Teachers’ Use of Instructional Alignment in Michigan Fifth Grade Classrooms and the Relationship of Use to Student MEAP Scores in Writing

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The purpose of this study was to determine the extent to which Michigan fifth grade teachers use components of instructional alignment in writing instruction, and then to compare the writing MEAP scores from a sample of fifth grade elementary buildings in Michigan to determine if there was a relationship between writing test scores and (a) teachers' years of experience; (b) the degree to which fifth grade teachers use the *Michigan Model Core Curriculum* in writing, the *Michigan Curriculum Framework*, or local curriculum documents containing this curricula, to plan their lessons; (c) the degree to which teachers perceive they are implementing the strategies recommended in the state documents; and (d) the degree to which specific staff development opportunities have been available that support the teaching of writing. A questionnaire was used to collect information from fifth grade teachers on these variables. Fifth grade writing MEAP scores reported by building were collected using the internet to access the Michigan Department of Education website where the results of MEAP scores are listed by school district and by school building within that district.

The percentage of teachers who responded to each item in the Writing Instruction Questionnaire was summarized to gain an overall picture of teacher use of the different components of instructional alignment, as well as present a picture of the participants' years of experience. A one-way analysis of variance (ANOVA) was
used to test for significance in the relationship of test scores to teachers’ years of experience, and the degree to which specific staff development opportunities have been available that support the teaching of writing. A $t$ test for independent samples was used to test for significance in the relationship of test scores to the degree to which teachers use state curriculum documents to plan their lessons, and to determine significance in the degree to which teachers perceive they are implementing the strategies recommended in the state documents.

Students in the present study who produced statistically significant results were aware of an audience, envisioned an end product, and demonstrated an understanding of the writing process.
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CHAPTER I

INTRODUCTION

The Research Problem

There appears little doubt that a theme central to education is that teachers are asked to incorporate new knowledge in more effective ways in order to better prepare future graduates for the workplace. As parents, educators, and lawmakers have shown increased interest in assessment results, there has also been increased attention to the belief that what is tested can influence what is taught (Airasian & Madaus, 1983; Linn, 1983a; Marzano et al., 1988; O’Neil, 1993; Popham, 1987a; Popham & Rankin, 1981; Shepard, 1995). The assumption is that test scores will be influenced by an accurate match among (a) what the test measures, (b) the plan for what is to be taught (the written curriculum), (c) the teachers’ understanding of this plan (staff development), and (d) the plan’s delivery into the classroom (instruction). The goal of linking curriculum, instruction and assessment is often referred to as “curriculum alignment.”

Curriculum alignment can be defined as a process of aligning the written curriculum (the one that appears in guides), the tested curriculum (the one that appears in tests), and the supported curriculum (the one that appears in textbooks and other resources), to make the taught curriculum (the one the teacher actually delivers) more effective. (Glatthorn, 1994, p. 60)

If what is measured is what is taught, and what is taught is what parents, taxpayers, and community members say is important, then it seems students would learn these
outcomes and the results would be reflected in test scores. This belief is illustrated in a simple and logical conceptual framework illustrated below in Figure 1.

Figure 1. Instructional Alignment Conceptual Framework.

**Step One: Develop Educational Outcomes**

In this conceptual framework, instructional alignment begins with the development of educational outcomes. An educational outcome is the desired learning that parents, educators, and taxpayers want students to possess in order to
become valuable contributors to themselves and to their communities. The Michigan State Board of Education defines an educational outcome as "a statement of student performance as a result of an educational experience" (Michigan State Board of Education, 1991, p. ii). An outcome is what is intended as the result of instruction. An example of an organized effort to develop outcomes that could translate into classroom practice is the 1991 Michigan Department of Education's adoption of the Model Core Curriculum Outcomes and the 1996 Michigan Curriculum Framework which contains content standards and benchmarks.

The Model Core Curriculum is "intended to provide a framework which local school districts can use as a guide in developing a local core curriculum or analyzing the relevance and adequacy of an existing core curriculum" (Michigan State Board of Education, 1991, p. iii). The Outcomes represented seven core curricular areas and were designed consistent with contemporary research on effective schools and how students learn. The outcomes addressed both the content and process of learning, where content was described, but not limited to, facts, definitions, theories, and concepts of a subject, and processes included learning strategies and skills in problem-solving, critical thinking, team-building, and decision-making. In mathematics, for instance, students would be asked to "construct and draw inferences from charts, tables, and graphs that summarize data from real-world situations"; in writing, students would be asked to "share their writing with their classmates, ask questions of classmates, and listen to suggestions classmates offer" (pp. 27, 48). The specific language of the Outcomes makes it possible to design lessons that sequence student experiences to accomplish this outcome.

The Michigan Curriculum Framework was developed using the Core Curriculum Outcomes, and included a broader range of components. It was designed
to "describe curriculum, instruction, and assessment and focuses on improving program quality by aligning all the processes that affect a student's achievement of rigorous content standards" (Michigan Department of Education, 1996b, p. ii). The content standards and working draft benchmarks in the Framework, as well as the outcomes described in the Core Curriculum are intended as guides for teachers to use in developing their own district curricula. Content Standard 2, for example, states that, "all students will demonstrate the ability to write clear and grammatically correct sentences, paragraphs and compositions" (Michigan Department of Education, 1996b, p. 8). More specifically, the Framework provides "benchmarks" for this standard, which are statements of what students should be able to do at a particular level of schooling. For instance, a later elementary benchmark for Content Standard 2 is that students will "Plan and draft texts, and revise and edit in response to suggestions expressed by others about such aspects as ideas, organization, style, and word choice" (p. 8). Like the Core Curriculum Outcomes, the Framework provides a structure for classroom teachers to plan and sequence learner activities.

**Step Two: Develop Assessment Measures**

The second step in instructional alignment is to develop assessment measures that will measure student learning of the outcomes. The design of performance type assessments, especially, creates an opportunity to capture outcomes of process as well as the content of a particular subject matter. "Tasks influence learners by directing their attention to particular aspects of content and by specifying ways of processing information" (Doyle, 1983, p. 161). The value of constructing the test as the second step in this alignment process is to provide a clear instructional target (McTighe, 1997). The Michigan Educational Assessment Program (MEAP) is an
example of a state test developed from previously established educational outcomes that had been communicated through state level curriculum documents. Consistent with the instructional alignment conceptual framework, the MEAP test in writing asks students to develop a writing product using the skills and processes recommended in the *Framework* and *Core Curriculum Outcomes*. The test provides an understanding of what the learner should be able to do at the end of instruction, and provides teachers with the opportunity to sequence learner experiences and events that would prepare the student for the type of performance required by the test (Popham, 1994, p. 15). In this way, the test becomes a "curricular magnet that draws instruction toward itself" (Popham, Cruse, Rankin, Sandifer, & Williams, 1985, p. 629).

**Step Three: Communicate Measures and Outcomes**

Once educational outcomes have been determined, and assessments to measure their attainment, these two pieces must now be communicated to educators. In the case of a state developed core curriculum and test, local educators must receive and understand both. Opportunity to review and discuss the core curriculum assists teachers and administrators in local districts to design instruction that will include these outcomes, as well as, become sensitive to the tasks asked of students on the test. Staff development opportunities are especially important when state recommended curricula reflect current research in teaching and learning and classroom practices do not. "Current calls for assessment-driven reform acknowledge the need for staff development but tend to underestimate the extent and depth of what is needed" (Shepard, 1995, p. 41). Staff development is an important part of the assessment and teaching connection (Glatthorn, 1994; Guskey, 1994; Popham,
1987a; Popham & Rankin, 1981; Shepard, 1995). One example of this is Michigan’s state-mandated test that asks students to use a process approach to writing an essay (an approach that includes a process of prewriting, drafting, revising and proofreading in the composition development (Brinkley, 1995). Teachers unaccustomed to this process approach to writing instruction must be provided with sustained staff development support. Sustained staff development support, includes concrete, teacher-specific and extended training, classroom assistance from local staff, teacher observation of similar projects in other classrooms, schools, or districts, regular project meetings that focus on practical issues, teacher participation in project decisions, local development of project materials, and principals’ participation in training (McLaughlin, 1990, p. 12). Communication of assessment measures and outcomes provides an opportunity for a common and uniform understanding of what students should know and how students will be tested (Sparks & Richardson, 1991).

**Step Four: Classroom Activities Focus on Outcomes**

The concept of instructional alignment includes putting into practice what has been decided should be taught. It is the connection between the written curriculum, the tested curriculum, the supported curriculum, and the taught curriculum (Glatthom, 1994). The connection between assessment and what is taught has become closer in light of recent knowledge about how students learn. Traditional methods of teaching followed an industrial model, where the teacher’s role in the classroom was as a transmitter of knowledge with the student as recipient (Suho, 1988; Zemelman & Daniels, 1988). Studies over the last 20 years reveal that the best learning takes place when students are asked to engage the problem or task, to
become involved in it, and to construct meaning through this engagement (Emig, 1986; Zemelman & Daniels, 1988; Zemelman, Daniels & Hyde, 1998).

Today we think of learning as an active process that happens only when learners "construct" knowledge by interacting with information and ideas encountered. Just as we think that learning should be active, we think assessment should be active as well. (Brinkley, 1995, p. 87)

Michigan's Model Core Curriculum Outcomes, and the Michigan Educational Assessment Program (MEAP) designed to measure student learning, use performance based assessments. This form of assessment reflects this research base, and asks students to engage a problem or topic through a variety of media which may include computer simulations, portfolios of student work, performance-type events like a speech or demonstration, laboratory construction, open-ended questions and problems, and essays (Guskey, 1994). Where the process itself becomes the vehicle for new knowledge, the assessment becomes a tool for learning as well as a tool leading to a quality product. This form of assessment encourages teachers to teach students in the processes and knowledge that can be applied to new situations described by the test, and may ask teachers to change not only what they teach, but how they teach it, and often, how frequently (Wang, Haertel, & Walberg, 1994). Where classroom instruction follows a predominantly traditional model, the use of performance assessments may require changes in instruction in order to tighten the link between outcomes, teaching and test (Wiley & Yoon, 1995).

**Step Five: Students Engage Activities**

Planning activities for students that focus on educational outcomes is only the design stage of alignment. Step Five in the instructional alignment conceptual framework is that students must in engage the activities. For instance, a benchmark
for later elementary students in the *Michigan Curriculum Framework* is that students will “plan and draft texts, and revise and edit in response to suggestions expressed by others about such aspects as ideas, organization, style, and word choice” (Michigan Department of Education, 1996b, p. 9). This benchmark in the *Framework* is also expressed in the *Core Curriculum Outcomes* as a desired outcome in writing, and requires students to think about a topic, and then narrow it to a focus specific enough to communicate ideas clearly and concretely. Part of this clear communication depends on the students’ understanding of to whom they are writing and why. As a result, classroom activities that encourage small group discussion of ideas, peer editing and response, are activities recommended for students in the classroom and asked of students on the test. DAY 2 of the MEAP test provides for peer response based upon the previous day’s work. “Talk about these questions, or other questions you can think of, with your group. Make sure everyone receives comments on his or her writing” (Michigan State Board of Education, 1997, p. 3).

**Step Six: Students Accomplish Learning**

As students engage activities, their understanding and effectiveness can be monitored as an on-going form of assessment that leads toward improvement (Diez & Moon, 1992). This on-going form of assessment is part of the instructional alignment conceptual framework: students accomplish learning. “Performance-based instruction underscores the importance of using assessments to guide improvement throughout the learning process” (McTighe, 1997, p. 62). This, in addition to a summative assessment in the form of a state-mandated test like the Michigan MEAP, measures the degree to which students accomplish learning.
The instructional alignment conceptual framework posits a relationship between educational outcomes, assessment, communication, classroom activities, student engagement of activities, and student learning. This framework is premised on the belief that if what is measured is what is taught, and what is taught is what parents, taxpayers, and community members say is important, then students will learn these outcomes and the results will be reflected in test scores.

State-Mandated Testing

In 1991, the Michigan Department of Education adopted the *Model Core Curriculum Outcomes*. As a complement to this effort, the Michigan Educational Assessment Program (MEAP) was redesigned to measure student progress toward these outcomes. School districts throughout the state of Michigan became concerned that their students not only learn important knowledge and skills, but that they demonstrate this learning by proving "Proficient" on the MEAP test. The reason for this concern, in part, was the high-stakes nature of the test. At the high school level, proficiency resulted in specific diploma endorsements in reading, writing, mathematics, and science. Additionally, lack of proficiency, demonstrated over time, could result in a school's loss of state accreditation (Michigan State Legislature, 1996, p. 102). Certainly these were strong reasons for aligning the local curricula with the state-recommended core.

It would seem logical that if there exists support for curriculum alignment as best practice for student learning, in addition to consequences for student performance, then educators would work together to align their local curricula and teach the new strategies. Some studies suggest the issue is much more complex than this, and hurdles to implementation range from inadequate training for teachers...
(Guskey, 1994; Wiggins, 1992), teachers' views of state-mandated testing programs
(Corbett & Wilson, 1989; Madaus, West, Harmon, Lomax, & Viator, 1992; Nolan,
Haladyna, & Haas, 1992; Zajano, 1990), and intended teaching strategies becoming
redefined through the teachers' own style, preference, and understanding (Allinder &
Oats, 1997; Lipa & Harlin, 1993; McLaughlin, 1990; Wise & Darling-Hammond,

The Need for Further Study

The relationship between curriculum outcomes and the degree to which those
outcomes translate into classroom practice is worthy of further study. The writing
ability of 5th grade students was measured for the first time in 1996 based upon the
Framework. This recent assessment at the 5th grade level provides a setting to
examine the effect of state-mandated testing on the process of alignment
recommended in these documents. A study at this grade level would provide
knowledge about the degree to which instructional alignment has been put into
practice, and reveal important deficiencies or strengths in the alignment relationship.

In reference to the Instructional Alignment Conceptual Model, this study
focuses on Step One—developing educational outcomes, Step Three—
communicating measures and outcomes, Step Four—classroom activities focusing on
outcomes, and Step Six—students accomplishing learning. In addition, because years
of teaching experience may have an impact on these steps in the instructional
alignment conceptual framework, years of teaching experience were examined as a
fourth variable in the study. "Developing educational outcomes" refers to the extent
the Model Core Curriculum in writing, or the Michigan Curriculum Framework at
later elementary, is used by 5th grade teachers. This was operationalized through a questionnaire that asked teachers to indicate if they used either of these documents to plan their lessons or locally developed documents that reflect the state curriculum. “Communicate measures and outcomes” refers to the avenues of staff development that have been available to teachers to know and understand state curriculum documents. Data was collected through a teacher questionnaire that asked teachers to indicate which of several staff development opportunities had been available to them that support the teaching of writing. “Classroom activities focus on outcomes” refers to the 5th grade teachers’ perceptions of how closely they are teaching the recommended strategies. This was operationalized through a teacher questionnaire that described writing outcomes and strategies contained in the *Michigan Model Core Curriculum* and *Michigan Curriculum Framework*, and asked teachers to indicate which they have used and how frequently. “Students accomplish learning” refers to student achievement as measured by the Michigan MEAP test. MEAP writing scores for 5th grade may be obtained through internet access to the Michigan Department of Education website at http://www.mde.state.mi.us/meap results.

**Problem Statement**

The instructional alignment conceptual framework posits a relationship between educational outcomes, assessment, communication, classroom activities, student engagement of activities, and student learning. Years of teaching experience may impact these components as a variable related to effective use of the framework. The framework is premised on the belief that if what is measured is what is taught, and what is taught is what parents, taxpayers, and community members say is important, then students will learn these outcomes and the results will be reflected in
test scores. This study determines the extent to which Michigan 5th grade teachers use components of instructional alignment in writing instruction, and then examines the relationship of test scores to the taught curriculum, the relationship of test scores to the written curriculum, the relationship of test scores to specific staff development opportunities that have been available to teachers that support the teaching of writing, and the relationship of test scores to years of teaching experience.

Purpose of the Study

The purpose of this study was to determine the extent to which Michigan 5th grade teachers use components of instructional alignment in writing instruction, and then to compare the MEAP writing scores from a sample of 5th grade elementary buildings in Michigan to determine if there is a relationship between MEAP writing test scores and (a) years of teaching experience, (b) the degree to which teachers use the Model Core Curriculum or the Michigan Curriculum Framework to plan their lessons, (c) the degree to which teachers perceive they are implementing curriculum document strategies, and (d) the degree to which specific staff development opportunities have been available that support the teaching of writing. The following are the operational hypotheses of the study:

1. There is a difference between 5th grade building MEAP scores in writing and teachers who have had few years of teaching experience and teachers who have had many years of teaching experience.

2. There is a difference between 5th grade building MEAP scores in writing and teachers' low use of state curriculum documents in writing, and teachers' high use of state curriculum documents in writing.
3. There is a difference between 5th grade building MEAP scores in writing and in teachers' perceptions of low use of *Model Core Curriculum* strategies in writing and teachers' perceptions of high use of *Model Core Curriculum* strategies in writing.

4. There is a difference between 5th grade building MEAP scores in writing and in few hours of staff development in teaching writing and many hours of staff development in teaching writing.

**Limitations of the Study**

Limitations of the study included:

1. The population of the study was limited to the 144 Class C public school districts in the State of Michigan.

2. The study was limited to the responses of 5th grade teachers in the elementary buildings of the Class C public school districts.

3. The study was limited to the perceptions of 5th grade teachers' degree of use of the *Michigan Model Core Curriculum*, the *Michigan Curriculum Framework*, or local curriculum documents containing this curricula, to plan their lessons.

4. The study was limited to the perceptions of 5th grade teachers' use of curriculum document strategies in teaching writing.

**Methodology and Instrumentation**

The purpose of this study was to determine the extent to which Michigan 5th grade teachers used components of instructional alignment in writing instruction, and then to compare the writing MEAP scores from a sample of 5th grade elementary buildings in Michigan to determine if there was a relationship between writing test
scores and (a) teachers' years of teaching experience; (b) the degree to which 5th grade teachers use the *Michigan Model Core Curriculum* in writing, the *Michigan Curriculum Framework*, or local curriculum documents containing this curricula, to plan their lessons; (3) the degree to which teachers perceive they are implementing the strategies recommended in the state documents; and (4) the degree to which specific staff development opportunities have been available that support the teaching of writing. The methodology and instrumentation for collecting and analyzing the data for the study were divided into four sections as follows: participants in the study, instrumentation, procedures, and methods of data analyses.

**Participants in the Study**

Fifth grade teachers in Michigan were the primary participants in the study. Secondary participants were elementary building principals who were asked to invite the 5th grade teacher or teachers in their building to participate in the study by giving them the cover letter explaining the study, and the Writing Instruction Questionnaire.

The population of the study included all of the 144 Class C public school districts in Michigan. Class C schools are those which have a secondary school enrollment of between 255 and 507 students. (Michigan High School Athletic Association, 1999–2000, p. 1) This results in one or two elementary buildings in each district, with typically one 5th grade teacher per building. By restricting the population to Class C schools, variance in questionnaire responses that might result from sampling several 5th grade classrooms in one building were reduced.
Instrumentation

Two instruments were used to collect data for this study: (1) The Writing Instruction Questionnaire (WIQ); and (2) The Michigan Educational Assessment Program in writing, Winter 1999–2000, with results reported in the MEAP District and School Proportion Report.

The Writing Instruction Questionnaire (WIQ) was a 28-item questionnaire in four sections. Section One collected information about years of teaching experience. It contained one item and asked the teacher to write in the space provided the number of years they had taught. Section Two collected information about the written curriculum. It contained one item that asked the participant to indicate the degree to which they used state curriculum documents to plan their lessons. Their choices were (1) not at all, (2) once or twice, (3) occasionally, (4) always. Section Three collected information about the taught curriculum. It contained 16 items in a multiple-choice response format referring to teacher use of writing strategies described in the state documents. Teachers were asked to indicate how often they use the listed strategies. Their choices were (1) never, (2) once or twice, (3) occasionally, (4) always. Section Four collected information about teachers' in-service training in writing. It contained 10 items in a Likert-type format of choices 1 through 8, with each item based upon effective staff development experiences as described in the literature. Each of the eight response choices listed a range of hours teachers had spent in the staff development experience listed.

The Michigan MEAP test in writing at 5th grade was used to measure the dependent variable of 5th grade student scores in writing as reported by building. The
Michigan Educational Assessment Program (MEAP) in writing is a state assessment currently administered in the winter of each year in Grades 5 and 8.

**Procedures**

A cover letter was sent to the elementary principals in Class C public school districts in Michigan explaining the study and inviting them to participate by returning the enclosed permission form. After 2 weeks, a second cover letter and permission form were sent to the principals who had not responded. This second letter also explained the study and invited them to participate by returning the enclosed permission form. At this time a mailing was sent to elementary principals in the Battle Creek Public Schools where the researcher is employed, inviting them to participate in a field test of the Writing Instruction Questionnaire. This mailing contained a cover letter explaining the study and a permission form to be returned if they wished to participate. After 2 weeks a second letter was sent to those principals who had not returned permission forms to participate in the field test. This second letter explained the study and invited principals to participate in the study by returning the enclosed permission form. Returned field test permission forms and permission forms from the principals in the Class C public school districts were included in the Application to the Human Subjects Institutional Review Board for project approval.

After approval had been obtained from HSIRB, a mailing was sent to the principals of elementary buildings in the Battle Creek Public Schools who had agreed to participate in the field test. These principals were sent a cover letter thanking them for their participation in the field test, and a second cover letter to their 5th grade teacher, which invited the 5th grade teacher to participate in the study. The principal also received the Writing Instruction Questionnaire and a question and response sheet.
to provide to teachers who agreed to participate in the field test. Only the question
and response sheet, designed to receive responses that would improve the
questionnaire's clarity, was returned to the researcher without the teacher's name
anywhere on the response sheet. Questionnaires in the field test were not returned to
the researcher.

After the Writing Instruction Questionnaire had been revised with
consideration of teachers' responses, a mailing was sent to the principals of Class C
public schools who had returned permission forms agreeing to participate in the
study. This mailing contained a cover letter to the 5th grade teacher explaining the
study and inviting them to participate by completing the questionnaire and returning
it to the researcher in the stamped envelope provided. The questionnaire was
anonymous since the teacher's name did not appear anywhere on the questionnaire,
and the cover letter explained that in returning the questionnaire, the teacher was
giving permission to use his or her responses in the study. After 2 weeks a second
mailing was sent to those elementary principals whose 5th grade teachers had not
responded. This second letter thanked the principals for their participation and invited
them to provide a second cover letter to their 5th grade teacher inviting him or her to
participate in the study by completing the questionnaire and returning it to the
researcher in the stamped envelope provided. The cover letter explained that in
returning the questionnaire, the teacher was giving permission to use his or her
responses in the study.

Return envelopes and questionnaires were numbered to keep track of
respondents. As envelopes were received, the completed questionnaires were taken
out and given numbers. This new number became the ID number used in the final
tallying and data entry.
Methods of Data Analyses

The information collected and tallied was coded, put into a Statistical Package for Social Sciences (SPSS) data set, and entered into a computer for analysis. The SPSS procedure for percentage was used to summarize the percentage of teachers who responded to each item in the Writing Instruction Questionnaire. This procedure was used to gain an overall picture of teacher use of the different components of instructional alignment, as well as present a picture of the participants' years of teaching experience. The SPSS procedure for $t$ tests and a one-way analysis of variance were used to test the null hypotheses with an alpha level of .05. Listed below are the null hypotheses of the study.

1. There is no difference between 5th grade building MEAP scores in writing and teachers who have had few years of teaching experience and many years of teaching experience.

2. There is no difference between 5th grade building MEAP scores in writing and teachers' low use of state curriculum documents in writing and teachers' high use of state curriculum documents in writing.

3. There is no difference between 5th grade building MEAP scores in writing and teachers' perceptions of low use of the *Model Core Curriculum* strategies in writing or teachers' perceptions of high use of the *Model Core Curriculum* strategies in writing.

4. There is no difference between 5th grade building MEAP scores in writing and few hours of staff development in teaching writing and many hours of staff development in teaching writing.
Organization of the Study

This study was developed in five chapters, appendices, and a bibliography. Chapter I includes the introduction, the research problem, the instructional alignment conceptual framework, state mandated testing, the need for further study, the problem statement, the purpose of the study, limitations of the study, methodology and instrumentation, and organization of the study.

Chapter II contains a review of related literature pertaining to what we know about the variables of this study: The relationship of test scores to teachers’ years of experience, the relationship of test scores to the taught curriculum, the relationship of test scores to the written curriculum, and the relationship of test scores to specific staff development opportunities that have been available to teachers that support the teaching of writing. In addition, what is known about writing as it is recommended to be taught in state curriculum documents, and what is known about the 5th grade writing MEAP test is reviewed.

Chapter III discusses the methods of the study and explains the instruments used to collect data for the study.

Chapter IV contains the methods used to conduct the study and the analysis of the data.

Chapter V contains the operational hypotheses of the study, discusses the results of hypothesis testing, provides conclusions, and makes recommendations for further research and application.

The appendices and bibliography are attached as concluding sections to this study.
CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

The purpose of this literature review is to examine what is known about the parts of the instructional alignment conceptual framework that make up the variables of this study: the relationship of 5th grade student MEAP scores in writing and (a) teachers' years of experience; (b) the degree to which 5th grade teachers use the Michigan Model Core Curriculum in writing, the Michigan Curriculum Framework, or local curriculum documents containing this curricula, to plan their lessons; (c) the degree to which teachers perceive they are implementing the strategies/outcomes recommended in the state documents; and (d) the degree to which specific staff development opportunities have been available that support the teaching of writing.

In addition, because this study will examine the impact of these variables on 5th grade students' writing MEAP scores, what is known about writing as it is recommended to be taught in the Michigan Model Core Curriculum and the Michigan Curriculum Framework and the 5th grade writing MEAP test will be reviewed.

The Relationship of Test Scores to the Taught Curriculum

There is a positive association between student achievement as measured by test scores and what is taught in the classroom (Airasian & Madaus, 1983; Burstein & others, 1991; Diez & Moon, 1992; Haney, 1983; Leinhardt, 1983; Leinhardt &
Research by Wiley and Yoon (1995) was undertaken to determine if classroom coverage of specific mathematics objectives resulted in increased student learning as measured by test items of those objectives. Specifically, their study allowed examination of the extent to which California public school mathematics teachers had been exposed to the practices consistent with those advocated in the California Curriculum Frameworks; the extent to which those teachers implemented those practices in their classrooms; and their impact on student performance in mathematics. (Wiley & Yoon, 1995, p. 355)

Their sample was taken from students and teachers in Grades 4, 8, 10, and included approximately 1,750 teachers and 30,250 students. Mean levels of student performance were tabulated by teacher response category for each question to examine learning accomplished. Response categories for teachers in the use of instructional strategies contained in the California Mathematics Framework included the frequency of student exposure to the strategy (1 = more than 5 class periods; 2 = 1 to 5 class periods; 3 = not at all). The average student performance mean for instructional strategies was 51.85% as opposed to 12.06% for teachers reporting not teaching those strategies (Wiley & Yoon, 1995). Wiley and Yoon concluded that “Students’ exposure to different subject matter, and the way in which the subject matter has been covered, will affect students’ performance on the tests” (Wiley & Yoon, 1995, p. 355).

Similarly, Burstein and others (1991) found there was higher student test performance when there is a match between what is taught and what is tested. Their objective was “to examine the sensitivity of tests to instruction by linking student performance patterns to instructional experiences of students as possible
corroborating evidence of their relationship" (Burstein & others, 1991, p. 8). Burstein and others studied mathematics teachers’ reports of topic coverage and compared this with students’ performance on the Algebra Readiness and the Elementary Algebra examination administered in California during the 1988–89 school years. The researchers developed a matrix made up of the topics that defined the mathematics courses, and a coded report system that allowed each teacher to indicate how much emphasis they placed on that topic, for instance, “taught as core” or “reviewed,” etc. This was important since the test measured student exposure to topics over a 2-year period and had different teachers for the instruction of the topics. Student test scores were then compared with teacher reports of content coverage. The p-value differences between 1988 and 1989 at the item level for classes taught by the same teacher in successive years were related to differences in teachers’ reported coverage of topics. One example from the table illustrating these results is the topic “location of points in a coordinate plane,” which showed a p-value difference of .15 and it was covered as “not taught” in 1988 and as “taught as core” in 1989” (Burstein & others, 1991, p. 19). This indicates that test performance is sensitive to instruction—that there is a positive association between what students have been taught and how well they will do on a test of the topics taught. This study differed from Wiley and Yoon (1995) in that student exposure to the topics was spread out over two years. The same teacher, in other words, did not necessarily instruct the same students over the 2-year period.

Competency testing programs in Texas, Maryland, South Carolina, and the city of Detroit, Michigan, have shown increased student achievement as a result of alignment between instruction and assessment (Popham et al., 1985).
In Texas, legislatures put into law the requirements that students in Grades 3, 5, and 9 be tested on specific objectives in mathematics and writing. Specialists at the state and local level identified the essential objectives and test item specifications. Each mathematic's objective was measured by four multiple choice test items, and in writing, each composition was scored by two trained readers. "The range of improvement in the performance of fifth graders between 1980 and 1984 on 28 out of 29 objectives ranged from 3% to 30% with an average increase of 13%" (Popham et al., 1985, p. 629). Third graders improved 3% to 24%, with an average improvement of 10% on the mathematics objectives between 1981 and 1984.

Maryland also adopted a state assessment program, but one based upon a state recommended core curriculum called The Declared Competency Index (DCI). Maryland educators understood the test would be based upon these competencies and redirected classroom activities to match the index. Student test scores increased. 78% of the students passed the Maryland state test in reading in 1980, and in 1981 the pass rate had increased to 83%. It continued to increase in 1982 with an 89% student pass rate, and increased to 94% one year later (Popham et al., 1985, p. 634). Since the state assessment program measured what was taught, increased student pass rate provides further corroborating evidence of the relationship between the taught and the tested curriculum.

South Carolina and Detroit, Michigan, like Maryland and Texas, experienced similar results. Educators in the Detroit public schools organized parents and business and community members to identify competencies they believed high school graduates should have, then specialists designed the High School Proficiency Examination (HSPE) to test the competencies. In addition to HSPE, the state administered the MEAP test (Michigan Educational Assessment Program) to
measure student learning. The proportion of students passing all parts of the HSPE (reading, mathematics, writing) increased from 74% in 1981, to 79.1% in 1983. Tenth graders who were tested as part of the program, and who passed all three parts of the HSPE, increased from 33.9% in 1980–81 to 37.4% in 1982–83; and, the percentage of 12th graders passing all three parts of the HSPE in creased from 69.8% in 1980–81 to 74% in 1982–83 (Popham et al., 1985, p. 632).

The impact on MEAP scores was also significant. The proportion of 10th graders attaining between 75% and 100% of the MEAP objectives in mathematics increased from 29.6% in 1980 to 38.7% in 1983, while 10th grade reading scores increased from 51% to 66.5% within the same time period (Popham et al., 1985, p. 632). Like the increase in Maryland's student pass rate, the deliberate effort to tie the assessment to educational outcomes and instruction provides supporting evidence of their relationship.

Similarly, South Carolina designed their Basic Skills Assessment Program by identifying specific competencies, designing a test to measure them, and clearly communicating both competencies and test to the educational community. The results across Grades 1–8 are shown in Table 1.

It is significant that Grades 1–8 showed improvement uniformly in the 2 years measured (Popham et al., 1985, p. 630). The written curriculum became the taught curriculum which became the tested curriculum, and student learning as measured by test scores increased. Step Four in the instructional alignment conceptual framework is that “classroom activities focus on outcomes.” The literature reviewed supports this part as contributing positively to student achievement as measured by test scores.
Table 1
Percentage of Students Meeting the South Carolina Standards for Reading and Mathematics, 1981–1983

<table>
<thead>
<tr>
<th>Grade</th>
<th>Reading</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>6</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>70</td>
<td>62</td>
<td>67</td>
<td>55</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>1982</td>
<td>72</td>
<td>69</td>
<td>69</td>
<td>62</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>1983</td>
<td>75</td>
<td>70</td>
<td>76</td>
<td>61</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>80</td>
<td>75</td>
<td>77</td>
<td>65</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>68</td>
<td>64</td>
<td>76</td>
<td>81</td>
</tr>
<tr>
<td>Mathematics</td>
<td>69</td>
<td>68</td>
<td>74</td>
<td>79</td>
</tr>
<tr>
<td>Reading</td>
<td>61</td>
<td>74</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>47</td>
<td>51</td>
<td>56</td>
<td>57</td>
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<tr>
<td>Reading</td>
<td>43</td>
<td>41</td>
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<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>41</td>
<td>42</td>
<td></td>
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</tr>
</tbody>
</table>

The Relationship of Test Scores to the Written Curriculum

Within the framework of instructional alignment, stated, or written educational outcomes are communicated to teachers who then are asked to teach the knowledge or skills stated. Where curriculum documents are used to describe intended instruction there is a positive correlation between this written curriculum and student test scores (Airasian & Madaus, 1983; Calfee, 1983; Hawkins, Stancavage, & Dossey, 1998; Leinhardt & Seewald, 1981; Linn, 1983a; Wiley & Yoon, 1995). As part of the instructional alignment conceptual framework, the written curriculum also serves as a statement of the intent to teach the intended outcomes. The intent to teach has been accepted in the courts as one part of evidence substantiating that what is tested is what is taught, because the outcomes have been described in the curriculum document (Mehrens & Popham, 1992; Popham & Lindheim, 1981). For instance, if the local writing curriculum of a district contains...
the outcome at Grade 5 that students will “brainstorm and web topics about which they choose to write,” and this was also part of the *Michigan Model Core Curriculum* or *Michigan Curriculum Framework* upon which the state MEAP test was based, then this would be considered evidence substantiating that children had the opportunity to learn this skill. Further, the literature supports that the presence of outcomes in the written curriculum is as accurate to the actual delivery of instruction as teacher reports of classroom coverage of those outcomes (Airasian & Madaus, 1983; Leinhardt & Seewald, 1981; Wiley & Yoon, 1995).

Studies reported by Leinhardt and Seewald (Leinhardt, 1983; Leinhardt & Seewald, 1981) examined two methods of determining the degree to which tests and instruction correlate. One method involved combining teacher reports of content covered in addition to what is described in curriculum documents. The other method involved examining just the curriculum documents. Both methods were determined to be equally accurate.

The regression results for curriculum-based measures of overlap are almost identical to those obtained using the instruction-based estimate. Considering the substantial differences in means and the totally different process of gathering the information, this suggests that estimates are somewhat stable regardless of technique. (Leinhardt & Seewald, 1981, p. 92)

Wiley and Yoon’s (1995) study of California public school mathematics teachers focused on the degree to which teachers had been exposed to the state curriculum (California Curriculum Frameworks) upon which California’s mandated state test is based (California Learning Assessment System). They discovered positive correlations between teachers who were familiar with the curriculum guides and student test performance (Wiley & Yoon, 1995). Significantly positive correlation coefficients ranged from 0.05 to 0.36 across all three grades studied (4, 8, 10) (Wiley & Yoon, 1995, p. 368). Findings from the National Assessment of Educational
Progress in a study of school policies and practices affecting instruction in mathematics, also observed a correlation between teachers' knowledge of the curriculum and student test scores. "The more knowledge eighth-grade teachers reported of NCTM curriculum and evaluation standards, the higher their students' performance tended to be on the NAEP mathematics assessment (Hawkins et al., 1998).

The Relationship of Test Scores to Staff Development

Part of the Wiley and Yoon (1995) study relied on the familiarity of teachers with the curriculum guides. This familiarity was defined as staff development and included teacher training in new instructional practices. One part of the instructional alignment conceptual framework is the communication of measures and outcomes. Communication refers to the various forms of staff development that support planned change in instructional practices (Wiley & Yoon, 1995).

The communication of measures and outcomes in the instructional alignment conceptual framework also refers to the knowledge teachers have about the educational outcomes or benchmarks to be taught. The various ways in which this knowledge may be obtained and encouraged into practice is referred to as staff development.

A series of studies conducted by the Rand Corporation between 1974 and 1978 resulted in long standing recommendations for how planned change in education comes about (Rand Corporation, 1978). The strength of this study was further stabilized in 1990 when Milbrey McLaughlin revisited the conclusions of the Rand Corporation to determine which still held true today. Her findings included the following descriptions of staff development that continue to support planned change.
in education: (a) concrete, teacher-specific and extended training; (b) classroom assistance from local staff; (c) teacher observation of similar projects in other classrooms, schools, or districts; (d) regular project meetings that focused on practical issues; (e) teacher participation in project decisions; (f) local development of project materials; and (g) principals’ participation in training (McLaughlin, 1990, p. 12).

McLaughlin’s review of the Rand Study is supported by additional studies conducted by different researchers.

Concrete, Teacher-Specific and Extended Training

“Change proposals that are perceived as practical are more likely to be incorporated into school and classroom procedures” (Veenman, VanTulder, & Voeten, 1994, p. 315). Practicality is defined as describing a procedure “in terms that depict classroom or school contingencies,” showing how the new procedure fits into “the way the teacher normally conducts school or classroom activities,” and the relationship between the time invested in the training and what the teacher gets out of it (p. 315). Research conducted on the impact of in-service training on teacher behavior showed a significant relationship between teachers’ view of an innovation’s practicality and its implementation. In addition to practicality, levels of impact are high when training takes place over a long term (Abell, 1989; Barrett & Kepler, 1991; Block & Gasser, 1996; Todnem & Warner, 1994; Veenman et al., 1994). Follow-up activities are extensions of in-service training designed to reinforce program learning, and, are recommended in The Standards and Indicators of Quality for Evaluation of Staff Development Programs (Mullin, 1994). The standards were identified as a result of a comprehensive literature review, and comprise Resource A

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of Mullin's guide. Concrete, teacher-specific, and extended training contributes to the transfer of training into classroom practice.

Classroom Assistance From Local Staff

The assistance teachers receive is associated with successful change efforts. Assistance may be defined as technical assistance (Guskey & Sparks, 1991); school counselor support (Veenman et al., 1994); coaching, and teachers planning together and discussing teaching methods (Darling-Hammond, 1996b; Veenman et al., 1994; Barrett & Kepler, 1991). In a study by Fullan (1990), support for successful change efforts came from many directions. "The forms of assistance were various. The high assistance site set-up external conferences, in-service training sessions, visits, committee structures" (p. 5). The presence and accessibility of classroom assistance from local staff in these forms communicates support for the change.

Teacher Observation of Similar Projects in Other Classrooms, Schools, or Districts

Observing the innovation, technique, or skill in use, emerges in the literature as an important variable in the transfer of training to practice (Abell, 1989; Block & Gasser, 1996; Darling-Hammond, 1996b; Donovan, Sousa, & Walberg, 1987; Guskey & Sparks, 1991; Joyce & Weil, 1996; Joyce & Showers, 1995; Mullin, 1994; Smylie, 1989; Todnem & Warner, 1994). Concluded in a study to determine what kind of support teachers needed to learn a new practice, teachers ranked "teachers' observations of their teaching colleagues," as second only to direct classroom experience (Smylie, 1989, p. 545). Models of Teaching by Joyce and Weil (1996), emphasizes observing experts model the new practice and then "observing one another as they work the new model into their repertoires" (p. 379). Observation of
colleagues and demonstration by experts complements the research on practicality, in that teachers see concrete and teacher-specific behaviors in a classroom setting.

**Regular Project Meetings That Focus on Practical Issues**

Successful implementation of a new method is closely related to the opportunity to talk over problems and successes with colleagues as the method leaves the training sessions and is put into practice (Smylie, 1989). Practicality, as a feature of this exchange, coincides with the importance of practicality to teachers in carrying in-service ideas into the classroom. The opportunity to discuss a new method with other teachers trying the same thing would encourage focus on what works, what doesn't. Interaction with colleagues that provides structured and open-ended feedback supports the classroom application of what has been learned in training (Donovan et al., 1987; Guskey & Sparks, 1991; Joyce & Weil, 1996). Linda Darling-Hammond stresses the importance of regular project meetings that focus on practical issues: “The benefit of these opportunities is that they offer sustained work on problems of practice that are directly connected to teacher work and student learning” (Darling-Hammond, 1996b, p. 197). Study group functions, in which teachers meet as scheduled and verbally share experiences relates to successful program implementation (Fullan, 1990; Joyce & Showers, 1995). Meetings that focus on practical issues surrounding the implementation of a new practice have been found to be valuable.

**Teacher Participation in Project Decisions**

Consistent with the findings of the Rand Study (1978), and McLaughlin’s review of these findings (1990), change is a process of mutual adaptation. One
vehicle for this process is the participation teachers have in project decisions. Teacher involvement in needs analysis procedures, shared planning or preparation, and recommendations for continued training, are supported by the literature of staff development (Guskey & Sparks, 1991; Mullin, 1994; Veenman et al., 1994). Linda Darling-Hammond, in a keynote address at the Association for Supervision and Curriculum Development Conference on Assessment and Learning, called for classroom expectations where revision and improvement are standards (Darling-Hammond, 1997). Revision and adjustment toward improvement assume a constant eye toward mutual adaptation of knowledge to practice.

Local Development of Project Materials

Project materials that are constructed in the area they are to be used can be shaped to suit the needs of that particular teacher in that particular classroom. Or, where collaboratively designed, materials can at least be put together with a common understanding of their use (Joyce & Weil, 1996; Veenman et al., 1994). Practically speaking, shared lessons and materials also cut down on teacher preparation time (Joyce & Showers, 1995), which is now time gained for other dimensions of teacher preparation: examples of which may include thinking about how the lesson will be delivered, or talking with colleagues about the most effective small group configuration for a particular lesson.

Principals' Participation in Training

Principals' involvement in training is supported in studies that have isolated the effects of this variable, and have related it to successful project implementation (Donovan et al., 1987; Joyce & Showers, 1995). School improvement efforts in
general call for a cooperation of processes to be successful, among them, strong instructional leadership (Guskey & Sparks, 1991). It is this organizing support for the innovation, that also has value in affecting successful implementation of change (Joyce & Showers, 1995).

Communication of measures and outcomes, as part of the instructional alignment conceptual framework, includes teachers knowing what to teach, how to teach it, and how the content and skills they have taught to students will be measured in terms of student learning. The communication of measures and outcomes, therefore, becomes an important link in the instructional alignment conceptual framework. “Performance-based assessment with high quality professional development opportunities to help teachers align instruction with improved assessments will make significant advances in student learning more likely” (Guskey, 1994, p. 5).

The Relationship of Test Scores to Teachers’ Years of Experience

The number of years a teacher has taught has been associated with gains in student achievement (Greenwald, Hedges, & Laine, 1996; Hanushek, 1996; Hawkins et al., 1998; Lopez, 1995; Lyle, 1968; Mulholland & Berliner, 1992).

Lyle’s 1968 study of achievement determinants in educational systems examined studies for overlap and agreement on variables that relate directly to student achievement gains. Achievement gains in two or more of the studies surveyed included average number of years of teaching experience as one of six research variables. The study concluded that teacher experience has a stronger impact on student achievement scores in reading than either class size or teacher formal education (Lyle, 1968). A more recent study from the National Center for
Educational Statistics has found similar results in students' mathematics test scores. Students taught mathematics by teachers with more than 5 years of experience were more likely to perform better on the National Assessment of Educational Progress than students who were taught by teachers with less than 5 years of experience (Hawkins et al., 1998). Additional surveys have resulted in similar conclusions. A meta-analysis based on 207 studies of the relationship between years of teacher experience and student performance determined 29% of the studies to be positive and statistically significant. Five percent were negative and statistically significant, 30% were positive and statistically insignificant, and 29% were negative and statistically insignificant. Fifty-nine percent of the studies showed a positive relationship between years of teacher experience and student performance (Hanushek, 1996, p. 399). A separate meta-analysis by Greenwald et al. (1996) combined two methods of meta-analysis to support a positive relationship between student performance and years of teachers' experience. In the first method researchers used combined significance tests to look at studies with the same conceptual hypotheses and combined their significance values ($p$-values). In the second method, they used effect magnitude estimation to examine the strength of the relationship between input and output variables. In the first method, researchers examined 175 articles and studies on the relationship between student achievement and school resources which included of years of teacher experience and its impact on student achievement. This meta-analysis showed evidence of positive effects and no evidence of negative effects. The conclusions of effect magnitude estimation showed a strong relationship between student achievement and teachers' years of experience (Greenwald et al., 1996).

Further support for the relationship between teachers' years of experience and student achievement gains was in Lopez's (1995) study of the effect of teacher
capacity on student achievement. Teacher achievement is defined as the "skills, abilities, and knowledge derived from his or her training and experience relevant to the classroom learning enterprise" (p. 2). The dependent variable for this study was the Norm-referenced Assessment Program of Texas (NAPT), and involved scores of 5,997 fourth-grade students. Lopez concluded, "Teacher classroom experience is the most important source of teacher capacity in a student's production process" (Lopez, 1995, p. 3). Figure 2 describes a pattern to student achievement in this relationship. Teachers become most effective after 6 to 7 years of experience, and after 18 to 20 years of teaching begin showing signs of decline. The relationship, however, is clear: a teacher's years of experience is related positively to student achievement.

Figure 2. Average NAPT Gain by Teacher Experience Stage (n = 5,997).
Mulholland and Berliner (1992) studied the relationship of years of teacher experience to the teachers' ability to predict student performance on standardized reading and mathematics tests. The study's importance was grounded in the belief that estimation of student ability is critical to classroom decisions leading to effective instruction and increased student learning. "Two-thirds of the experienced teachers' judgements of student achievement correlated with actual student performance at .70 or higher" (Mulholland & Berliner, 1992, p. 20).

Writing and the Fifth Grade MEAP Test

The Michigan Educational Assessment Program (MEAP) assesses student writing as it is recommended to be taught in the Model Core Curriculum Outcomes (Michigan State Board of Education, 1991), and the Michigan Curriculum Framework (Michigan Department of Education, 1996b), of which the English Language Arts Content Standards and working draft benchmarks are a part. This approach to writing instruction is designed to create a classroom setting in which students can develop their ideas through discussion, thinking, writing, and reflecting. Traditionally, writing was taught more in the fashion of a formula: develop a thesis statement, construct an outline, write a rough draft, then revise the rough draft into a final copy. This approach was more teacher-centered, didactic and relied on teacher lecture/explanation, and response (Suhor, 1988). Assignments often focused on teaching students to write with the purpose of reviewing, or summarizing classroom content (Langer & Applebee, 1987), or to produce a technically correct extensive writing product like the five-paragraph essay (Emig, 1971). Research over the last 20 years views writing instruction differently based upon what we know about how students learn.
An examination of recent classroom practice over different content areas reveals an emerging consensus of what makes better teaching and learning (Lambert & McCombs, 1998). Lesson designs that promote student involvement in a problem or topic ask students to construct their own understandings by thinking, recording, and rethinking a problem. In a synthesis of research, Zemelman et al. (1998) conclude that "children do not just receive content; in a very real sense, they recreate and reinvent every cognitive system they encounter, including language, literacy, and mathematics" (p. 8). Classroom practice has been shaped by current understanding of how a writer's thought processes operate while engaged in the writing task. As a result, classroom activities must not rely just on the products of learning, but must promote the cognitive and social functions that lead to the products' development (Land & Hannafin, 1996).

Studies in cognitive processes by Flower and Hayes (1981) revealed that the act of composing was not linear in its progression from topic to outline to rough draft to final product. Rather, the progression of writing strategies which Flower and Hayes called planning, translating and reviewing, were not linear at all, but looped back upon themselves, and that each stage was embedded with sub-processes that were also interchangeable as the writer's thoughts developed. Writing was seen as a process of discovery where the writer's thoughts were developed and refined (Hillocks, 1986). In a synthesis of research on written composition which included the cognitive studies of Flower and Hayes, Hillocks concluded that "writing involves a great deal of planning, that planning involves a lot of production time, and that planning takes place at several levels of abstraction" (Hillocks, 1986, p. 59).

Perl (1980) observed the writing processes of teachers in a research and writing course by asking them to "think out loud" into a tape recorder as they...
responded to writing assignments. Scripts of the tapes (protocols), in addition to students’ reaction to those scripts, described thinking processes and patterns like those recorded by Flower and Hayes. The processes she describes are recursive in nature, operating in and out of the planning, translating and reviewing stages of writing, and involve moments of consideration where the writer thinks about audience, as well as, how the writer herself feels about the subject as new understandings emerge through the act of writing. In a similar research study, Sandra Perl and Janet Wilson conducted Writing Project institutes in Shoreham-Wading River Central School District, New York. These institutes were designed to help teachers understand how to teach writing by writing themselves, and then reflecting on what they had written using one another as audience and reactors. The researchers asked teachers to observe and report on what happens when they write,

because we have found that teachers (and students) who study their own writing processes begin to build together a body of knowledge about writing, knowledge grounded first in personal experience and later expanded to include the experience of others in the group and of researchers and theorists in the field. (Perl & Wilson, 1986, p. 6)

Don Graves’s study of the writing processes of 7-year-old children examined individual second grade students and groups of students through a case study approach (Graves, 1984). Researchers recorded the actual writing activities of children in the classroom and were able to see that children were unique in the ways they approached the writing task. Graves concluded, “Many variables contribute in unique ways at any given point in the process of writing” (Graves, 1984, p. 27). Wilson and Perl’s research with teachers mirrors the learning/writing process with children: new knowledge and new understandings of relationships emerge through classroom practices that encourage these processes.
Other studies support the need to teach writing by involving the student more in the decision-making of composition. Studying the composing processes of 12th graders, Emig (1971) discovered that students spent more time reformulating and contemplating their writing when their writing was self-sponsored rather than school-sponsored. Self-sponsored writing "focuses upon the writer's thoughts and feelings concerning his experiences," whereas school-sponsored writing "focuses upon the writer's conveying a message or a communication to another" (Emig, 1971, p. 4). School-sponsored writing in this traditional fashion, Emig found, did not allow for prewriting activities that might help students explore how they felt about a subject. Langer and Applebee (1987) also found that writing provided a context or vehicle for complex thinking about content if classroom practices encouraged manipulating of information. For example, writing exercises where students were encouraged to explore their thinking about a topic, as in an ungraded "draft" essay or written response, eventually led to student writing that was more thoughtful and complex. The immersion of the writer in the topic or problem through writing itself, or through any activity that promotes thoughtfulness about the topic creates a setting where the writer constructs meaning. Hillocks described similar findings: "Constructing simultaneously affords discovery. Writers know more fully what they mean only after having written it" (Hillocks, 1986, p. 7) Research supports learning and instruction that encourages cognitive processes in composition by allowing time for planning and reflection to occur. Writing is clearly seen as a recursive process where thinking and composing meaning occur, and occur again, through a series of drafts until a final product takes shape (Brinkley, 1995, p. 88).

Quantitative studies using a sample from a national population have concluded that process-oriented writing as it has been translated into classroom
practice produces higher quality writing. In a study using data from the 1992 National Assessment of Educational Process (NAEP) in Writing, students who were encouraged by their teachers to use the writing process had on the average a higher writing ability as measured by proficiency scores than students who were not so encouraged (Goldstein & Carr, 1996). This was determined by comparing teachers’ encouragement of process writing activities with average student proficiency scores. For example, with the highest possible score of 500,

8th graders who reported always being asked to plan their writing had an average score of 270, compared with only 248 for those never asked to plan their writing; students asked to define purpose and audience had an average proficiency score of 268 as opposed to 257 for those students not encouraged to define purpose and audience. (Goldstein & Carr, 1996, p. 3)

The Michigan Model Core Curriculum Outcomes has been developed upon this research base, and recommends writing that is “taught within the framework of the writing process: prewriting, drafting, revising, proofreading, and publishing” (Michigan State Board of Education, 1991, p. 47). These writing outcomes encourage the recursive process by providing multiple opportunities for reflecting and composing about a topic until a final draft begins to develop. In addition, the outcomes provide clear direction for classroom activities through the manner in which they are stated. For instance,

at the elementary level, students will: (1) draw pictures and talk about stories they wish to tell; (2) listen to and talk about stories they have heard read aloud; and (3) brainstorm and web topics about which they choose to write. (Michigan State Board of Education, 1991, pp. 47–49)

The present MEAP test in writing for 5th grade is based upon the 1991 Core Curriculum Outcomes. These outcomes are described as English Language Arts “content standards” and “benchmarks” in the Michigan Curriculum Framework (Michigan Department of Education, 1996b), which has become a working document.
available for teachers to plan their writing instruction. The MEAP test in writing asks students to develop a written product over a specified period of time using processes similar to those described in the *Michigan Curriculum Framework* (Michigan Department of Education, 1996b). The MEAP test is administered over a 3-day period with specific instructions for each day. DAY 1 has four timed activities: “Getting started, Peer discussion, Listening and sharing responses, and Prewriting and drafting” (Michigan State Board of Education, 1997, p. 3). Each task is undertaken with a separate set of instructions read by the teacher, and the test booklet contains billeted suggestions to be read by the student for each activity. For instance, DAY 1 begins with thinking about the topic: “Something you are good at.” DAY 1 continues with instructions for the student to choose a particular talent or skill to write about and provides suggestions for getting started. “You may use this area and the following pages for freewriting, clustering, outlining, webbing, listing, etc. When you are ready you may begin your draft” (p. 4). DAY 2 provides for peer response based upon the previous day’s work. “Talk about these questions, or other questions you can think of, with your group. Make sure everyone receives comments on his or her writing” (p. 4). DAY 3 provides the student with a checklist for revising and proofreading. The composition is collected after this final review of writing.

Substantial literature supports the teaching of process writing as best practice that can lead to increased student learning. And, where it is assessed in this fashion as it is on Michigan’s MEAP test, it is reasonable to assume that teachers who instruct their students in this process will have students who perform better on the test.
Summary

The purpose of this literature review was to examine what is known about the parts of the instructional alignment conceptual framework that make up the variables of this study: the relationship of test scores to the taught curriculum, the relationship of test scores to the written curriculum, and the relationship of test scores to specific staff development opportunities available to teachers that support the teaching of writing. The demographic variable of years of teacher experience has also been reviewed because of this variable's possible impact on the components of the instructional alignment conceptual framework. In addition, because this study will examine the impact of these variables on 5th grade students' writing MEAP scores, what is known about writing as it is recommended to be taught in state documents, and the 5th grade writing MEAP test has been reviewed.
CHAPTER III
METHODOLOGY AND INSTRUMENTATION

Introduction

The purpose of this study was to determine the extent to which Michigan 5th grade teachers used components of instructional alignment in writing instruction, and then to compare the writing MEAP scores from a sample of 5th grade elementary buildings in Michigan to determine if there was a relationship between writing test scores and (a) teachers' years of experience; (b) the degree to which 5th grade teachers used the Michigan Model Core Curriculum in writing, the Michigan Curriculum Framework, or local curriculum documents containing this curricula, to plan their lessons; (c) the degree to which teachers perceived they were implementing the strategies recommended in the state documents, and (d) the degree to which specific staff development opportunities had been available that support the teaching of writing. A questionnaire was used to collect information from 5th grade teachers on these variables; 5th grade writing MEAP scores reported by building were collected using the internet to access the Michigan Department of Education website. This website reports Michigan school building scores by percentage of those students in each building receiving Proficient, or Not Yet Proficient. This chapter presents the methods used in the study.
Participants in the Study

Questionnaire responses from 5th grade teachers in Michigan were needed to adequately address the problem. Fifth grade elementary teachers were the primary participants in the study. Secondary participants were elementary building principals who were asked to permit the study to take place in their buildings and, if agreeable, then to invite the 5th grade teacher in their building to participate in the study, and to provide them with the cover letter and questionnaire if they chose to do so. Building principals were also necessary participants because their permission was needed to invite 5th grade teachers to participate in the study.

The population of the study included all of the 144 Class C public school districts in Michigan. Class C schools are those which have a secondary school enrollment of between 255 and 507 students (Michigan High School Athletic Association, 1999, p. 1). This results in typically one to three elementary buildings in each district, with typically one 5th grade teacher per building. By restricting the population to Class C schools, variance in questionnaire responses that might result from sampling several 5th grade classrooms in the same building, or several elementary buildings in larger districts, was reduced.

All 144 Class C public schools were invited to participate, so that in the event of nonresponders, the required sample size of 103 could still be met. In determining the appropriate sample size, the "Table for Determining Needed Size of a Randomly Chosen Sample From a Given Finite Population of N Cases Such That the Sample Proportion p Will Be Within +\- .05 of the Population Proportion p With a 95 Percent Level of Confidence," in Isaac and Michael (1995, p. 201) revealed that an N of 140 needs an S of 103.
Instrumentation

The purpose of this study was to determine the extent to which Michigan 5th grade teachers use components of instructional alignment in writing instruction, and then to investigate the relationship of the dependent variable of 5th grade writing MEAP scores to three independent variables which are components of the instructional alignment conceptual framework, as well as teachers' years of experience. The independent variables were (a) the relationship of test scores to teachers' years of experience, (b) the relationship of test scores to the written curriculum, (c) the relationship of test scores to the taught curriculum, and (d) the relationship of test scores to staff development.

Two instruments were used to collect data for this study: (1) The Writing Instruction Questionnaire (WIQ), and (2) The Michigan Educational Assessment Program in writing, Winter, 1999–2000, with results reported in the MEAP District and School Proportion Report. Each of these instruments is discussed in this section.

The Writing Instruction Questionnaire was a 28-item questionnaire in four sections. Section One collected information about teachers' years of experience. It contained one item asking the teacher to write in the space provided how many years they have taught. Section Two collected information about teachers' use of the written curriculum. It contained one item in a Likert-type format that addressed 5th grade teachers' use of the Michigan Model Core Curriculum in writing, the Michigan Curriculum Framework, or district documents that contain these state documents to plan their lessons. Teachers could choose (1) not at all, (2) once or twice, (3) occasionally, or (4) always. This score was correlated with the percentage
of 5th grade students in that building achieving proficient on the 5th grade writing MEAP test.

Section Three collected information on the taught curriculum. It contained 16 items in a multiple choice response format. Each question was related to the writing outcomes described in the *Michigan Model Core Curriculum* in writing for later elementary of which 5th grade is a part. These outcomes are also embedded in the standards and benchmarks contained in the *Michigan Curriculum Framework*. Each writing outcome was contained in one question. For instance, the writing outcome, "At the elementary level, students will draw pictures and talk about stories they wish to tell," translated to the following question in the Writing Instruction Questionnaire (WIQ): "How often do you ask your fifth grade students to draw pictures and talk about stories they wish to tell?" The participants' choices were (1) never, (2) once or twice, (3) occasionally, or (4) regularly. The total score for Section Three was correlated with the percentage of 5th grade students in that building achieving proficient on the 5th grade writing MEAP test.

Section Four collected information about the number of hours teachers have spent in in-service training in teaching writing. It contained 10 items in a Likert-type format with choices 1 through 8. The participant's choices were (1) 0–3 hours, (2) 4–6 hours, (3) 7–10 hours, (4) 11–15 hours, (5) 16–20 hours, (6) 21–25 hours, (7) 26–30 hours, or (8) more than 30 please specify number of hours ______. The total score for Section Four was correlated with the percentage of students in that building achieving proficient on the 5th grade MEAP test in writing. Each question was directly related to conclusions drawn from a review of literature that supports specific staff development efforts that support planned change in education. Specifically, conclusions followed the findings of the Rand Study (1978), Milbrey
McLaughlin's (1990) review of the Rand Study, and additional literature that supported these conclusions. For instance, one finding of the Rand Study that McLaughlin found was still upheld today, was “teacher observation of similar projects in other classrooms, schools, or districts,” contributes to planned change in education. The corresponding question in the Writing Instruction Questionnaire (WIQ) was, “I have had the opportunity to observe writing projects/lessons in other classrooms, or schools, or other districts.” There was a match between each conclusion of the Rand Study and questions on the Writing Instruction Questionnaire.

The Michigan MEAP test in writing at 5th grade was used to measure the dependent variable of 5th grade student scores in writing as reported by building. The Michigan Educational Assessment Program (MEAP) in writing is a state assessment currently administered in the winter of each year in Grades 5 and 8. The Michigan MEAP test in writing at 5th grade is administered over a 3-day period and follows the process writing sequence of activities. DAY 1 has four timed activities: “Getting started, Peer discussion, Listening and sharing responses, and Prewriting and drafting” (Michigan State Board of Education, 1997, p. 3). Each task is undertaken with a separate set of instructions read by the teacher, and the test booklet contains bulleted suggestions to be read by the student for each activity. For instance, DAY 1 begins with thinking about the topic:

**TOPIC:**
Something you are good at.

**DIRECTIONS:**
Talk about these questions with your group, making sure everyone gets to speak.

**THINKING ABOUT THE TOPIC:**
What everyday things, like making a salad, taking care of your
baby brother or sister, helping around the house, or finding the keys when they are lost, are you good at? (Michigan State Board of Education, 1997, p. 3)

DAY 1 continues with instructions for the student to choose a particular talent or skill to write about and provides suggestions for getting started. “You may use this area and the following pages for freewriting, clustering, outlining, webbing, listing, etc. When you are ready you may begin your draft” (p. 4). DAY 2 provides for peer response based upon the previous day’s work. “Talk about these questions, or other questions you can think of, with your group. Make sure everyone receives comments on his or her writing” (p. 8). DAY 3 provides the student with a checklist for revising and proofreading. The composition is collected after this final review of writing.

Scoring of the essay is based upon holistic scorepoint descriptions from 1 to 4, with 4 being the best. The following is a description of a 4 rating, Grade 5, taken from the Grade 5 Student Assessment Booklet:

Central ideas may be clearly developed through details and examples. The writing may have a natural flow and a clear sense of wholeness (beginning, middle, end): the organization helps move the reader through the text. A clear and engaging voice is likely to be demonstrated through precise word choice and varied sentence structure. Skillful use of writing conventions contributes to the writing’s effect. (p. 10)

Completed writing assessments are scored by Measurement Incorporated, a professional scoring company contracted by the State of Michigan. Each essay is read and evaluated by at least two scorers, the second scorer never seeing the score of the first. If the first and second scores are not equivalent, a third scorer is asked to judge. (Michigan Department of Education, 1996a). Scores are reported by building and district by the percentage of those students who have achieved Proficient and Not Yet Proficient. The percentage of students who are reported proficient in each

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building were collected using the internet to access the Michigan Department of Education website at http://www.mde.state.mi.us/MEAP results, where scores for all school buildings in all Michigan districts are available.

The Writing Instruction Questionnaire (WIQ) and the Michigan 5th grade MEAP test in writing were the two instruments used to collect data for this study. Table 2 provides a summary of the variables, the source of data for each variable, the instrument used to collect the data, and the range of scores possible for each section of the instrument.

Table 2
Summary of Operational Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source of Data</th>
<th>Instrument</th>
<th>Range of Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of Teaching Experience</td>
<td>Teacher Self-report of years of teaching experience</td>
<td>Writing Instruction Questionnaire, Section One</td>
<td>Continuous</td>
</tr>
<tr>
<td>Written Curriculum</td>
<td>Teacher self-report of curriculum use</td>
<td>Writing Instruction Questionnaire, Section Two</td>
<td>1–4</td>
</tr>
<tr>
<td>Taught Curriculum</td>
<td>Teacher self-report of curricula taught</td>
<td>Writing Instruction Questionnaire, Section Three</td>
<td>1–4</td>
</tr>
<tr>
<td>Staff Development</td>
<td>Teacher self-report of staff development</td>
<td>Writing Instruction Questionnaire, Section Four</td>
<td>1–8</td>
</tr>
<tr>
<td>5th Grade Writing MEAP scores</td>
<td>MEAP District and School Proportions Report</td>
<td>5th grade writing MEAP test</td>
<td>0–100</td>
</tr>
</tbody>
</table>

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Procedures

Class C school districts were identified in the *Michigan School Directory, 1999-2000*. Since class C school districts are identified only by the secondary school in that district, a comparison with the *Michigan Education Directory, Inc., 1999–2000* was necessary to identify the district’s elementary schools and their principals. The *Michigan Education Directory, Inc., 1999–2000* lists all public school principals in Michigan for the academic school year of publication. For each district in the state, the directory lists the elementary, middle, and secondary schools with the names of their principals. In the event the *Michigan Education Directory, Inc., 1999–2000* did not list the elementary building in that Class C school district it was assumed that the district had at least one elementary school and was included in the mailing by sending the secondary school the cover letter to give to the elementary building principal of that district. Elementary principals were considered to be principals in buildings designated in the directory as providing instruction for students in Grades K–6 or some combination of these grades.

A cover letter was sent to the elementary principal(s) in these class C school districts explaining the study and inviting them to participate by returning the enclosed permission form. After 2 weeks a second cover letter and permission form was sent to the principals who had not responded. At this time a letter was sent to elementary building principals in the Battle Creek Public Schools asking for their permission to field test the Writing Instruction Questionnaire by inviting 5th grade teachers in their building to complete the questionnaire and answer questions that might lead to the questionnaire’s improvement. Field test participants returned only the question and response sheet designed for the questionnaire’s improvement. After
2 weeks a second letter was sent to those principals who have not responded to the first invitation to field test the Writing Instruction Questionnaire by inviting a 5th grade teacher in their building to participate. The principals’ returned permission form for the field test, and the returned permission forms from the building principals of the Class C schools were included in the research proposal submitted to the Human Subjects Institutional Review Board at Western Michigan University as part of the application for project review.

After approval had been received from the Human Subjects Institutional Review Board (Appendix N), the Writing Instruction Questionnaire was field tested in the Battle Creek Public Schools. A cover letter was sent to 5th grade teachers whose principals had returned permission forms in the Battle Creek Public Schools explaining the study and inviting them to participate in the improvement of the Writing Instruction Questionnaire by completing it, answering questions about its effectiveness, and returning the question and response sheets to the researcher. Teachers’ responses were anonymous since teachers’ names did not appear anywhere on the returned question and response sheet.

After the Writing Instruction Questionnaire had been revised with consideration of field test responses, elementary principals in Class C school districts who had returned the permission form were sent a second set of materials which included a cover letter thanking them for participating in the study as well as materials for their 5th grade teacher with which to make the invitation to participate in the study. The materials for the 5th grade teacher included a cover letter explaining the study, a Writing Instruction Questionnaire (WIQ), and an addressed stamped envelope for the return mailing. After 2 weeks those elementary building principals
for which questionnaires had not been returned were sent a second set of materials for their 5th grade teacher with instructions for the return mailing.

Return envelopes and questionnaires were numbered to keep track of respondents. This new number became the ID number to be used in the final tallying and data entry.

**Methods of Data Analysis**

The information collected and tallied was coded, put into a Statistical Package for Social Sciences (SPSS) data set, and entered into a computer for analysis. The SPSS procedure for percentage was used to determine the percentage of teachers who responded to each item on the Writing Instruction Questionnaire. The SPSS procedure for a $t$ test for independent samples and analysis of variance (ANOVA) was used to test the null hypotheses with an alpha level of .05. Listed below are the research questions, null and operational hypotheses of the study.

**Question I:** What is the relationship between 5th grade MEAP scores in writing and teachers' years of teaching experience? "Years of teaching experience" was the independent variable. "Years of teaching experience" was operationalized by asking 5th grade teachers to state their years of teaching experience. "Fifth grade building MEAP scores in writing" was the dependent variable. Fifth grade building MEAP scores in writing was operationalized by reporting the percentage of students achieving proficient for each elementary school building in the study as reported in the MEAP District and School Proportions Report made available by the Michigan Department of Education. A one-way analysis of variance (ANOVA) was used to test the null hypothesis that there is no difference between 5th grade building MEAP
scores in writing and either few years of teaching experience or many years of teaching experience.

**Question 2:** What is the relationship between 5th grade MEAP test scores in writing and the extent the state curriculum documents in writing, or local curriculum documents containing this curriculum, are used by 5th grade teachers to plan their lessons. "Extent of use of curriculum documents" was the independent variable. "Extent of use" was operationalized by the score of Section Two of the Writing Instruction Questionnaire (WIQ) which had a range of scores from 1 to 4. "Fifth grade building MEAP score in writing" was operationalized by reporting the percentage of students achieving proficient for each elementary school building in the study as reported in the MEAP District and School Proportions report, made available by the Michigan Department of Education. A \( t \) test for independent samples was used to test the null hypothesis that there is no difference between 5th grade building MEAP scores in writing and either low use of state curriculum documents in writing, or high use of state curriculum documents in writing.

**Question 3:** What is the relationship between 5th grade MEAP scores in writing and teachers' perceptions of how closely they are teaching the model core curriculum strategies? "Teachers' perceptions of how closely they are teaching the model core curriculum strategies" was the independent variable. "Teachers' perceptions" was operationalized by the score of each strategy/outcome listed in Section Three of the Writing Instruction Questionnaire (WIQ) which had a range of scores from 1 to 4. "Fifth grade building MEAP scores in writing" was operationalized by reporting the percentage of students achieving proficient for each elementary school building in the study as reported in the MEAP District and School Proportions Report made available by the Michigan Department of Education. A \( t \)
test for independent samples was used to test the null hypothesis that there is no difference between 5th grade building MEAP scores in writing and either low use of Model Core Curriculum strategies or high use of Model Core Curriculum strategies in writing.

Question 4: What is the relationship between 5th grade building MEAP scores in writing and staff development opportunities that have been available to teachers to know and understand the state and local curriculum documents. “Staff development opportunities” was the independent variable. “Staff development opportunities” was operationalized by the score each item of Section Four of the Writing Instruction Questionnaire (WIQ) which had a range of scores from 1 to 8. “Fifth grade building MEAP scores in writing” was operationalized by reporting the percentage of students achieving proficient for each elementary school building in the study, as reported in the MEAP District and School Proportions Reports made available by the Michigan Department of Education. A one-way analysis of variance was used to test the null hypothesis that there is no difference between 5th grade building MEAP scores in writing and either few hours of staff development in teaching writing, or many hours of staff development in teaching writing.

Null Hypotheses

The following null hypotheses were tested to determine the tenability of the operationalized hypotheses:

1. There is no difference between 5th grade building MEAP scores in writing and teachers who have had few years of teaching experience or many years of teaching experience.
2. There is no difference between 5th grade building MEAP scores in writing and teachers’ low use of state curriculum documents in writing or teachers’ high use of state curriculum documents in writing.

3. There is no difference between 5th grade building MEAP scores in writing and teachers’ perceptions of low use of the Model Core Curriculum strategies in writing or teachers’ perceptions of high use of the Model Core curriculum strategies in writing.

4. There is no difference between 5th grade building MEAP scores in writing and in few hours of staff development in teaching writing or many hours of staff development in teaching writing.

Operational Hypotheses

The following are the operational hypotheses of this study:

1. There is a difference between 5th grade building MEAP scores in writing and teachers who have had few years of teaching experience and teachers who have had many years of teaching experience.

2. There is a difference between 5th grade building MEAP scores in writing and teachers’ low use of state curriculum documents in writing and teachers’ high use of state curriculum documents in writing.

3. There is a difference between 5th grade building MEAP scores in writing and in teachers’ perceptions of low use of the Model Core Curriculum strategies in writing and teachers’ perceptions of high use of the Model Core Curriculum strategies in writing.
4. There is a difference between 5th grade building MEAP scores in writing and in few hours of staff development in teaching writing and in many hours of staff development in teaching writing.

Summary

This section presented a discussion of the methods used to carry out this research project. The population from which the sample was selected, the participants in the study, the instruments and procedures used to collect the data, and the method of analyzing the data have been included.
CHAPTER IV

RESULTS OF THE STUDY

Introduction

The purpose of this study was to determine the extent to which Michigan 5th grade teachers use components of instructional alignment in writing instruction, and then to compare the writing MEAP scores from a sample of 5th grade elementary buildings in Michigan to determine if there was a relationship between writing test scores and (a) teachers' years of experience; (b) the degree to which 5th grade teachers use the Michigan Model Core Curriculum in writing, the Michigan Curriculum Framework, or local curriculum documents containing this curricula, to plan their lessons; (c) the degree to which teachers perceive they are implementing the strategies recommended in the state documents, and (d) the degree to which specific staff development opportunities have been available that support the teaching of writing. A questionnaire was used to collect information from 5th grade teachers on these variables. Fifth grade writing MEAP scores reported by building were collected using the internet to access the Michigan Department of Education website where the results of MEAP scores are listed by school district and by school building within that district.

Presented in this chapter are the results of the study. Chapter IV is divided into four sections. The first is a description of the participants in the study. The second section summarizes the procedures and instrumentation used in the study. The
third section presents results of the data analysis, and the fourth section summarizes Chapter IV.

Participants in the Study

Fifth grade elementary teachers were the primary participants in the study. Secondary participants were elementary building principals who were needed to grant permission for the study to take place in their buildings by returning a site permission form. Building principals were also needed to invite the 5th grade teacher in their buildings to participate in the study by providing them with a cover letter explaining the study, in addition to providing them with the Writing Instruction Questionnaire and a stamped addressed envelope for the return mailing.

The population of the study included all of the 144 Class C public school districts in Michigan. Class C schools are those schools which have a secondary school enrollment of between 255 and 507 students (Michigan High School Athletic Association, 1999/2000, p. 1). This results in typically one to three elementary buildings in each district, with typically one 5th grade teacher per building. By restricting the population to Class C schools, variance in questionnaire responses that might result from sampling several 5th grade classrooms in the same building, or several elementary buildings in larger districts, was reduced.

Procedures

The 144 Class C public school districts in Michigan were invited to participate in the study through an initial mailing to the elementary school principal of the class C public school district. Where there was more than one elementary in the district, the first elementary building listed in the *Michigan School Directory*,
(Michigan High School Athletic Association, 1999/2000) under that district's name was sent an invitation to participate in the study. This invitation consisted of a cover letter explaining the study and a site permission form which the principals were asked to complete and return in an enclosed addressed stamped envelope. In the initial mailing to building principals, 54 site permission forms were returned. After 2 weeks, a second mailing was sent to those building principals who had not responded to the first request. Twenty additional questionnaires were received after the second mailing, for a total of 74 site permission forms.

Site permission requests to field test the Writing Instruction Questionnaire were also sent to the 16 elementary buildings in the Battle Creek Public Schools. Requests consisted of a cover letter explaining the study and inviting the principals to participate by returning the site permission form. After 2 weeks a follow-up letter was sent to those principals who had not returned a site permission form. Of the 16 initial requests, 8 field test site permission forms were returned. Eight second requests were mailed, and 1 additional permission form was returned for a total of 9 returned site permission forms for the field test. These 9 site permission forms to field test the Writing Instruction Questionnaire, and the 74 site permission forms from Class C school district principals to conduct the study in their buildings, were included in the application to the Human Subjects Institutional Review Board to conduct the study.

After permission from HSIRB had been given to conduct the study, invitations to 5th grade teachers to participate in the field test of the Writing Instruction Questionnaire were mailed to principals of those schools who had returned permission forms. There were 14 5th grade teachers in the nine elementary buildings whose principals had agreed to participate in the field test. The invitation
consisted of a cover letter to the principals thanking them for agreeing to participate in the field test, and a cover letter to their 5th grade teachers explaining the study and inviting them to participate in the field test by completing the questionnaire and answering questions designed to improve it. Seven teachers returned response sheets with their comments for improving the Writing Instruction Questionnaire. A follow-up mailing was sent to all nine buildings after 2 weeks. Three additional response sheets were returned for a total of 10 response sheets. A panel of experts consisting of the K–12 Language Arts Coordinator for the Battle Creek Public Schools, and the Coordinator for Middle Schools and Ninth Grade Transition were consulted concerning changes in the Writing Instruction Questionnaire as a result of field test responses. Appendix M contains a summary of changes resulting from the field test and the review by the panel of experts.

After the Writing Instruction Questionnaire had been modified in consideration of field test responses, all 74 building principals of Class C schools who had agreed to participate in the study were sent a cover letter thanking them for their willingness to participate and a cover letter and Writing Instruction Questionnaire with which to invite their 5th grade teacher to participate. From this mailing, 37 questionnaires were returned from 5th grade teachers. Two weeks after the first mailing, a second cover letter was sent to the principals of those buildings whose 5th grade teacher had not responded, and 13 additional Writing Instruction Questionnaires were received for a total of 50 returned questionnaires.

Fifth grade writing MEAP scores for Winter, 2000, became available on the internet through the Michigan Department of Education website on June 14, 2000. Five building scores for 5th grade teachers who had returned questionnaires did not have their building scores listed. One building was listed as “No data available,” and
the other four were part of the list of scores not yet released from the Department of Education. After 2 weeks, scores for these five buildings remained unavailable and were omitted from the participant list. This resulted in 45 participant questionnaires to be included in the study.

Questionnaire responses and corresponding building 5th grade writing MEAP scores were tallied and coded, and put into a Statistical Package for Social Sciences (SPSS) data set, and entered into a computer for analysis. The SPSS procedure for a $t$ test for independent samples was used to test the null hypotheses of research questions 2 and 3, with an alpha level of .05. A one-way analysis of variance (ANOVA) was used to test the null hypotheses of research questions 1 and 4 with an alpha level of .05. Listed below are the research questions, operational procedures, null hypotheses, and results of the data analysis.

Results of the Data Analysis

A preliminary statistical procedure used in this study included an analysis of covariance (ANCOVA). This procedure allows for the effects of the independent variables to be analyzed while controlling for a feature of the population, or covariate. The covariate used in this analysis was the percentage of free and reduced lunch applications in the elementary buildings whose scores were used in the study. The number of free and reduced lunch applications reflect the level of economic need within the school. Level of economic need is often tied to student success; therefore, ANCOVA was applied to determine if this statistical procedure would indicate statistical significance. The results of the analysis of covariance did not show statistically significant results; therefore, the analysis of variance and the $t$ test were used as the statistical procedures in the study.
A second preliminary procedure summarized the percentage of teachers who responded to each item in the Writing Instruction Questionnaire. This procedure was used to gain an overall picture of teacher use of the different components of instructional alignment, as well as, present a picture of the participants' years of teaching experience. Results of the data analysis are presented first as this percentage of response summary, and second as the results of the statistical procedures used to test the null hypotheses.

**Percentage of Teacher Responses to Years of Teaching Experience**

Section One of the Writing Instruction Questionnaire asked for teachers to list the number of years of teaching experience. Mean years of experience of the 45 teachers in the study was 16.6 years over a range of 1-32 years. Twenty-two teachers or 48.9% had taught between 1 and 16 years, and 23 teachers had taught between 17 and 32 years, or 51.1%. Only until after the 10th year were there more than 2 teachers for each year of experience, where 3 teachers had 11, 13, 20, and 27 years of experience, and 4 teachers reported 18 and 29 years of teaching experience. In sum, there were more teachers with more years of experience than fewer years of experience in the study. Only 10 teachers had 7 or fewer years of experience out of the 45 teachers, resulting in a generally experienced participant sample of the population. Table 3 reports the years of experience for each participant in the study.

**Percentage of Teacher Responses to the Degree of Curriculum Use**

Eighty-six percent of the 45 teachers in the study reported they either occasionally or always used either the *Michigan Model Core Curriculum* in writing, the *Michigan Curriculum Framework*, or local curriculum documents.
Table 3
Percentage of Teacher Responses to Years of Experience

<table>
<thead>
<tr>
<th>Years</th>
<th>Number of Teachers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
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<td>15</td>
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<td>2.2</td>
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<tr>
<td>16</td>
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<td>2.2</td>
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<td>17</td>
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<td>0</td>
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<tr>
<td>18</td>
<td>4</td>
<td>8.9</td>
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<td>19</td>
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<td>22</td>
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<td>0</td>
</tr>
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<td>23</td>
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<td>2.2</td>
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<td>24</td>
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<td>2.2</td>
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<tr>
<td>25</td>
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<td>2.2</td>
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<tr>
<td>26</td>
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<td>27</td>
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<td>6.7</td>
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<td>28</td>
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<td>0</td>
</tr>
<tr>
<td>29</td>
<td>4</td>
<td>8.9</td>
</tr>
<tr>
<td>29.5</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td>30</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td>31</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td>32</td>
<td>1</td>
<td>2.2</td>
</tr>
</tbody>
</table>

containing this curricula, to plan their writing instruction. Fourteen and three tenths percent reported they did not use these documents at all or only did so once or twice.

Overall, a high percentage of teachers report using state curriculum documents to
plan their lessons. Table 4 shows the frequency and percent of teacher responses to curriculum use.

Table 4

Teacher Use of State Curriculum to Plan their Lessons

<table>
<thead>
<tr>
<th>Response Choices</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>4</td>
<td>9.5</td>
</tr>
<tr>
<td>Once or twice</td>
<td>2</td>
<td>4.8</td>
</tr>
<tr>
<td>Occasionally</td>
<td>23</td>
<td>54.8</td>
</tr>
<tr>
<td>Always</td>
<td>13</td>
<td>31.0</td>
</tr>
</tbody>
</table>

Percentage of Teacher Responses to the Degree the Core Curriculum Strategies/Outcomes Were Taught

With two exceptions, the core curriculum outcomes were taught by over 87% of teachers either occasionally or regularly. The exceptions were: (1) How often do you ask your students to prepare and illustrate pieces to share with the broadest possible audience? (68.9%), and (2) How often do you allow time for students to explain how they used the parts of the writing process as published authors in completing their pieces of writing? (43.2%). Table 5 reports the percent of responses for each of these core curriculum outcomes.

Both of these outcomes share characteristics of closure-type strategies, as they ask for a summary of decisions or activities either in preparing and illustrating pieces of writing to share, or summarizing parts of the writing process. As a result, active use of this outcome or strategy may be accurately reported as used only once or twice (31.1% and 34.1% for each outcome, respectively).
Table 5
Low Report of Taught Outcomes

<table>
<thead>
<tr>
<th>Outcome/Strategy</th>
<th>Responses</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepare and illustrate pieces</td>
<td>Never</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>to share</td>
<td>Once or twice</td>
<td>14</td>
<td>31.1</td>
</tr>
<tr>
<td></td>
<td>Occasionally</td>
<td>18</td>
<td>40.0</td>
</tr>
<tr>
<td></td>
<td>Regularly</td>
<td>13</td>
<td>28.9</td>
</tr>
<tr>
<td>Allow time for students to explain how they used parts of the writing process</td>
<td>Never</td>
<td>9</td>
<td>20.5</td>
</tr>
<tr>
<td></td>
<td>Once or twice</td>
<td>15</td>
<td>34.1</td>
</tr>
<tr>
<td></td>
<td>Occasionally</td>
<td>12</td>
<td>27.3</td>
</tr>
<tr>
<td></td>
<td>Regularly</td>
<td>7</td>
<td>15.9</td>
</tr>
</tbody>
</table>

Percentage of Hours Spent in Staff Development in Teaching Writing

Section Four of the Writing Instruction Questionnaire, questions 19 through 28, asked for teachers’ report of the number of hours spent with specific staff development opportunities. Sixty-three and six tenths percent of teachers reported they had spent between 7 and 20 hours of staff development time in teaching writing. Almost half of these teachers (29%) had spent between 11 and 15 hours in writing in-service training. The greatest number of hours spent by the highest percentage of teachers was writing in-service that was teacher-specific and something teachers could use in the classroom (52.4%). The least number of hours spent by the highest number of teachers was observing writing projects in other classrooms, where 75.6% of the teachers reported spending 0–3 hours in this type of training. These percentages suggest the most common form of in-service training focuses on practical classroom applications of teaching writing. Table 6 shows the number and percentage of teachers’ hours in the specific staff development opportunities.
<table>
<thead>
<tr>
<th>Staff Development Opportunity</th>
<th>Range of Hours</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall number of hours of in-service training in teaching writing</td>
<td>0-3 hours</td>
<td>5</td>
<td>11.4</td>
</tr>
<tr>
<td></td>
<td>4-6 hours</td>
<td>3</td>
<td>6.8</td>
</tr>
<tr>
<td></td>
<td>7-10 hours</td>
<td>7</td>
<td>15.9</td>
</tr>
<tr>
<td></td>
<td>11-15 hours</td>
<td>13</td>
<td>29.5</td>
</tr>
<tr>
<td></td>
<td>16-20 hours</td>
<td>8</td>
<td>18.2</td>
</tr>
<tr>
<td></td>
<td>21-25 hours</td>
<td>2</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>26-30 hours</td>
<td>6</td>
<td>13.6</td>
</tr>
<tr>
<td>Writing in-service that was teacher-specific and usable in the classroom</td>
<td>0-3 hours</td>
<td>8</td>
<td>18.2</td>
</tr>
<tr>
<td></td>
<td>4-6 hours</td>
<td>10</td>
<td>22.7</td>
</tr>
<tr>
<td></td>
<td>7-10 hours</td>
<td>9</td>
<td>20.5</td>
</tr>
<tr>
<td></td>
<td>11-15 hours</td>
<td>9</td>
<td>20.5</td>
</tr>
<tr>
<td></td>
<td>16-20 hours</td>
<td>5</td>
<td>11.4</td>
</tr>
<tr>
<td></td>
<td>21-25 hours</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>26-30 hours</td>
<td>2</td>
<td>4.5</td>
</tr>
<tr>
<td>Assistance in teaching writing from other people in the building</td>
<td>0-3 hours</td>
<td>30</td>
<td>69.8</td>
</tr>
<tr>
<td></td>
<td>4-6 hours</td>
<td>7</td>
<td>16.3</td>
</tr>
<tr>
<td></td>
<td>7-10 hours</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>11-15 hours</td>
<td>2</td>
<td>4.7</td>
</tr>
<tr>
<td></td>
<td>16-20 hours</td>
<td>2</td>
<td>4.7</td>
</tr>
<tr>
<td></td>
<td>21-25 hours</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>26-30 hours</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td>Assistance in teaching writing from other teachers in the district</td>
<td>0-3 hours</td>
<td>31</td>
<td>70.5</td>
</tr>
<tr>
<td></td>
<td>4-6 hours</td>
<td>8</td>
<td>18.2</td>
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<td></td>
<td>7-10 hours</td>
<td>2</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>11-15 hours</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>16-20 hours</td>
<td>2</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>21-25 hours</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>26-30 hours</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Observing writing instruction in other classrooms</td>
<td>0-3 hours</td>
<td>34</td>
<td>75.6</td>
</tr>
<tr>
<td></td>
<td>4-6 hours</td>
<td>7</td>
<td>15.6</td>
</tr>
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<td></td>
<td>7-10 hours</td>
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<td>2.2</td>
</tr>
<tr>
<td></td>
<td>11-15 hours</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>16-20 hours</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>21-25 hours</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>26-30 hours</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>&gt; 30 hours</td>
<td>2</td>
<td>4.4</td>
</tr>
<tr>
<td>Staff Development Opportunity</td>
<td>Range of Hours</td>
<td>Number</td>
<td>Percentage</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------</td>
<td>--------</td>
<td>------------</td>
</tr>
<tr>
<td>Discussing practical issues that address teaching writing</td>
<td>0–3 hours</td>
<td>20</td>
<td>44.4</td>
</tr>
<tr>
<td></td>
<td>4–6 hours</td>
<td>11</td>
<td>24.4</td>
</tr>
<tr>
<td></td>
<td>7–10 hours</td>
<td>3</td>
<td>7.0</td>
</tr>
<tr>
<td></td>
<td>11–15 hours</td>
<td>4</td>
<td>8.9</td>
</tr>
<tr>
<td></td>
<td>16–20 hours</td>
<td>2</td>
<td>4.4</td>
</tr>
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<td></td>
<td>21–25 hours</td>
<td>2</td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td>26–30 hours</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>&gt; 30 hours</td>
<td>2</td>
<td>4.4</td>
</tr>
<tr>
<td>Follow-up in-service or extended training in teaching writing</td>
<td>0–3 hours</td>
<td>26</td>
<td>59.1</td>
</tr>
<tr>
<td></td>
<td>4–6 hours</td>
<td>8</td>
<td>18.2</td>
</tr>
<tr>
<td></td>
<td>7–10 hours</td>
<td>5</td>
<td>11.4</td>
</tr>
<tr>
<td></td>
<td>11–15 hours</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>16–20 hours</td>
<td>2</td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td>21–25 hours</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>26–30 hours</td>
<td>2</td>
<td>4.4</td>
</tr>
<tr>
<td>Participate in building decisions on writing instruction</td>
<td>0–3 hours</td>
<td>20</td>
<td>44.4</td>
</tr>
<tr>
<td></td>
<td>4–6 hours</td>
<td>10</td>
<td>22.2</td>
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<td></td>
<td>7–10 hours</td>
<td>5</td>
<td>11.1</td>
</tr>
<tr>
<td></td>
<td>11–15 hours</td>
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<td>6.7</td>
</tr>
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<td></td>
<td>16–20 hours</td>
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<td>2.2</td>
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<td>21–25 hours</td>
<td>2</td>
<td>4.4</td>
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<td></td>
<td>26–30 hours</td>
<td>2</td>
<td>4.4</td>
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<tr>
<td></td>
<td>&gt; 30 hours</td>
<td>2</td>
<td>4.4</td>
</tr>
<tr>
<td>Preparing writing materials</td>
<td>0–3 hours</td>
<td>20</td>
<td>44.4</td>
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<td></td>
<td>4–6 hours</td>
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<td></td>
<td>26–30 hours</td>
<td>2</td>
<td>4.4</td>
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<tr>
<td></td>
<td>&gt; 30 hours</td>
<td>4</td>
<td>8.9</td>
</tr>
<tr>
<td>Principal’s participation in writing in-service training</td>
<td>0–3 hours</td>
<td>23</td>
<td>54.8</td>
</tr>
<tr>
<td></td>
<td>4–6 hours</td>
<td>8</td>
<td>19.0</td>
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<td>7–10 hours</td>
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<td>2.4</td>
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<tr>
<td></td>
<td>21–25 hours</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>26–30 hours</td>
<td>1</td>
<td>2.4</td>
</tr>
</tbody>
</table>
Research Question 1

What is the relationship between 5th grade MEAP scores in writing and teachers' years of teaching experience? “Years of teaching experience” is the independent variable. This variable was operationalized by asking 5th grade teachers to state their years of teaching experience. “Fifth Grade building MEAP scores in writing” was the dependent variable. Fifth grade building MEAP scores in writing were operationalized by reporting the percentage of students achieving proficient for each elementary school building in the study as reported in the MEAP District and School Proportions Report made available by the Michigan Department of Education. A one-way analysis of variance (ANOVA) was used to test the null hypothesis that there is no difference between 5th grade building MEAP scores in writing and teachers’ years of teaching experience.

Table 7 shows the results of the analysis of variance where teachers’ years of experience is separated into three groups for the purpose of the analysis. Group 1 includes teachers with 1 through 7 years of experience, Group 2 includes teachers with 9 through 24 years of experience, and Group 3 includes teachers with 25 through 32 years of experience. The group division was based upon a 30-year teaching career. The first division was based upon the literature that teachers’ years of experience positively impacts student learning most notably after the first 6–7 years of experience (Lopez, 1995). The other divisions were chosen to provide middle and later sections since the literature also suggested there was a decline in the teacher experience/student learning relationship within the last 10 years of the defined career span (Lopez, 1995). The mean MEAP score for each group was compared with the other groups to determine if there was a statistically significant difference.

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between groups. There is no 8th year represented because no teachers reported having taught only 8 years.

Table 7

Analysis of Variance for Teachers' Years of Experience by Group Compared to the Mean MEAP Scores for Each Group

<table>
<thead>
<tr>
<th>Years of Teaching</th>
<th>Number</th>
<th>Mean</th>
<th>SD</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–7</td>
<td>10</td>
<td>59.6</td>
<td>14.0</td>
<td>.93</td>
</tr>
<tr>
<td>9–24</td>
<td>23</td>
<td>60.2</td>
<td>15.4</td>
<td></td>
</tr>
<tr>
<td>25–32</td>
<td>12</td>
<td>62.0</td>
<td>14.5</td>
<td></td>
</tr>
</tbody>
</table>

The probability (.93) is higher than .05, therefore the null hypothesis is not rejected, resulting in no statistical difference between groups. The conclusion is that the number of years of teaching experience is not related to students' MEAP scores in writing. However, the groups report progressively higher means as the teachers' years of experience increase.

Research Question 2

What is the relationship between 5th grade MEAP scores in writing and the extent the state curriculum documents in writing, or local curriculum documents containing this curriculum, are used by 5th grade teachers to plan their lessons. “Extent of use of curriculum documents” is the independent variable. “Extent of use” was operationalized by the score of Section Two of the Writing Instruction Questionnaire, which has a range of scores from 1 to 4. “Fifth grade building MEAP scores in writing” was operationalized by reporting the percentage of students achieving proficient for each elementary school building in the study as reported in the MEAP District and School Proportions Report, made available by the Michigan.
Department of Education. A \( t \) test for independent samples was used to test the null hypothesis that there is no difference between 5th grade building MEAP scores in writing and either low use of state curriculum documents in writing, or high use of state curriculum documents in writing.

Table 8 reports the results of a \( t \) test for independent samples where teacher responses to use of the curriculum were placed into two groups. Teachers who reported (1) not at all, (2) once or twice, or (3) occasionally, were placed in Group 1, and labeled low use of state curriculum documents in writing to plan their lessons. Teachers who reported (4) always, were placed in Group 2, and labeled high use of state curriculum documents to plan their lessons.

<table>
<thead>
<tr>
<th>Use of Curriculum to Plan Lessons</th>
<th>Number</th>
<th>Mean</th>
<th>SD</th>
<th>( P )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low use</td>
<td>29</td>
<td>60.4</td>
<td>15.2</td>
<td>.99</td>
</tr>
<tr>
<td>High use</td>
<td>13</td>
<td>60.5</td>
<td>14.4</td>
<td></td>
</tr>
</tbody>
</table>

The null hypothesis was not rejected, since \( p (.990) \) was greater than .05, indicating there was no difference between groups. The conclusion is that the degree teachers use the state curriculum documents or local documents containing this curriculum to plan their lessons is not related to students' MEAP scores in writing. However, these results report an increase in the mean of 5th grade writing MEAP scores for teachers who used state curriculum documents to plan their lessons.
Research Question 3

What is the relationship between 5th grade MEAP scores in writing and teachers' perceptions of how closely they are teaching the Model Core Curriculum writing outcomes? Each writing outcome is also a writing strategy for instruction in the Michigan Model Core Curriculum in writing for later elementary of which 5th grade is a part. These outcomes are also embedded in the standards and benchmarks contained in the Michigan Curriculum Framework. "Teachers' perceptions of how closely they are teaching the Model Core Curriculum outcomes/strategies” is the independent variable. “Teachers’ perceptions” was operationalized by the score of each outcome/strategy listed in Section Three of the Writing Instruction Questionnaire, which has a range of scores from 1 to 4. Teachers chose between four responses in answer to how often they asked their 5th grade students to engage the outcome: (1) never, (2) once or twice, (3) occasionally, or (4) regularly. Teacher responses were placed into two groups for the data analysis. Responses 1, 2, and 3, represented low use of instructional strategies, and 4 represented high use of instructional strategies. "Fifth grade building MEAP scores in writing” was operationalized by reporting the percentage of students achieving proficient for each elementary school building in the study as reported in the MEAP District and School Proportions Report made available by the Michigan Department of Education. A t test for independent samples was used to test the null hypothesis that there is no difference between 5th grade building MEAP scores in writing and either low use of Model Core Curriculum outcomes in writing, or high use of Model Core Curriculum outcomes in writing. The results are mixed, and may be summarized into three categories: first, statistically significant differences between writing strategies and
students' MEAP scores; second, no statistically significant differences between writing strategies and students' MEAP scores, but with higher mean scores for teachers who taught the outcomes; and third, no statistically significant differences between writing strategies and student MEAP scores, but with higher mean scores for teachers who did not teach the writing strategies. Tables 9, 10, and 11, show the results of the \( t \) tests for independent samples for each of the questions about writing outcomes/strategies in Section Three of the Writing Instruction Questionnaire.

### Table 9

**Statistically Significant Differences Between Writing Strategies and Students' MEAP Scores**

<table>
<thead>
<tr>
<th>Writing Outcomes/Strategies</th>
<th>No. of Cases</th>
<th>Mean Low Usage</th>
<th>SD Low Usage</th>
<th>Mean High Usage</th>
<th>SD High Usage</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Usage High Usage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Draw pictures and talk stories they wish to tell</td>
<td>33</td>
<td>58.04</td>
<td>15.3</td>
<td>67.3</td>
<td>10.2</td>
<td>*</td>
</tr>
<tr>
<td>Prepare and illustrate pieces to share with the broadest possible audience</td>
<td>32</td>
<td>57.8</td>
<td>15.7</td>
<td>67.1</td>
<td>8.5</td>
<td>*</td>
</tr>
<tr>
<td>Allow time for students to explain how they used parts of the writing process</td>
<td>36</td>
<td>57.7</td>
<td>14.7</td>
<td>72.2</td>
<td>5.6</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>72.2</td>
<td>5.6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( *p < .05 \)

### Research Question 4

What is the relationship between 5th grade building MEAP scores in writing and the duration of each of the staff development opportunities that have been
Table 10

No Statistically Significant Differences Between Writing Strategies and MEAP Scores, but With Higher Mean Scores for Teachers Who Taught the Strategies

<table>
<thead>
<tr>
<th>Writing Outcomes/Strategies</th>
<th>No. of Cases</th>
<th>Mean</th>
<th>SD</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Usage</td>
<td>High Usage</td>
<td>Low Usage</td>
<td>High Usage</td>
</tr>
<tr>
<td>Identify the audience and purpose for which the writing is intended</td>
<td>17</td>
<td>56.1</td>
<td>15.8</td>
<td>.14</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>63.2</td>
<td>13.4</td>
<td></td>
</tr>
<tr>
<td>Add or delete content and correct sequencing of events</td>
<td>16</td>
<td>57.4</td>
<td>14.9</td>
<td>.3</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>62.2</td>
<td>14.4</td>
<td></td>
</tr>
<tr>
<td>Share their writing with classmates and listen to suggestions classmates offer</td>
<td>10</td>
<td>60.2</td>
<td>12.8</td>
<td>.94</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>60.6</td>
<td>15.2</td>
<td></td>
</tr>
<tr>
<td>Give help to and receive help from peers</td>
<td>9</td>
<td>51.9</td>
<td>15.7</td>
<td>.09</td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>62.7</td>
<td>13.7</td>
<td></td>
</tr>
<tr>
<td>Revise pieces based on their own re-seeing and on responses of others</td>
<td>17</td>
<td>55.7</td>
<td>17.1</td>
<td>.12</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>63.5</td>
<td>12.4</td>
<td></td>
</tr>
<tr>
<td>Use standard spelling</td>
<td>3</td>
<td>57.3</td>
<td>5.0</td>
<td>.56</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>60.2</td>
<td>15.1</td>
<td></td>
</tr>
</tbody>
</table>

available to teachers to know and understand the state and local curriculum documents. The “duration and type of staff development opportunities” is the independent variable, and was operationalized by the score for each question of Section Four of the Writing Instruction Questionnaire which has a range of hours from 0 to more than 30 hours. Teachers chose between eight responses in answer to the number of hours spent with a specific feature of in-service training in teaching writing: (1) 0–3 hours, (2) 4–6 hours, (3) 7–10 hours, (4) 11–15 hours, (5) 16–20
Table 11
No Statistically Significant Differences Between Writing Strategies and MEAP Scores, and With Higher Mean Scores for Teachers Who Did Not Teach the Strategies

<table>
<thead>
<tr>
<th>Writing Outcome/Strategies</th>
<th>No. of Cases</th>
<th>Mean</th>
<th>SD</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Usage</td>
<td>High Usage</td>
<td>Low Usage</td>
<td>High Usage</td>
</tr>
<tr>
<td>Listen to and talk about stories they have heard read aloud</td>
<td>16</td>
<td>61.8</td>
<td>10.9</td>
<td>.64</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>59.8</td>
<td>16.4</td>
<td></td>
</tr>
<tr>
<td>Brainstorm and web topics about which they choose to write</td>
<td>9</td>
<td>61.6</td>
<td>15.1</td>
<td>.81</td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>60.2</td>
<td>14.7</td>
<td></td>
</tr>
<tr>
<td>Self-select writing topics which tell stories, share information, or are the basis for a poem or play</td>
<td>27</td>
<td>61.2</td>
<td>15.6</td>
<td>.70</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>59.5</td>
<td>13.3</td>
<td></td>
</tr>
<tr>
<td>Select and use an appropriate prewriting strategy</td>
<td>6</td>
<td>65.5</td>
<td>16.6</td>
<td>.45</td>
</tr>
<tr>
<td></td>
<td>39</td>
<td>59.7</td>
<td>14.34</td>
<td></td>
</tr>
<tr>
<td>Write for a variety of forms such as letters, poems, reports, stories, plays, and responses to literature</td>
<td>10</td>
<td>65.8</td>
<td>11.4</td>
<td>.14</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>59.0</td>
<td>15.16</td>
<td></td>
</tr>
<tr>
<td>Use capitals and punctuation correctly</td>
<td>3</td>
<td>62.9</td>
<td>12.03</td>
<td>.74</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>60.21</td>
<td>15.0</td>
<td></td>
</tr>
<tr>
<td>Use conventional grammar</td>
<td>3</td>
<td>72.3</td>
<td>6.9</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>59.5</td>
<td>14.8</td>
<td></td>
</tr>
</tbody>
</table>

hours, (6) 21–25 hours, (7) 26–30 hours, (8) more than 30 hours, please specify number of hours _______. “Fifth grade building MEAP scores in writing” was
operationalized by reporting the percentage of students achieving proficient for each elementary school building in the study, as reported in the MEAP District and School Proportions Report made available by the Michigan Department of Education.

A one-way analysis of variance (ANOVA) was used to test the null hypothesis that there is no difference between 5th grade building MEAP scores in writing and the duration of each of the staff development opportunities that have been available to teachers to know and understand state and local curriculum documents. Teachers' number of hours spent in each of the staff development opportunities were separated into three groups for the purpose of the analysis. Group 1 includes teachers who have had 0–3 hours of staff development, Group 2 includes teachers who have had 4–10 hours of staff development, and Group 3 includes teachers with 11–32 hours of staff development. The mean MEAP score for each group was compared with the other groups to determine if there was a statistically significant difference among groups. Results of this analysis may be summarized into three groups: first, no statistically significant difference between staff development opportunities and mean MEAP scores, but with higher mean scores for greater number of hours spent in staff development; two, no statistically significant differences between staff development opportunities and mean MEAP scores, but with mixed mean MEAP scores for the number of hours spent in staff development; and three, no statistically significant differences between staff development opportunities and mean MEAP scores, but with an inverse progression of mean MEAP scores for the number of hours spent in staff development. Tables 12, 13, and 14 show the summarized results.

The probability for each staff development opportunity is higher than .05; therefore, the null hypotheses are not rejected, resulting in no statistical difference
Table 12

No Statistically Significant Difference Between Staff Development Opportunities and Mean MEAP Scores, but With Higher Mean MEAP Scores for Greater Number of Hours Spent in Staff Development

<table>
<thead>
<tr>
<th>Staff Dev. Opportunity</th>
<th>Group by Number of Hours</th>
<th>Number</th>
<th>Mean</th>
<th>SD</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall number of hours of in-service training in teaching of writing</td>
<td>&lt; 4 hours</td>
<td>5</td>
<td>58</td>
<td>19</td>
<td>.89</td>
</tr>
<tr>
<td></td>
<td>4-10 hours</td>
<td>10</td>
<td>60</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 11 hours</td>
<td>30</td>
<td>61</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Writing in-service that was teacher specific</td>
<td>&lt; 4 hours</td>
<td>8</td>
<td>59</td>
<td>15</td>
<td>.92</td>
</tr>
<tr>
<td></td>
<td>4-10 hours</td>
<td>19</td>
<td>61</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 11 hours</td>
<td>17</td>
<td>61.4</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Assistance in teaching writing from other teachers in the district</td>
<td>&lt; 4 hours</td>
<td>31</td>
<td>59</td>
<td>16</td>
<td>.73</td>
</tr>
<tr>
<td></td>
<td>4-10 hours</td>
<td>10</td>
<td>63</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 11 hours</td>
<td>3</td>
<td>64</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Observing instruction in other classrooms</td>
<td>&lt; 4 hours</td>
<td>34</td>
<td>59</td>
<td>15</td>
<td>.96</td>
</tr>
<tr>
<td></td>
<td>4-10 hours</td>
<td>8</td>
<td>63</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 11 hours</td>
<td>3</td>
<td>74</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Discussing practical issues that address teaching writing</td>
<td>&lt; 4 hours</td>
<td>20</td>
<td>59</td>
<td>16</td>
<td>.76</td>
</tr>
<tr>
<td></td>
<td>4-10 hours</td>
<td>14</td>
<td>61</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 11 hours</td>
<td>11</td>
<td>63</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

among groups. The conclusion is that the duration of staff development opportunities is not related to 5th grade MEAP scores in writing. There is, however, an increase in the mean 5th grade writing MEAP scores for teachers who experienced progressively more staff development in 5 of the 10 types of staff development examined in the study. Of the remaining 5 types, 4 showed mixed results, with more hours of staff development in at least one of the three groups showing lower mean MEAP scores than teachers with less hours of staff development. One of the 10 types of staff development showed an inverse progression of mean MEAP scores in writing, where the least amount of time spent resulted in progressively higher mean MEAP scores.
Table 13

No Statistically Significant Difference Between Staff Development Opportunities and Mean MEAP Scores, but With Mixed Mean MEAP Scores for the Number of Hours of Spent in Staff Development

<table>
<thead>
<tr>
<th>Staff Development Opportunity</th>
<th>Group by Number of Hours</th>
<th>Number</th>
<th>Mean</th>
<th>SD</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistance in teaching writing</td>
<td>&lt; 4 hours</td>
<td>30</td>
<td>59</td>
<td>15</td>
<td>.58</td>
</tr>
<tr>
<td></td>
<td>4–10 hours</td>
<td>8</td>
<td>65</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 11 hours</td>
<td>6</td>
<td>58</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Participate in building decisions on writing instruction</td>
<td>&lt; 4 hours</td>
<td>20</td>
<td>58</td>
<td>18</td>
<td>.40</td>
</tr>
<tr>
<td></td>
<td>4–10 hours</td>
<td>15</td>
<td>64</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 11 hours</td>
<td>10</td>
<td>61</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Preparing writing materials</td>
<td>&lt; 4 hours</td>
<td>20</td>
<td>61</td>
<td>15</td>
<td>.78</td>
</tr>
<tr>
<td></td>
<td>4–10 hours</td>
<td>13</td>
<td>58</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 11 hours</td>
<td>12</td>
<td>62</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Follow-up in-service or extended training in teaching writing</td>
<td>&lt; 4 hours</td>
<td>26</td>
<td>59</td>
<td>16</td>
<td>.22</td>
</tr>
<tr>
<td></td>
<td>4–10 hours</td>
<td>13</td>
<td>66</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 11 hours</td>
<td>5</td>
<td>55</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Table 14

No Statistically Significant Differences Between Staff Development Opportunities and Mean MEAP Scores, but With an Inverse Progression of Mean MEAP Scores for the Number of Hours Spent in Staff Development

<table>
<thead>
<tr>
<th>Staff Dev. Opportunity</th>
<th>Group by Number of Hours</th>
<th>Number</th>
<th>Mean</th>
<th>SD</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principals' participation in writing in-service training</td>
<td>&lt; 4 hours</td>
<td>23</td>
<td>62</td>
<td>15</td>
<td>.22</td>
</tr>
<tr>
<td></td>
<td>4–10 hours</td>
<td>15</td>
<td>61</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 11 hours</td>
<td>4</td>
<td>49</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

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Summary

The results of this study suggest that there is no statistical significance between teachers' years of experience and the mean MEAP scores in writing of 5th grade students, even though there is a progressive increase in the mean MEAP scores of teachers who have had more years of experience.

The results also indicate that there is no statistical significance between teachers who use the state curriculum documents to plan their lessons and those who do not, although, like the progression in mean MEAP scores in writing for teacher's years of experience, there is an increase in scores for teachers who regularly use the state curriculum documents to plan their lessons as opposed to those who do so either not at all, once or twice, or only occasionally.

There were statistically significant results in 3 of the 16 writing strategies/outcomes recommended in the Michigan Core Curriculum Outcomes, with 7 strategies showing increases in the mean MEAP scores in writing for teachers who reported high use of the instructional strategies, as opposed to those teachers who reported low use of the instructional strategies. Six of the strategies showed higher mean MEAP scores for teachers who reported low use of the strategies.

There were no statistically significant results between the duration of staff development opportunities available for teachers to understand and use the core curriculum outcomes in writing and the mean 5th grade MEAP scores in writing. Of the 10 types of staff development opportunities examined in the study, 5 showed higher mean MEAP scores for teachers who reported more hours in staff development; 4 showed higher mean MEAP scores for teachers who reported fewer hours, as opposed to more hours of staff development; and 1 showed that the mean
5th grade MEAP scores in writing was progressively higher for those teachers who did not experience this type of staff development.

Chapter V will review the operational hypotheses of the study, discuss the results of hypotheses testing, review the limitations of the study, provide conclusions, and make recommendations for further research.
CHAPTER V

DISCUSSION AND RECOMMENDATIONS

Introduction

The purpose of this study has been to determine the extent to which Michigan 5th grade teachers use components of instructional alignment in writing instruction, and then to compare the writing MEAP scores from a sample of 5th grade elementary buildings in Michigan to determine if there was a relationship between writing test scores and (a) teachers' years of experience; (b) the degree to which 5th grade teachers use the *Michigan Model Core Curriculum* in writing, the *Michigan Curriculum Frameworks*, or local documents containing this curricula to plan their lessons; (c) the degree to which teachers perceive they are implementing the strategies recommended in the state documents, and (d) the degree to which specific staff development opportunities have been available to teachers that support the teaching of writing. A questionnaire was used to collect information from 5th grade teachers on these variables; 5th grade writing MEAP scores reported by building were collected using the internet to access the Michigan Department of Education website (http://www.mde.state.mi.us). This website reports Michigan school building scores by percentage of those students in each building receiving Proficient, or Not Yet Proficient. This chapter presents the operational hypotheses of the study, discusses the results of hypothesis testing, reviews the study's limitations, provides conclusions, and makes recommendations for further research and application.
Operational Hypotheses

The following are the operational hypotheses of the study:

1. There is a difference between 5th grade building MEAP scores in writing and teachers who have had few years of teaching experience and teachers who have had many years of teaching experience.

2. There is a difference between 5th grade building MEAP scores in writing and teachers' low use of curriculum documents in writing and teachers high use of state curriculum documents in writing.

3. There is a difference between 5th grade building MEAP scores in writing and in teachers' perceptions of low use of the model core curriculum strategies in writing and in teachers' perceptions of high use of the model core curriculum strategies in writing.

4. There is a difference between 5th grade building MEAP scores in writing and in few hours of staff development in teaching writing and in many hours of staff development in teaching writing.

Discussion of the Results of Hypotheses Testing

Hypothesis 1

Literature on the relationship between teachers' years of experience and student learning as measured through test scores, supports positive correlations between the two variables (Greenwald et al., 1996; Lopez, 1995). Lopez's study of teacher capacity on student achievement concluded that "teacher classroom experience is the most important source of teacher capacity in a student's productive process (Lopez, 1995). The study described a pattern to student achievement in this
relationship. The pattern suggested teachers became most effective after six to seven years of experience, and after 18 to 20 years of teaching, began showing signs of decline. Even in the decline, however, a positive relationship between the variables was maintained. The present study divided teachers' years of experience into three groups for the data analyses considering Lopez's conclusions, and even though no statistical significance was established, the mean MEAP scores in writing showed progressively higher scores between groups. While there was a difference, the difference was not statistically significant, and suggests that while teachers' years of experience is important to the teaching learning process, other variables may be necessary to affect a greater difference. One such variable might be the type of writing instruction that takes place in the classroom, regardless of the teachers' years of experience. Statistically significant variables that will be discussed later point to higher test scores that result from students' understanding of their audience, the writing process, and have an end result in mind. If this is where student learning is greatest, than teachers of any range of years of experience may be able to increase learning by engaging students in these outcomes.

Hypothesis 2

Within the framework of instructional alignment, stated or written educational outcomes are communicated to teachers who then are asked to teach the knowledge or skills stated. Where curriculum documents are used to describe intended instruction there is a positive correlation between this written curriculum and student test scores (Airasian & Madaus, 1983; Calfee, 1983; Leinhardt & Seewald, 1981; Linn, 1983a; Wiley & Yoon, 1995). The relationship between 5th grade MEAP scores in writing and the extent the state curriculum documents in writing or local
curriculum documents containing this curriculum are used by 5th grade teachers to plan their lessons was not statistically significant, even though mean test scores were higher for those teachers who used the state curriculum documents regularly to plan their lessons. Since the state curriculum documents reflect current theory and best practice, it may be that teachers grounded in this research plan their lessons with less reliance on state documents for guidance, and as a result, teach students to use the writing process effectively to produce quality works. This may explain, in part, higher mean MEAP scores in writing without the hypothesized statistical significance. As the statistically significant variables of writing instruction have shown, it is awareness of audience, envisioning an end product, and demonstrating understanding of the writing process that make a difference in 5th grade students' test scores in writing.

Hypothesis 3

Table 5 summarized the results of the relationship between 5th grade writing MEAP scores in writing and teachers' perceptions of how closely they are teaching the model core curriculum strategies in writing for later elementary of which 5th grade is a part. Results were summarized into three categories: statistically significant variables, nonstatistically significant variables, but with higher mean scores for teacher use, and nonstatistically significant variables, but with higher mean scores for teacher nonuse. The statistically significant writing strategies examined in this study share certain features that are noteworthy. In order to see these features more clearly the strategies are listed here again for reference in the discussion.

Teachers will ask students to:

1. Draw pictures and talk stories they wish to tell.
2. Allow time for students to explain how they used the parts of the writing process as published authors in completing their pieces of writing.

3. Prepare and illustrate pieces to share with the broadest possible audience.

These outcomes/strategies for writing instruction share the following features: (a) they involve an audience, either assumed or actual; (b) they involve a vision or mental picture of how the writing will develop; and (c) they involve a structure that secures time for thinking about the subject. The nonsignificant outcomes with higher mean test scores for teacher use, as well as those outcomes with a higher mean test score for teacher nonuse, describe more specific strategies in the writing process, like revision or planning, and do not share these key features in cooperation. One possible conclusion is that understanding specific strategies or outcomes does not result in higher quality writing, rather, it is the cooperation of skills and processes that guide a student’s thinking to produce quality writing. Research by Flower and Hayes and others corroborate this conclusion (Flower & Hayes, 1981; Hillocks, 1986; Perl, 1980). In a synthesis of research on written composition which included the cognitive studies of Flower and Hayes (1981), Hillocks concluded that “writing involves a great deal of planning, that planning involves a lot of production time, and that planning takes place at several levels of abstraction” (Hillocks, 1986, p. 59). The statistically significant variables of this study suggest that teaching to these outcomes encourages cognitive activity that leads to quality writing. These key features in cooperation reflect current understanding of how a writers’ thought processes operate while engaged in the writing task. They allow students to construct meaning by having time to explore their thinking about the subject (Perl, 1981). Students have an audience in mind, and have time to work out what they want to write about through a discussion or drawing. The statistically significant outcome of explaining
parts of the writing process encourages the features of audience and thinking about the subject, but goes beyond to capture the students' awareness of these writing/thinking processes. It is interesting to note that this outcome also carries with it the highest mean MEAP score in writing among the statistically significant variables.

**Hypothesis 4**

There were no statistically significant results between the duration of staff development opportunities available to teachers to understand and use the core curriculum outcomes/strategies in writing and 5th grade mean MEAP scores in writing. Staff development is step three in the instructional alignment conceptual framework, and it is the structure by which the measures and outcomes of the *Michigan Curriculum Framework* and the *Core Curriculum Outcomes* are communicated. Teachers asked to respond to the duration of hours spent in the various forms of staff development in teaching writing may have experienced writing in-service that focused on writing strategies inconsistent with those strategies and writing outcomes recommended in the state curriculum documents. In-service opportunities for teaching writing to 5th grade students is based on the assumption these opportunities are grounded in the best of what we know about teaching and learning. The best we know about teaching and learning writing uses a process approach to writing as recommended in the *Michigan Curriculum Framework* and *Core Curriculum Outcomes*. If in-service opportunities in teaching writing do not communicate these measures and outcomes, then teachers may not have created lesson designs that effectively prepare students to create the quality writing required by the MEAP test. Too, writing in-service may touch upon the core curriculum outcomes and the benchmarks in the *Frameworks*, but do so without communicating.
actual classroom designs that put the strategies into practice. “Current calls for assessment driven reform acknowledge the need for staff development, but tend to underestimate the extent and depth of what is needed” (Shepard, 1995, p. 41).

Understanding what a learner ought to be able to do at the end of instruction provides teachers with the opportunity to sequence learner experiences and events that would prepare the student for the type of performance required by the test (Popham, 1994). Communication of assessment measures and outcomes provides an opportunity for a common and uniform understanding of what students should know, and how students will be tested. One conclusion of the teachers’ self-report of staff development opportunities available to support the teaching of writing, is that in-service opportunities in teaching writing may not be focused on the writing outcomes in the state curriculum documents or how to put best knowledge into practice.

Recommendations

In view of the limitations of this study, it is recommended that this study be replicated within other populations of Michigan K–12 school districts. Class D Michigan school districts would be one such population, where variance in questionnaire responses from more than one 5th grade teacher within the same building would be reduced because the size of the school would typically have only one 5th grade classroom. A second population for this study’s replication would be secondary classrooms in English/writing instruction. Findings from the National Assessment of Educational Progress (Hawkins et al., 1998) report teachers of eighth grade students reported having more knowledge of the National Council of Teachers of Mathematics (NCTM) curriculum and evaluation standards than teachers of fourth grade students. The NCTM standards, like the standards from the National Council
of Teachers of English, support best practice based upon current research. A study at this level and revising the Writing Instruction Questionnaire to include secondary writing strategies/benchmarks from the *Michigan Curriculum Framework* would provide additional information about the learning/teaching connection, and in particular the relationship between test scores and knowledge of the tested curriculum at this grade level.

Replication of this study would also be beneficial within other populations of educators with a commitment toward writing instruction. One such population may be participants of writing projects or extended conferences. Results of such a study might reveal that teachers of writing emphasize and balance parts of the instructional alignment conceptual framework to produce greater results. Teachers with a particular interest in writing instruction may respond differently to the Writing Instruction Questionnaire than other populations of teachers.

The instrument designed for this study was a self-report of teacher use of components of the instructional alignment conceptual framework. Important information may be gained in replication if teacher interviews accompanied this self-report. Interviews may reveal emphases in the alignment process not captured by the Writing Instruction Questionnaire. Additionally, a correlation between interview responses and Writing Instruction Questionnaire responses may reveal similarities or differences in the correlation that recommends one method of data collection over another.

A replication of this study using an observer inventory of the writing strategies in section two of the Writing Instruction Questionnaire may sharpen the precision of the data collected. The frequency and length of each strategy used could
be reported, and when correlated with student MEAP scores, could reveal important recommendations in the teaching/learning process.

An exploration of staff development models and their impact on teacher use of the recommended curriculum and recommended instructional strategies in writing would be worthy of further study. The present study reported 31% of teachers regularly used state curriculum documents to plan their writing instruction. In addition to the degree of curriculum use as influenced by staff development models is the degree of understanding that results, as well as, this understanding's translation into classroom practice. Hopkins' research into teacher personality and school climate (Hopkins, 1990) studied the impact of teacher training on curriculum innovation. Only 20% of the teachers in his study possessed, "an adequate grasp of the details of the curriculum innovation" (Hopkins, 1990, p. 63). One conclusion suggested was that the majority of teachers understood only mechanical levels of instruction, and did not understand the theory and concept behind use. Staff development models that incorporated an understanding of theory, and then theory into practice would be critically important to writing instruction, where the research of Flower and Hayes and others (Flower & Hayes, 1981; Hillocks, 1986; Perl, 1980; Perl & Wilson, 1986) posit the importance of understanding cognitive processes and this understanding's translation into classroom practice.

The impact of principal leadership on staff development and writing instruction is an additional recommendation for study. Table 14 of the present study revealed an inverse progression of mean MEAP scores for the number of hours principals participated in writing in-service with their teachers. The lowest mean MEAP score was 49 for teachers whose principals spent more than 11 hours of time with them in staff development, 61 for 4–10 hours of principal participation, and 62
for less than 4 hours of principal participation. A study that explored situational factors such as the climate of the building, leadership style, or role requirements of teachers and administrators within the building or district, may clarify the cause and effect relationship in this inverse pattern of scores, and provide valuable recommendations for future staff development opportunities for teachers.

The results of the present study suggest a direction for teaching and teacher training. Teachers whose students produced statistically significant results encourage the writing/thinking process. Teachers who are aware of how the writing process takes place because they have experienced it themselves, may better guide students more deliberately through the process, validating the time spent in what Flower and Hayes (1981) called planning, translating, and reviewing. Certainly the research of Perl (1980), in addition to providing a description of the thinking/writing process through protocols, also made those writers aware of their own thinking (Perl & Wilson, 1986). Students in the present study who produced statistically significant results were aware of an audience, envisioned an end product, and demonstrated an understanding of the writing process. In-service settings that involve teachers in the writing process would encourage the type of understanding—and subsequent teaching—that would continue and increase the statistically significant results from this study.
Appendix A

Copy of Letter to Principals to Field Test Questionnaire in the Battle Creek Public Schools
Dear Principal:

I am conducting a research project as part of my doctoral dissertation on instructional alignment and its impact on MEAP scores. I am writing to ask your permission to field test the questionnaire I will use in the study among a sample of 5th grade teachers in the Battle Creek Public Schools.

Specifically, I am interested in 5th grade students' MEAP scores in writing as reported by building in Class C Michigan schools, and these scores' relationship to teachers' years of experience, the degree teachers are using the Michigan Model Core Curriculum in writing (or local documents that reflect the Core), as well as, the degree to which 5th grade teachers perceive they are implementing the Michigan Model Core Curriculum strategies, and the degree to which staff development efforts have been available that support the teaching of writing. The instrument I have designed to collect this information is called the Writing Instruction Questionnaire (WIQ).

Results of the field test will be used to improve the instrument before using it to collect information from 5th grade teachers in class C schools throughout Michigan. Participation would be completely voluntary. Each participant would be asked to complete the questionnaire and answer questions concerning its effectiveness. Only the question and response sheet would be returned to me, and the teacher's name would not appear anywhere on this sheet. The time frame for returning the question and response sheet from the time of its mailing would be one week.

If you have any questions about the study, you may contact me at (616)-965-9546, or the Principal Investigator, Dr. Gary Wegenke, at (616)-387-3889.

If it is agreeable to invite 5th grade teachers in your building to participate in a field test of this study's questionnaire, please sign and return the permission statement to me at Battle Creek Central High School via the school mail. Thank you for your consideration.

Sincerely yours,

John Rasmussen
PERMISSION

I agree to permit John Rasmussen to invite 5th grade teachers in my building to participate in a field test of the Writing Instruction Questionnaire (WIQ).

Signed ___________________________  School ___________________________  Date ___________________________
Appendix B

Copy of Follow-up Letter to Elementary Principals
Inviting Them to Participate in Field Test
Dear Building Principal:

In my previous letter to you, I mentioned I am an administrator in the Battle Creek Public Schools, and a doctoral student in Educational leadership at Western Michigan University. I am conducting a research project as part of my doctoral dissertation on instructional alignment and its impact on MEAP scores. I am writing to ask your permission to field test the questionnaire I will use in the study among a sample of 5th grade teachers in the Battle Creek Public Schools.

Specifically, I am interested in 5th grade students' MEAP scores in writing as reported by buildings in Class C Michigan schools, and these scores' relationship to teachers' years of experience, the degree teachers are using the Michigan Model Core curriculum in writing (or local documents that reflect the Core), as well as the degree to which 5th grade teachers perceive they are implementing the Michigan Model Core Curriculum strategies, and the degree to which staff development efforts have been available that support the teaching of writing. The instrument I have designed to collect this information is called the Writing Instruction Questionnaire (WIQ).

Results of the field test will be used to improve the instrument before using it to collect information from 5th grade teachers in Class C schools throughout Michigan. Participation would be completely voluntary. Each participant would be asked to complete the questionnaire and answer questions concerning its effectiveness. Only the response sheet would be returned to me and the teacher's name would not appear anywhere on this sheet. The time frame for returning the questionnaire and response sheet would be one week.

If you have any questions about the study, you may contact me at (616) 965-9546, or the Principal Investigator, Dr. Gary Wegenke at (616) 387-3889.

If it is agreeable to invite 5th grade teachers in your building to participate in a field test of this study's questionnaire, please sign and return the enclosed permission statement to me at Battle Creek Central High School via the school mail. Thank you for your consideration.

Sincerely yours,

John Rasmussen
PERMISSION

I agree to permit John Rasmussen to invite 5th grade teachers in my building to participate in a field test of the Writing Instruction Questionnaire (WIQ).

__________________________  ______________________  __________
Signed                      School                      Date
Appendix C

Letter to Principals in Field Test With Materials to Invite Their Fifth Grade Teachers to Participate in the Field Test of the Writing Instruction Questionnaire
Dear Building Principal:

Thank you for agreeing to participate in a field test of the questionnaire designed to collect information about instructional alignment and its impact on 5th grade MEAP scores in writing. I have enclosed materials with which to invite your 5th grade teacher to participate in this field test.

Please find enclosed (1) a cover letter to the 5th grade teacher explaining the study and inviting them to participate in the field test, (2) a Writing Instruction Questionnaire, (3) a question and response sheet and (3) an addressed, stamped envelope for the return mailing.

I appreciate your assistance in this study. I believe your 5th grade teacher’s participation will contribute significantly to what we know about teaching and learning.

Sincerely yours,

John Rasmussen
Appendix D

Copy of Follow-up Letter to Principals With Materials to Invite
Their Fifth Grade Teachers to Participate in a Field
Test of the Writing Instruction Questionnaire
Dear Building Principal:

Thank you again for agreeing to participate in a field test of the questionnaire designed to collect information about instructional alignment and its impact on 5th grade MEAP scores in writing. Improving the questionnaire for use is an important part of this study, and your participation in the field test is appreciated.

Please find enclosed a second set of materials for your 5th grade teacher. This includes (1) a cover letter to the 5th grade teacher explaining the study and inviting them to participate in a field test of the questionnaire, (2) a Writing Instruction Questionnaire, (3) a question and response sheet, and (4) an addressed stamped envelope for the return mailing.

I appreciate your assistance in this study. I believe your 5th grade teacher’s participation will contribute significantly to what we know about teaching and learning.

Sincerely yours,

John Rasmussen
Appendix E

Copy of Letter to Fifth Grade Teachers in Field Test
Dear 5th Grade Teacher:

I am conducting a research project as part of my doctoral dissertation at Western Michigan University on instructional alignment and its impact on MEAP scores. I am writing to invite you to assist me in collecting information that I believe will assist our efforts as educators to provide effective writing instruction for our children.

Specifically, I am interested in 5th grade students MEAP scores in writing as reported by buildings in Class C Michigan schools, and these scores' relationship to teachers' years of experience, the degree teachers are using the Michigan Model Core Curriculum in writing (or local documents that reflect the Core), as well as the degree to which 5th grade teachers perceive they are implementing the Michigan Model Core Curriculum strategies, and the degree to which staff development efforts have been available that support the teaching of writing. The instrument I have designed to collect this information is called the Writing Instruction Questionnaire (WIQ).

This questionnaire is comprised of 28 multiple choice questions and one question on teachers' years of experience that will take approximately 10 minutes to answer. Your replies will be confidential, so you are asked not to put your name anywhere on the questionnaire. You may choose to not answer any question and simply leave it blank. If you choose to not participate, you may either return the blank questionnaire or you may discard it. Returning the questionnaire indicates your consent for use of the answers you supply. If you have any questions about the study, you may contact me at (616) 965-9546, or the Principal Investigator, Dr. Gary Wegenke at (616) 387-3889. You may also contact the Vice President for Research, at (616) 387-8293, or the Chair of the Human Subjects Institutional Review Board at (616) 387-8293.

If you would like to participate in this study, please answer the enclosed questionnaire and return it to me in the enclosed stamped and addressed envelope. Thank you for your assistance in this research project.

This consent document has been approved for use for one year by the Human Subjects Institutional Review Board as indicated by the stamped date and signature of the board chair in the upper right corner. You should not participate in this project if the corner does not have a stamped date and signature.

Sincerely yours,

John Rasmussen

enclosures (2)
Appendix F

Copy of Follow-up Letter to Fifth Grade Teachers Inviting Them to Participate in a Field Test of the Writing Instruction Questionnaire
Dear 5th Grade Teacher:

Recently, I sent to your Principal a cover letter and Writing Instruction Questionnaire with which to invite you to participate in a study of instructional alignment and its impact on 5th grade writing MEAP scores. This study is part of my doctoral dissertation at Western Michigan University. I would appreciate your assistance in this study, and am sending this second letter as a follow-up invitation because I believe our 5th grade classrooms are pivotal points in the educational growth of our children, and your participation may contribute increased understanding of how we can assist children’s learning.

Specifically, I am interested in 5th grade students’ MEAP scores in writing as reported by buildings in Class C Michigan schools, and these scores’ relationship to teachers’ years of experience, the degree teachers are using the Michigan Model Core Curriculum in writing (or local documents that reflect the Core), as well as the degree to which 5th grade teachers perceive they are implementing the Michigan Model Core Curriculum strategies, and the degree to which staff development efforts have been available that support the teaching of writing. The instrument I have designed to collect this information is called the Writing Instruction Questionnaire (WIQ).

The questionnaire is comprised of 28 multiple choice and one question concerning teachers’ years of experience, and will take approximately 10 minutes to answer. Your replies will be confidential, so you are asked not to put your name anywhere on the questionnaire. You may choose to not answer any question and simply leave it blank. If you choose to not participate in this questionnaire, you may either return the blank questionnaire or you may discard it. Returning the questionnaire indicates your consent for use of the answers you supply. If you have any questions, you may contact me at (616) 965-9546, or the Principal Investigator, Dr. Gary Wegenke, at (616) 387-3889. You may also contact the Vice President for Research, at (616) 387-8298, or the Chair of the Human Subjects Institutional Review Board at (616) 387-8293.

If you would like to participate in this research project, please answer and return to me the enclosed Writing Instruction Questionnaire in the addressed stamped envelope provided.

This consent document has been approved for use for one year by the Human Subjects Institutional Review Board as indicated by the stamped date and signature of the board chair in the upper right corner. You should not participate in this project if the corner does not have a stamped date and signature.

Sincerely yours,

John Rasmussen

Enclosures: (2)
Appendix G

Copy of Letter to Building Principals Inviting Them to Take Part in the Study and to Grant Permission for the Study
Dear Principal:

I am an administrator in the Battle Creek Public Schools and am conducting a research project as part of my doctoral dissertation on instructional alignment and its impact on MEAP scores. I am writing to ask your permission to invite a 5th grade teacher in your building to participate in the study.

Specifically, I am interested in 5th grade students’ MEAP scores in writing as reported by building in Class C Michigan schools, and these scores’ relationship to the degree teachers are using the Michigan Model Core Curriculum in writing, the Michigan Curriculum Framework, with its Language Arts Standards and Benchmarks, or local documents containing this curriculum, to plan their lessons, as well as, the degree to which 5th grade teachers perceive they are implementing the state document strategies, and the degree to which staff development opportunities have been available that support the teaching of writing. The instrument I have designed to collect this information is called the Writing Instruction Questionnaire (WIQ).

Questionnaire responses and their correlation to building MEAP scores in writing will be confidential. The teacher’s name will not appear on any papers on which this information is recorded.

If it is agreeable to invite a 5th grade teacher in your building to participate in this study, I will send you materials with which to make this invitation. The materials will include an invitational cover letter explaining the study, the Writing Instruction Questionnaire (WIQ), and an addressed stamped envelope for the return.

If you have any questions about the study, you may contact me at (616)-965-6448, or the Principal Investigator, Dr. Gary Wegenke, at (616)-387-3889.

If it is permissible to invite a 5th grade teacher in your building to participate in this study, please sign and return the permission statement below. Thank you for your consideration.

Sincerely yours,

John Rasmussen
PERMISSION

I agree to permit John Rasmussen to invite a 5th grade teacher in my building to participate in a study of instructional alignment and its impact on 5th grade writing MEAP scores.

_____________________________  _______________________________  ____________
Signed                          School                          Date
Appendix H

Copy of Follow up Letter to Building Principals
Inviting Them to Take Part in the Study
Dear Building Principal:

In my previous letter to you, I mentioned I am a doctoral student in Educational Leadership at Western Michigan University, and an administrator in the Battle Creek Public Schools. The enclosed permission form would assist me in studying the relationship of 5th grade building MEAP scores in writing to staff development, use of curriculum materials, and teachers' reports of writing instruction.

I would appreciate your help in collecting information for this study by giving me permission to send you a questionnaire to give to your 5th grade teacher if they wish to participate in this study. The questionnaire takes approximately 10 minutes to complete, and I believe would be valuable in itself by asking your teacher to review his or her beliefs about questions of instructional alignment. I also believe this information will add further support for what best helps children learn, and your teacher would also have the satisfaction of knowing they have contributed to that. Please consider assisting me in this effort. You need only to complete and return the second page of this letter in the stamped and addressed envelope provided. Thank you for your help.

Sincerely yours,

John Rasmussen
Grade Principal, BCCHS

enclosures (1)
PERMISSION

I agree to permit John Rasmussen to invite a 5th grade teacher in my building to participate in a study of instructional alignment and its impact on 5th grade writing MEAP scores.

__________________  __________________  _____________
Signed           School            Date
Appendix I

Copy of Letter to Fifth Grade Teachers Inviting Them to Participate in the Study
Dear 5th Grade Teacher:

I am conducting a research project as part of my doctoral dissertation at Western Michigan University on instructional alignment and its impact on MEAP scores. I am writing to invite you to assist me in collecting information that I believe will assist our efforts as educators to provide effective writing instruction for our children.

Specifically, I am interested in 5th grade students' MEAP scores in writing as reported by buildings in Class C Michigan schools, and these scores' relationship to teachers' years' of experience, the degree teachers are using the Michigan Model Core Curriculum in writing (or local documents that reflect the Core), as well as the degree to which 5th grade teachers perceive they are implementing the Michigan Model Core Curriculum strategies, and the degree to which staff development efforts have been available that support the teaching of writing. The instrument I have designed to collect this information is called the Writing Instruction Questionnaire (WIQ).

This questionnaire is comprised of 28 multiple choice questions and one question on teachers' years of experience that will take approximately 10 minutes to answer. Your replies will be confidential, so you are asked not to put your name anywhere on the questionnaire. You may choose to not answer any question and simply leave it blank. If you choose to not participate, you may either return the blank questionnaire or you may discard it. Returning the questionnaire indicates your consent for use of the answers you supply. If you have any questions about the study, you may contact me at (616) 965-9546, or the Principal Investigator, Dr. Gary Wegenke at (616) 387-3889. You may also contact the Vice President for Research, at (616) 387-8293, or the Chair of the Human Subjects Institutional Review Board at (616) 387-8293.

If you would like to participate in this study, please answer the enclosed questionnaire and return it to me in the enclosed stamped and addressed envelope. Thank you for your assistance in this research project.

This consent document has been approved for use for one year by the Human Subjects Institutional Review Board as indicated by the stamped date and signature of the board chair in the upper right corner. You should not participate in this project if the corner does not have a stamped date and signature.

Sincerely yours,

John Rasmussen
enclosures (2)
Appendix J

Copy of Follow-up Letter to Questionnaire Participants
Dear 5th Grade Teacher:

Recently, I sent to your Principal a cover letter and Writing Instruction Questionnaire with which to invite you to participate in a study of instructional alignment and its impact on 5th grade writing MEAP scores. This study is part of my doctoral dissertation at Western Michigan University. I would appreciate your assistance in this study, and am sending this second letter as a follow-up invitation because I believe our 5th grade classrooms are pivotal points in the educational growth of our children, and your participation may contribute increased understanding of how we can assist children’s learning.

Specifically, I am interested in 5th grade students' MEAP scores in writing as reported by buildings in Class C Michigan schools, and these scores' relationship to teachers' years of experience, the degree teachers are using the Michigan Model Core Curriculum in writing (or local documents that reflect the Core), as well as the degree to which 5th grade teachers perceive they are implementing the Michigan Model Core Curriculum strategies, and the degree to which staff development efforts have been available that support the teaching of writing. The instrument I have designed to collect this information is called the Writing Instruction Questionnaire (WIQ).

The questionnaire is comprised of 28 multiple choice and one question concerning teachers' years of experience, and will take approximately 10 minutes to answer. Your replies will be confidential, so you are asked not to put your name anywhere on the questionnaire. You may choose to not answer any question and simply leave it blank. If you choose to not participate in this questionnaire, you may either return the blank questionnaire or you may discard it. Returning the questionnaire indicates your consent for use of the answers you supply. If you have any questions, you may contact me at (616) 965-9546, or the Principal Investigator, Dr. Gary Wegenke, at (616) 387-3889. You may also contact the Vice President for Research, at (616) 387-8298, or the Chair of the Human Subjects Institutional Review Board at (616) 387-8293.

If you would like to participate in this research project, please answer and return to me the enclosed Writing Instruction Questionnaire in the addressed stamped envelope provided.

This consent document has been approved for use for one year by the Human Subjects Institutional Review Board as indicated by the stamped date and signature of the board chair in the upper right corner. You should not participate in this project if the corner does not have a stamped date and signature.

Sincerely yours,

[Signature]

John Rasmussen

Enclosures: (2)
Appendix K
Copy of Field Test Questions to Fifth Grade Teachers
Dear 5th Grade Teacher:

I would appreciate your help in improving the attached Writing Instruction Questionnaire before it is used in collecting data for a study about writing instruction in Michigan.

Please fill out the enclosed questionnaire and then answer these questions about it.

1. If you completed the questionnaire, how long did it take you?

2. Please recommend changes in words or phrases that would make better sense to other 5th grade teachers. Do this by circling the word and writing your recommended change above it.

3. Would you change the appearance or form of the questionnaire in any way?

4. Make any other comments you think might improve this questionnaire.

Thank you very much for your help in making this research effort more effective.

Sincerely yours,

John Rasmussen
Grade Principal, BCCHS
Appendix L

Writing Instruction Questionnaire (WIQ)
WRITING INSTRUCTION QUESTIONNAIRE

Section One:

Please write the number of years you have been a teacher in the space provided.

1. ___________ Years of teaching.

Section Two: The Writing Curriculum

Please answer the following question by circling 1, 2, 3, or 4.

2. Do you use any of the following documents to plan your writing instruction:
The Michigan Model Core Curriculum Outcomes, the Michigan Curriculum Framework and English Language Arts Content Standards and Working Draft Benchmarks or district documents that contain any of these documents?

Not at all once or twice occasionally always

1 2 3 4

Section Three: Writing Instruction

Please circle 1, 2, 3, or 4, in answer to the following questions.

How often do you ask your fifth grade students to:

3. Draw pictures and talk stories they wish to tell.

1 never
2 once or twice
3 occasionally
4 regularly

4. Listen to and talk about stories they have heard read aloud

1 never
2 once or twice
3 occasionally
4 regularly
5. Brainstorm and web topics about which they choose to write.

1  never
2  once or twice
3  occasionally
4  regularly

6. Self-select writing topics which tell stories, share information, or are the basis for a poem or a play.

1  never
2  once or twice
3  occasionally
4  regularly

7. Select and use an appropriate prewriting strategy such as webbing, brainstorming, discussion, interviewing, or reading and research.

1  never
2  once or twice
3  occasionally
4  regularly

8. Identify the audience and purpose for which the writing is intended.

1  never
2  once or twice
3  occasionally
4  regularly

9. Write for a variety of forms, such as letters, poems, reports, stories, plays, and responses to literature.

1  never
2  once or twice
3  occasionally
4  regularly
10. Add or delete content and correct sequencing of events in order to improve writing.

1  never  
2  once or twice  
3  occasionally  
4  regularly

11. Share their writing with their classmates, ask questions of classmates, and listen to suggestions classmates offer.

1  never  
2  once or twice  
3  occasionally  
4  regularly

12. Give help to and receive help from their peers, and consider the suggestions of peers in revising their writing.

1  never  
2  once or twice  
3  occasionally  
4  frequently

13. Revise pieces based on their own “re-seeing” and on the responses of others.

1  never  
2  once or twice  
3  occasionally  
4  regularly

14. Prepare and illustrate pieces to share with the broadest possible audience?

1  never  
2  once or twice  
3  occasionally  
4  regularly
15. Allow time for students to explain how they used the parts of the writing process as published authors in completing their pieces of writing?

1  never
2  once or twice
3  occasionally
4  regularly

16. Use capitals and punctuation correctly to help the reader read his/her work?

1  never
2  once or twice
3  occasionally
4  regularly

17. Use standard spelling?

1  never
2  once or twice
3  occasionally
4  regularly

18. Use conventional grammar?

1  never
2  once or twice
3  occasionally
4  regularly
Section Four: In-Service Training in Teaching Writing. (Last ten years)

Please circle the number that describes the range of hours you have experienced with the following features of writing in-service training within the last ten years.

19 Overall, I have spent the following number of hours with in-service training in teaching writing.

(number of hours)

1 (0-3) hour(s)
2 (4-6) hours
3 (7-10) hours
4 (11-15) hours
5 (16-20) hours
6 (21-25) hours
7 (26-30) hours
8 (More than 30 hours please specify number of hours __________)

20. Writing in-service that was teacher-specific and something I could use in the classroom.

(number of hours)

1 (0-3) hour(s)
2 (4-6) hours
3 (7-10) hours
4 (11-15) hours
5 (16-20) hours
6 (21-25) hours
7 (26-30) hours
8 (More than 30 hours please specify number of hours __________)
21. Follow-up in-service or extended training in teaching writing.

   (number of hours)
   1 (0-3) hour(s)
   2 (4-6) hours
   3 (7-10) hours
   4 (11-15) hours
   5 (16-20) hours
   6 (21-25) hours
   7 (26-30) hours
   8 (More than 30 hours please specify number of hours _________)

22. Assistance in teaching writing from other people in my building.

   (number of hours)
   1 (0-3) hour(s)
   2 (4-6) hours
   3 (7-10) hours
   4 (11-15) hours
   5 (16-20) hours
   6 (21-25) hours
   7 (26-30) hours
   8 (More than 30 hours please specify number of hours _________)
23. Assistance in teaching writing from other teachers in the district or from curriculum personnel.

(number of hours)

1 (0-3) hour(s)
2 (4-6) hours
3 (7-10) hours
4 (11-15) hours
5 (16-20) hours
6 (21-25) hours
7 (26-30) hours
8 (More than 30 hours please specify number of hours__________)

24. Observing writing projects/lessons in other classrooms, or schools, or other districts.

(number of hours)

1 (0-3) hour(s)
2 (4-6) hours
3 (7-10) hours
4 (11-15) hours
5 (16-20) hours
6 (21-25) hours
7 (26-30) hours
8 (More than 30 hours please specify number of hours__________)

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25. Meeting periodically to discuss practical issues that address teaching writing.
   (number of hours)
   1 (0-3) hour(s)
   2 (4-6) hours
   3 (7-10) hours
   4 (11-15) hours
   5 (16-20) hours
   6 (21-25) hours
   7 (26-30) hours
   8 (More than 30 hours please specify number of hours __________)

26. Participating in your building’s decisions on writing instruction.
   (number of hours)
   1 (0-3) hour(s)
   2 (4-6) hours
   3 (7-10) hours
   4 (11-15) hours
   5 (16-20) hours
   6 (21-25) hours
   7 (26-30) hours
   8 (More than 30 hours please specify number of hours __________)
27. Working in either my building or district to prepare writing materials.
   
   (number of hours)

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28. Principal participation in writing in-service training.
   
   (number of hours)

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Appendix M

Field Test Summary and Results
Field Test Summary and Results

A field test of the Writing Instruction Questionnaire was conducted in the Battle Creek Public Schools on April 10, 2000. The purpose of the field test was to improve the questionnaire before sending it to principals of class C Michigan elementary schools and to invite their 5th grade teachers to participate in the study by completing and returning the questionnaire.

Process

Site permission requests to field test the Writing Instruction Questionnaire were sent to the 16 elementary buildings in the Battle Creek Public Schools. These requests consisted of a cover letter explaining the study and inviting the principals to participate by returning the enclosed permission form. After two weeks a follow-up letter was sent to those principals who had not returned a site permission form. Of the 16 initial mailings, 8 site permission forms were returned. Eight second requests were mailed, and one additional permission form was returned for a total of nine which represented a 52% return rate. These nine site permission forms were included in the application to the Human Subjects Institutional Review Board to conduct the study.

After approval had been received from the Human Subjects Institutional Review Board, invitations to 5th grade teachers to participate in the field test were mailed to principals of those schools who had returned permission forms. There were 14 5th grade teachers in the 9 elementary buildings whose principals had agreed to participate in the field test. The invitation consisted of a cover letter to the principals thanking them for agreeing to participate in the field test, a cover letter to their 5th grade teachers explaining the study and inviting them to participate in the field test by completing the questionnaire and answering questions designed to improve it. Seven teachers returned
response sheets with their comments for improving the Writing Instruction Questionnaire. A follow-up mailing was sent to all 9 buildings after two weeks. Three additional response sheets were returned for a total of 10 response sheets.

A panel of experts consisting of the K-12 Language Arts Coordinator for the Battle Creek Public Schools and the Coordinator for Middle School and 9th Grade Transition were consulted concerning the criteria for changing or modifying the Writing instruction Questionnaire or any of the invitational letters, based upon field test responses. The panel set two criteria for changes: first, that the suggestion for change or modification be logical and make sense to all of the panel members, and second, that more than one teacher contribute to the same recommendation before it is considered for change. The following are the changes or modifications from field test responses for the Writing Instruction Questionnaire that were also approved by the panel of experts.

**Question One**

If you completed the questionnaire, how long did it take you?

**Responses to Question One**

1. 20 minutes
2. 15 minutes
3. 10 minutes
4. 10 minutes
5. 15 minutes

**Changes or Modifications Resulting From Field Test Responses**

The average questionnaire completion time was 13.3 minutes. Since the invitational letter to 5th grade teachers said the questionnaire would take approximately 20 minutes to complete, and the longest it took a 5th grade teacher to complete it was 20 minutes, no changes were made in the invitational letter.
**Question Two**

Please recommend changes in words or phrases that you think would improve the Writing Instruction Questionnaire.

**Responses to Question Two**

1. Section Three: “Specify the time frame: weekly, monthly, within the last 30 instructional days or response two.”

2. Section Three, Question 10: “Do you mean the teacher (me) working with each student individually or as a general part of the revision process?”

3. Section Three, Question 13: “Reseeing” is circled by the field test participant. Next to the circled word is this comment: “I’ve never used this term but they have the opportunity to peer review.”

4. Section Three, Question 14: “I assume ‘illustrate’ means they draw pictures to accompany their writing.”

5. Section Three, Questions 16, 17, and 18: “What do you want with numbers 16, 17, and 18? I stress these things on all written work—shouldn’t I? Do you mean something else?”

6. Section Three: “The number of hours section was difficult to answer.”

7. Section Three, Question 14: “Brodest” is underlined, and the following phrase is written above it: “Use specific audiences that are appropriate for the writing.”

8. Section Four, Question 28: “How would I know what our principal does? This question is in my opinion not an appropriate one for this questionnaire.”

9. Section Four, Question 28: “You must be joking!”

10. Section Four, Question 8: under “more than 30 hours please specify” there is question mark and the teacher has written “Learning Network Training.”
Changes or Modifications Resulting From Teachers’ Recommending Changes in Words or Phrases That Would Improve the Writing Instruction Questionnaire

The panel of experts recommended adding “number of hours” to the end of stem 8 in section 4 to add further clarity to the question. This change met the criteria established by the panel of experts that the addition was logical, and ambiguity concerning this question had been expressed by more than one teacher. The revised stem 8 in section 4 was changed to read, “More than 30 hours please specify number of hours.”

Question Three

Would you change the appearance or form of the questionnaire in any way?

Responses to Question Three

1. “No.”
2. “Put all the answers to the question on the same page”
   “No.”
   “Avoid spreading choices over two pages: number 9, 5, 16, 20, 22, and 27.”

Changes or Modifications Resulting From Teachers’ Recommending Changes in the Form or the Appearance of the Writing Instruction Questionnaire

Two teachers recommended putting questions with response choices all on the same page instead of splitting the questions and the responses between pages. This change was logical to the panel and more than one teacher had contributed to the recommendation, so the Writing Instruction Questionnaire was revised so that all questions and their response choices appeared on the same page.

Question Four

Make any other comments you think might improve this questionnaire.
Responses to Question Four

1. “I have done so on the document.”

2. “Remembering back 10 years was difficult—may impact accuracy.”

Changes or Modifications Resulting From Teachers’ Recommending Any Other Comments That Might Improve the Writing Instruction Questionnaire

There were no duplicate responses from teachers in Question Four, therefore no changes or modifications were made.
Appendix N

Copy of Letter of Approval From the Human Subjects Institutional Review Board
Date: 31 March 2000

To: Gary Wegenke, Principal Investigator
    John Rasmussen, Student Investigator for dissertation

From: Sylvia Culp, Chair

Re: HSIRB Project Number 00-02-15

This letter will serve as confirmation that your research project entitled "Instructional Alignment and 5th Grade Writing MEAP Scores" has been approved under the expedited category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may only conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: 31 March 2001
BIBLIOGRAPHY


Presentations at the 1996 National Convention of the Association for Educational Communications and Technology. (ERIC Document Reproduction Service No. ED 397 810)


