % agree</th>
<th>Voice % agree</th>
<th>Fluency % agree</th>
<th>Choice % agree</th>
<th>Conventions % agree</th>
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</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>1188</td>
<td>136 (11%)</td>
<td>89%</td>
<td>95%</td>
<td>90%</td>
<td>90%</td>
<td>88%</td>
<td>87%</td>
<td>88%</td>
<td>88%</td>
</tr>
<tr>
<td>Middle School</td>
<td>2379</td>
<td>1231 (52%)</td>
<td>93%</td>
<td>96%</td>
<td>92%</td>
<td>92%</td>
<td>91%</td>
<td>92%</td>
<td>94%</td>
<td>92%</td>
</tr>
<tr>
<td>High School</td>
<td>3938</td>
<td>381 (10%)</td>
<td>89%</td>
<td>94%</td>
<td>90%</td>
<td>89%</td>
<td>86%</td>
<td>87%</td>
<td>92%</td>
<td>86%</td>
</tr>
<tr>
<td>Total - all levels</td>
<td>7505</td>
<td>1748 (23%)</td>
<td>92%</td>
<td>95%</td>
<td>92%</td>
<td>91%</td>
<td>90%</td>
<td>91%</td>
<td>93%</td>
<td>91%</td>
</tr>
</tbody>
</table>
Teacher inquiry should be based on your students' learning needs, your own learning needs, and the impact of your practice on student learning and achievement. Teacher professional learning and development: Best evidence synthesis iteration (BES). The purpose of the Teaching as Inquiry cycle is to achieve improved outcomes for all students. The cycle is an organising framework that teachers can use to help them learn from their practice and build greater knowledge. Through the teacher inquiry process they developed a better understanding learning pedagogy. iPads are a device used to enhance teacher practice and student learning. Teachers select apps specifically for their students' needs. Spiral of inquiry: Leaders leading learning. Furthermore, teachers' professional knowledge and skills can be developed through professional development and in-service programs to achieve successful student outcomes (King & Newmann, 2000). For example, at Lewis Elementary School in Texas, professional development focused on teaching strategies to teachers in reading and math, strategies that the students can use themselves. Certified teachers had more influence on student achievement, especially in mathematics and science, than the teachers holding bachelorâ€™s and masterâ€™s degrees (2002). Teacher quality and student achievement: A review of state policy evidence. Education Policy Analysis Archives, 8(1), Darling-Hammond, L., & Youngs, P. (2002).