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Lisa Hilberg

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An Examination of the Relationship Between Teacher Performance Evaluation System

Ratings and Student Achievement

by

Lisa Hilberg

Dissertation

Submitted to the Department of Leadership and Counseling

Eastern Michigan University

in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Education Leadership

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Ypsilanti, Michigan

Dedication

With sincere gratitude, I dedicate this research project to so many who have inspired me.

Many thanks to the following people:

- My students throughout the years—I’ve learned as much from you as you have learned (I hope!) from me.
- Rob and Jane, Gina and Brooke—your faith, both in God and in me, have been my pillar.
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Abstract

This study was guided by the question: Is there a statistically significant relationship between the teacher evaluation tool (using the summative ratings of teacher evaluations from the 2015–2016 and 2016–2017 school years for teachers of Grades K-5 using the Danielson Framework for Teaching model, 2007) and student achievement (as measured using the Northwest Evaluation System (NWEA) Measures of Academic Progress (MAP) in that same period of time) in a selected Michigan school district?

Quantitative methods and a Spearman correlation were utilized to determine if there was a positive, negative, or no relationship between the independent variable, teacher evaluation ratings, and the dependent variable, NWEA MAP scores. The evaluation data of 69 teachers of Grades K-5 in the six elementary schools in the school district were drawn from the summative evaluation rubrics using the Danielson Framework for Teaching. Student data were NWEA MAP scores in reading, mathematics, and English language arts for the 2015–2016 and 2016–2017 school years. Student data were tied only to the instructor and no other variable. Ten administrators conducted teacher observations and valuated teachers using the Danielson Framework.

Spearman correlations for the 12 NWEA RIT scores with the four teacher effectiveness ratings—highly effective, effective, minimally effective, and ineffective—compared all effectiveness ratings with student achievement for the 2015–2016 and 2016–2017 school years. Correlations were also conducted comparing just highly effectiveness ratings with student achievement for the 2015–2016 and 2016–2017 school years. None of the 48 correlations were significant at the $p < .05$ level; thus, in this Michigan school district, no relationship was found between the teacher evaluation tool and student achievement.

Table of Contents

Dedication.....	ii
Acknowledgments.....	iii
Abstract.....	iv
List of Tables.....	ix
Chapter 1: Introduction and Background.....	1
Statement of Problem.....	4
Purpose of the Study	5
Research Question	5
Methods.....	6
Definition of Terms and Acronyms	6
Delimitations.....	8
Limitations	8
Significance of Study.....	9
Summary	11
Chapter 2: Review of Literature	12
The Need for Great Teaching	12
Purpose of Teacher Evaluations.....	13
Impact of Teacher Evaluations on Student Performance.....	13
Criteria for an Effective Teacher Evaluation System	15
History of Teacher Evaluations; Legislative Timeline; Federal and State Policy	16
Michigan Legislation	22

The Four Evaluation Frameworks	39
Conceptual Framework	42
Summary	47
Chapter 3: Research Design and Methods	49
Research Question	56
Data Collection Process	56
Instrumentation	57
Method of Analysis	57
Validity and Reliability	58
Summary	59
Chapter 4: Findings	60
Introduction	60
Descriptive Statistics	61
Answering the Research Question	65
Conclusion	67
Chapter 5: Discussion and Conclusions	68
Introduction	68
Statement of the Problem	68
Purpose of the Study	68
Significance of the Study	69
Research Question	69
Methods	69
Summary of Findings	70

Comparison of Results to the Literature	70
Policy Recommendations.....	75
Practitioner Recommendations	77
Recommendations for Future Research.....	78
Final Summary.....	80
References.....	81
Appendices.....	91
Appendix A: University Research Human Subjects Committee Approval.....	92
Appendix B: Legislative Timeline.....	93
Appendix C: Sec. 1249 of the Revised School Code. SB 981, Public Act 205.....	100
Appendix D: Sec. 1250 of the Revised School Code. SB 981, Public Act 205	101
Appendix E: Senate Bill 926, Public Act 203 of 2009	102
Appendix F: Sections 94(a), and 94(h-j) of the SB 926, Public Act 203	103
Appendix G: House Bill 4625, Public Act 101 of 2011, Articles II and III.....	104
Appendix H: Section 1249c, House Bill 4627, Public Act 102 of 2011	106
Appendix I: Staff Reductions, Sec. 1248, HB 4627	107
Appendix J: Student growth linked to teacher performance, Sec. 1248, HB 4627	108
Appendix K: Year-end Review and Mid-year Progress Report, HB 4627.....	109
Appendix L: Classroom observation, Sec 1249, HB 4627	110
Appendix M: Requirement for teacher evaluation system and exemption, HB 4626	111
Appendix N: Michigan Council for Educator Effectiveness, HB 4627.....	112
Appendix O: Written notice to parents, HB 4627, Sec. 1249a.....	114
Appendix P: Topics prohibited from collective bargaining. HB4628, PA103 or 2011..	115

Appendix Q: SB 817, PA 251. Reversed expectations for evaluations to 2012-2013....	116
Appendix R: NWEA Student Status Norms	118
Appendix S: 2015–2016 Evaluation System	119
Appendix T: 2015–16 and 2016–17 Student Scores for Language, Reading, and Mathematics, and Teacher Effectiveness Ratings.....	121

List of Tables

Table	Title	Page
1.	Influences on Teacher Evaluations, Teacher Proficiency Rating and Student Achievement Factors.....	44
2.	Rubrics Used for the 2015–2016 Performance Evaluations	55
3.	Descriptive Statistics for 2015–2016 NWEA RIT Scores ($N = 69$).....	62
4.	Descriptive Statistics for 2016–2017 NWEA RIT Scores ($N = 69$).....	63
5.	Frequency Counts for Teacher Effectiveness Variables ($N = 69$).....	64
6.	Spearman Correlations for NWEA RIT Scores with Effectiveness Ratings ($N = 69$).....	66

Chapter 1: Introduction and Background

In recent years, student achievement and teacher evaluations have been at the forefront of educational policy. This is due, in part, to two pieces of reform legislation—Race to the Top (RT3, 2011) and No Child Left Behind (NCLB, 2001). Student growth and improving instruction were primary goals of the Obama administration’s 2009 Race to the Top competitive grant. George W. Bush’s 2002 No Child Left Behind legislation focused on moving all students forward by 2014, with a focus on student achievement. Many states, including Michigan, found the need to extend NCLB deadlines and applied for waivers for the extension. Rigorous teacher evaluations were a condition of this waiver. As a result of Race to the Top and No Child Left Behind, teacher evaluations and student achievement have been a major focus of Michigan’s legislative actions.

Researchers Goodwin and Webb (2014) stated, “Thirty-seven states made significant changes to teacher evaluation policies between 2009 and 2013” (p. 1). Heitin (2011) noted that policy-makers aggressively enacted teacher-related reforms, and the process continued throughout the country (p. 2). Recently, consistent with national trends, Michigan law swiftly changed the teacher evaluation process.

Zdeb-Roper (2013) summarized notes from Thrun Law Firm and stated that, according to Subsection 1249 of the Revised School Code, Michigan teacher evaluations must evaluate and provide feedback every year, take student growth into consideration, use several measures for student growth, use “four rating categories (highly effective, effective, minimally effective, and ineffective” (p. 1), and use evaluations to make opportunities for growth when needed. Regulations in the 2013–2014 school year stipulated that “at least all annual year-end evaluation for all teachers” and “at least 25% of the annual year-end

evaluation must be based on student growth and assessment data (p. 2). This increased to at least 40% for the 2014–2015 school year and 50% for the 2015–2016 school year” according to Zdeb-Roper’s (2013) summary. Michigan school districts have been trying to keep up with the moving target of teacher evaluation legislative actions.

Danielson (2012) explained that the rationale for teacher evaluation is public money spent for public schools and the right of the tax-payer to expect high-quality teaching (p. 22). According to Danielson, beyond the basic purpose, a second reason to evaluate teachers is to promote professional development (p. 23).

Teacher evaluations have been shown to produce positive results. Taylor and Tyler’s (2012) found benefits of teacher evaluation include higher productivity, as new information about performance leads to new skills, increased effort, or both (p. 3629).

Even the experts struggled with how to measure student growth. Danielson, in an e-mail to the researcher, said the following:

These are serious challenges, and I can guarantee to you that no one has figured out how to do it reliably and fairly. And, as even measurement experts will attest, using standardized tests—whether commercial ones or state tests—are highly unreliable for purposes of teacher accountability. However, when based on classroom evidence, looking at such evidence can lead to important conversations about student learning. And when conducted with teams of teachers, these conversations are richer still.

(personal communication, March 4, 2011)

In this discussion, Danielson recommends that teachers work together at the building level to measure student growth by gathering and monitoring data indicative of student achievement.

The Michigan Council on Educator Effectiveness (MCEE, 2013) made their recommendations on the teacher evaluation process in July 2013 in *Building an Improvement-Focused System of Educator Evaluation in Michigan: Final Recommendations*. The evaluation of teacher performance was based upon practice and student growth. Practice evaluation mandates included multiple classroom observations during the school year using one of four piloted models for observation: Charlotte Danielson’s Framework for Teaching, Marzano Teacher Evaluation Model, The Thoughtful Classroom, or 5 Dimensions of Teaching and Learning. Training was provided for the administrator in the use of the selected tool also included training in coaching and offering feedback to teachers.

Evaluation of student growth continued to focus on assessment linked to statewide core content standards in English language arts, mathematics, science and social studies but allowed for evaluation of locally developed assessments. The council’s recommendations included the concept of state-produced, value-added modeling (VAM) scores for teachers on state assessments in core subjects, which could be used in the teachers’ evaluation.

Schools across Michigan quickly implemented plans to move toward the council’s recommendations. However, legislation has not completely embraced the council’s recommendations.

During the summer of 2013, a school district selected as a participant in this study, quickly executed and implemented a plan for teacher evaluations for the 2013–2014 school year that was aligned to the MCEE recommendations. During the next few years, the district remained apprised of legislative mandates as they came into effect and created a teacher evaluation system that complied with the laws. The details of these plans follow in the

methods chapter of this study. This evaluation system was used during the 2015–2016 and 2016–2017 school years, which is the period of focus for this study.

Statement of Problem

Teacher evaluations have had many challenges as the perception, accuracy, correlation to good teaching, cost, and politics of teacher evaluations have all been called into question. Critics included Peterson (2000), who reviewed several years of literature and found that teacher evaluations “do not improve teachers” (p. 18). Epstein (1985) echoed Scriven’s (1981) comments about the lack of clarity in teacher evaluation and, according to Scriven (1981), a disaster. Others researchers, including Medley and Coker (1987), Darling-Hammond, Wise, and Pease (1983), and Kimball (2001) lamented that evaluation of educational personnel decisions lacked , reliability, or validity, and that teachers assigned no credibility to the value of evaluations upon their practice or r student achievement.

The accuracy of teacher evaluations has also been called into question. Peterson (2000) found that classroom practice is not accurately reflected in teacher evaluations. Medley and Coker (1987) determined little relevance between teacher evaluations and effectiveness (p. 242). Kimball and Milanowski (2009) noted lack of consistency in the relationship between teacher evaluation ratings and student achievement scores, and Peterson (2000) pointed out that the failure to determine an effective system of evaluation imposes a high cost for the public who makes decisions based on information.

Berube and Dexter (2006) noted the dual role of building principals who are required to guide teachers toward greater classroom effectiveness and, at the same time, hold teachers accountable for student achievement. In the teacher evaluation process, principals have been faced with the challenge of supporting teacher development, the teachers’ formative

assessment, while at the same time holding them accountable for student achievement, the teachers' summative assessment. These measures are used to inform personnel decisions. The problem presented in this study was that it is unknown whether teacher evaluation tools are valid in relation to student achievement. In the past, teacher evaluations have varied, and student performance was not necessarily a primary focus or was absent from teacher evaluations. Student achievement has become a political focus in education. Recent legislation has echoed public pressure to make student growth a priority. Because teacher evaluations have the potential to be subjective, and the high-stakes decision is now attached to teacher evaluations, it has become important to determine whether a teacher is producing results. Examining the relationship between teacher evaluation ratings and student test scores offered some insight to the validity and reliability of the teacher evaluation process in a selected school district.

Purpose of the Study

The purpose of this quantitative study was to determine if a relationship existed between teacher proficiency, as measured by the teacher performance evaluation system rating, using the Danielson Framework for Teaching, and student achievement, as measured by the Northwest Evaluation System's (NWEA's) Measures of Academic Progress (MAP) test. Does good teaching produce greater student achievement? Can teacher performance (evaluation rating) predict an NWEA MAP score? This study measured results in a selected school district at the elementary level as a single case study.

Research Question

This study was guided by the following question: Is there a statistically significant relationship between the teacher evaluation tool (using the summative ratings of teacher

evaluations from the 2015–2016 and 2016–2017 school years for teachers of Grades K-5 using the Danielson Framework for Teaching model) and student achievement (as measured using the NWEA MAP) as measured in a selected Michigan school district?

Methods

During the 2015–2016 and 2016–2017 school years, teachers from a selected Northern Michigan school district were evaluated by principals using the Danielson (2007) Framework for Teaching. During this same period, students were administered the NWEA MAP test in Grades K-5. To maintain confidentiality and anonymity and prevent bias, teacher names were coded by a confidential human resources employee for the district, who entered both teacher ratings and student test scores of the coded teachers' numbers into SPSS statistics software. The researcher plotted the teacher ratings against the NWEA MAP scores to determine if there was a relationship. The conduct of this study commenced with approval of the University Human Subjects Review Committee (see Appendix A).

Definition of Terms and Acronyms

- *Elementary School*—for the purposes of this study, a school encompassing Grades K-5.
- *ESEA (1965)*—Elementary and Secondary Education Act, a comprehensive federal education program, including Title I that established federal aid to disadvantaged. Congress called ESEA President Lyndon B. Johnson's War on Poverty.
- *ESSA (2015)*—Every Student Succeeds Act. Federal legislation that steps back from micromanagement of education and ends Adequate Yearly Progress (AYP).
- *Formal Evaluation*— an observation that is greater than or equal to 30 minutes in duration. The principal checks over the lesson plan during this observation.

- *Goals 2000*—Educate America Act of 1994. Appropriated federal funds to states to help them develop rigorous standards and implement programs of reform and higher achievement.
- *A Nation at Risk*—1983 Report of a Federal Blue Ribbon Commission on the status of American education.
- *NCLB*—No Child Left Behind Act of 2001, 20 U. S. C. § 6319. Federal legislation led to statewide testing, teacher performance review and Adequate Yearly Progress (AYP).
- *NDEA*—1958 National Defense Education Act. In response to Russian satellite, Sputnik, in 1957, the federal government provided funds for math, science, and foreign language.
- *NWEA*—Northwest Evaluation Association, Portland, OR, measures of academic progress.
- *OECD*—the International Organization for Economic Co-operation and Development. For more than 50 years, the OECD has been a valuable source of policy analysis and internationally comparable statistical, economic, and social data.
- *PISA*— as a function of the OECD, the Programme for International Student Assessment (PISA) is a triennial international survey, which aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students.
- *Race to the Top* (2009)—A federal program enacted in as part of the American Recovery and Reinvestment Act (ARRA) that established Common Core standards, and included teacher and administrator evaluation systems.

- *Rasch Unit Scale (RIT)*—an achievement scale, accurate, equal interval, useful for measuring growth over time, the same regardless of the grade or age of the student. *Student Achievement*—According to Douglas (2013), a measure of student knowledge at a point in time against a standard.
- *Student Growth*—a measurable change in student knowledge over time.
- *Title I*— – section of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6301 et seq.) Annually, Title I provides over \$14 billion to school systems across the country for students at risk of failure and living at or near poverty.
- *Walk-through*—a class visitation that is less than 15 minutes for the purpose of observing what is happening in the building and classrooms.

Delimitations

Delimitations are restrictions in the study imposed by the researcher, which are boundaries within the researcher’s control and, in a quantitative study, limit generalizations. There were several delimitations to this research. This was a two-year study, conducted in one school district. This study involved only the elementary level, Grades K-5, and took place in a rural setting. The schools were not randomly selected. The researcher used only the NWEA MAP to measure student achievement, recognizing that it is not the only measure of academic achievement.

Limitations

Limitations are the factors in a study over which the researcher has no control. This investigation had several limitations. First, many classrooms involved in this study had teachers who were team-teaching; thus, not every teacher taught every subject, and student scores were reported by students’ homeroom teacher, not necessarily the teacher who taught

the subject area. Second, not all principals had completed observer training yet; thus, some principals were not certified observers. The observer training would have offered more reliability to the teacher ratings. Third, when measuring student achievement, the NWEA MAP scores did not take into consideration class size and team-teaching.

The research findings cannot be generalized to all schools and grade levels because this study was limited to Grades K-5 in the elementary level in one rural school district. The sample in this study may be reflective of northern Michigan rural counties, but may not be reflective of larger urban environments such as Detroit and Grand Rapids or suburbs to other larger cities.

Significance of Study

Why do teachers, teacher evaluations, and student growth matter? The MCEE (2017) reported that “teachers are the single most important school-related factor in a child’s education.” In 2012, the Public’s Agenda for Public Education, produced by The Center for Michigan, a nonpartisan group, surveyed residents in Michigan on several education topics. For full disclosure, it should be noted that the researcher and her husband were a part of the polling group. The Center for Michigan found that 69% of respondents reported it important or crucial to hold educators more accountable for improving student learning outcomes. Recognizing the need for a more systematic way to measure teacher effectiveness, the Michigan legislature developed a plan that would benefit the 1.5 million students in the state.

Michigan has put some weight into its belief that teacher evaluations needed an overhaul. In June 2011, Michigan invested \$4.9 million and appointed the Michigan Council for Educator Effectiveness (MCEE) to make recommendations for the teacher evaluation

system in Michigan. This monetary commitment and appointment demonstrated that the state was dedicated to a teacher evaluation renovation.

Researchers Stronge and Tucker (2003) said that teacher evaluation conversations need to be at the forefront because “without high quality evaluation systems, we cannot know if we have high quality teachers”(p. 3). Recently, Michigan legislators called upon school districts to reform the way in which they evaluate teachers. Legislation, which has called for contributing factors of both teacher performance and student achievement to determine the rating assigned to a teacher, established the need to study the relationship of these two variables.

The data gathered by The Center for Michigan and the work of the Michigan Council for Educator Effectiveness (MCEE) initiated a wide-ranging conversation that could inform and guide decisions at the state level about teacher evaluations. Many stakeholders were involved in the discussion on teacher evaluations. Mowrer (2014) asserted that “There are many competing voices in this debate. Unions, professional groups, politicians, policy-makers, private evaluation developers, and researchers want a say in how teachers are evaluated. So, it is challenging to reach consensus on the best steps to improve schools and student performance by utilizing teacher evaluations” (p. 1). The results of this study are available to inform stakeholders.

The findings of this study provided information to school districts, schools, teachers, principals, administrators, school boards, unions, professional groups, the Michigan Department of Education, private evaluation developers, researchers, and legislators using the teacher evaluation rating in relation to student growth. Findings of this study will help them to determine whether what they perceive/observe as good teaching (based on the ratings

of the teacher evaluation tool) is indeed good teaching by producing positive student outcomes. A positive correlation between the teacher evaluation rating and student growth would validate the administrator's rating of the teacher. A negative correlation would raise questions as to the reliability and validity of the teacher evaluation rating.

Summary

A background to teacher evaluations and reform efforts at both the national and state levels were introduced in Chapter 1. Statement of the problem, purpose of the study and the research question are discussed along with definitions, limitations, and the significance of the study. Chapter 2 includes a review of pertinent literature, history of teacher evaluations, legislative timeline, federal and state policy, and relevant Michigan legislation. The design of this study and details of methods for data collection and analysis are discussed in Chapter 3. Findings of the study comprise Chapter 4. A discussion of key findings and comparison of findings to the literature are included in Chapter 5 along with recommendations for policy and practice and future research.

Chapter 2: Review of Literature

Much has been published about teacher evaluations. Discussion in this chapter will include the need for great teaching, the purpose of teacher evaluations, the impact of teacher evaluations on student performance, criteria for an effective teacher evaluation system, approaches to teacher evaluations, and the history of teacher evaluations. The history includes a legislative timeline of federal and state policies, and discussion on the National Defense Education Act (NDEA), Sputnik, test scores, the Elementary and Secondary Education Act, the Reauthorization of the Elementary and Secondary Education Act, No Child Left Behind, *A Nation at Risk*, Goals 2000, Race to the Top, and Every Student Succeeds Act. The recommendations of the Michigan Council on Educator Effectiveness will be discussed. Four legislative-approved teacher evaluation frameworks will be presented, followed by the conceptual framework for this study.

The Need for Great Teaching

Student achievement has been closely monitored over the last few years, as test scores of students in the United States trail behind other countries. The Programme for International Student Assessment (PISA, 2012) test scores for 2012 indicated that the United States ranked 27th (an estimate taking into account sampling and measurement error) in mathematics out of the 34 Organization for Economic Co-operation and Development (OECD) countries. In the same test, Americans ranked 17th in reading and 20th in science. These scores have generated discussions on how to improve student achievement in the United States. Teacher quality and teacher evaluations are often a part of these conversations.

Purpose of Teacher Evaluations

The review of literature revealed great interest in the purposes of teacher evaluations. Chronologically, Wise, Darling-Hammond, McLaughlin, and Bernstein, (1984) noted the benefits of teacher evaluations for staff development and school improvement and furthered accountability in personnel and school status decisions (p. v). Danielson and McGreal (2000) concurred that teacher evaluations factored into quality assurance and professional development (p. 8). Beerens (2000) agreed that teacher evaluation could improve teacher effectiveness and encourage professional growth, but added a purpose to remediate or eliminate weak teachers (p. 9). Robert Marzano (2012) said that teacher evaluations need to both measure and develop teachers.

Impact of Teacher Evaluations on Student Performance

In *The Research Findings* from the Tennessee Value-Added Assessment System (TVAAS), Sanders and Horn (1998) found that “a component linking teacher effectiveness to student outcomes is a necessary part of any effective educational evaluation system” (p. 247). Research exists highlighting the importance of quality teaching and that teachers impact student achievement. In *What Matters Most: Teaching for America’s Future*, the National Commission on Teaching and America’s Future (1996) reported on the importance of teacher expertise in student achievement. Wright, Horn, and Sanders (1997) noted, and Beerens (2000) concurred that decades of research that began in the early 1980s confirmed that student achievement is predominantly attributable to teacher expertise (p. 6).

More recently, Ulug, Ozden, and Eryilmaz (2011) said that, ranked just behind parents, teachers are the second most important variable influencing student development.

Sanders and Rivers (1996) delved deeper and examined teacher effectiveness levels and student achievement levels.

Regardless of initial achievement level, teachers in the top quintile facilitated desirable academic progress for all students. However, regardless of their entering achievement levels, students under the tutelage of teachers in the bottom quintile made unsatisfactory gains. As the teacher effectiveness quintile increased, lower achieving students were first to benefit, followed by average students and, lastly, by students considerably above average. (p. 6)

These research findings suggested that efforts to determine effective methods of teacher evaluation and to reliably measure student growth could inform and guide personnel decisions and classroom assignment.

The effects of teacher quality can be long-term. Tucker and Stronge (2005) determined that “Not only does teacher *quality* matter when it comes to how much students learn, but also that, for better or worse, a teacher’s *effectiveness* stays with students for years to come” (p. 5). In essence, these writings of Sanders and Rivers (1996) and Tucker and Strong (2005) concurred that students who have had effective teachers for several years have higher achievement than students who have not had effective teachers. These findings justify the importance of determining teacher effectiveness and commitment of schools to conduct meaningful staff development to maintain high quality instruction and improve practice at all stages of teacher employment.

Teacher quality trumps the importance of class size, race, and socioeconomic status factors in relation to student achievement. Goldhaber (2010) and others were emphatic about the value of high-quality instruction, suggesting that a very good teacher could account for or

high annual student achievement levels or make up deficits, and particularly in elementary settings, exemplary teachers could provide a solid academic foundation that could overcome test-score gaps and disadvantages attributed to low socio-economic communities (Gordon, Kane, & Staiger (2006); Rivkin, Hanushek, & Kain (2005).

Criteria for an Effective Teacher Evaluation System

Researchers Darling-Hammond, Cook, Jaquith, and Hamilton (2012) outlined seven criteria for an effective teacher evaluation system:

1. Teacher evaluation should be based on professional teaching standards.
2. Evaluations should include multi-faceted evidence of teacher practice, student learning and professional contributions.
3. Evaluators should be knowledgeable about instruction and well trained in the evaluation system.
4. Evaluation should be accompanied by useful feedback and connected to professional development opportunities.
5. The evaluation system should value and encourage teacher collaboration.
6. Expert teachers should be part of the assistance and review process.
7. Panels of teachers and administrators should oversee the evaluation process to ensure that (the process is) fair and reliable (pp. iii-iv).

Darling-Hammond et al. (1983) categorized eight approaches to teacher evaluation: interviews, competency tests, indirect measures, classroom observation, student ratings, peer review, student achievement, and faculty self-evaluations. These approaches assess teacher effectiveness (outcome), competence (quality), and performance (teaching).

The Widget Effect. Recognizing that there is a variation in teacher effectiveness, and that teacher evaluations failed to offer accurate information about teacher performance led to a report called *The Widget Effect*, which encompassed 12 school districts, including about 15,000 teachers and 1,300 administrators, across four states: Arkansas, Colorado, Illinois and Ohio (Weisberg, Sexton, Mulhern, & Keeling, 2011). The report found many similarities involving teacher evaluations across the districts. Teacher performance was not differentiated among teachers—the report stated that more than 99% of teachers received satisfactory ratings. Kane and Staiger (2012) noted those statistics and recommended plan for the conduct of effective observation as part of evaluation and feedback to address disparity in student achievement. Because so many teachers were rated satisfactory, the excellent teachers were not recognized. Teacher performance was viewed as satisfactory and they were not told about areas in need of development, which resulted in inadequate professional development. Not enough attention was given to new teachers. Districts did not address the problem of poor performing teachers. In response to the imperfections found in the *Widget Effect* of the teacher evaluation process, The New Teacher Project (2010) proposed six design standards for teacher evaluations, which included annual evaluations, rigorous standards, multiple measures including student growth, multiple ratings, regular feedback, and significance.

History of Teacher Evaluations; Legislative Timeline; Federal and State Policy

The history of teacher evaluations and student growth involves global competition, testing information, and legislative action. These factors will be discussed in chronological order.

Supervision. Development of supervision of the field of education proceeded slowly. In colonial New England, local citizens were chosen to monitor teaching and learning. During the 1830s, city populations grew and teacher inspections of curriculum and student recitation that were formerly done by superintendents were delegated to principals (Supervision of Instruction, n.d.).

Oliva (1993) described six supervisory periods as teacher evaluations emerged. During the first period, from 1620 to 1850, teacher evaluations were based on a teacher following rules. This compliance, assessed by parents, clergy, and citizens, determined continued employment. The next period, from 1850 until 1910, was also based on compliance but also included goals to improve teachers' practice; superintendents and principals were the evaluators. During the third period, from 1910 to 1930, evaluators comprised of principals and central office personnel used a scientific approach. During the fourth period, between 1930 and 1950, as social sciences came to the forefront, human relations were recognized in teacher evaluations; teachers and administrators worked collaboratively to improve teacher practices. From 1950 until 1980, the fifth period, teacher evaluations involved a combination of previous practices. In the sixth period, from 1980 until the present time, evaluations have been performed by central office personnel, peers, and principals; previous practices have been utilized, including peer-coaching and mentoring.

During the 20th century, opinions varied about the approach of a teacher evaluation. Some believed the tool should be uniform and scientific, whereas others thought it should be a flexible process between the teacher and the administrator. In 1969, Goldhammer (1969) laid out five steps of a teacher evaluation. These steps include a pre-observation conference, a classroom observation, a supervisor's notes and preparation for the post-observation

conference, a post-observation, and a supervisor's notes of the post-observation conference (Supervision of Instruction, n. d.).

Sputnik. The 1957 Soviet launch of the first man-made satellite, Sputnik, during the Cold War brought about competitive fear in the United States. Flemming (1960) noted that the launch of Sputnik “had positive consequences. It awakened and spurred us into rigorous self-examination of our total educational system” (p. 134). American response to Sputnik was swift, and the U.S. Congress responded by passing the National Defense Education Act (NDEA), pouring funding into education. The satellite launch also brought attention to American education and where the United States ranked in the world. Educators began to formalize procedures, and post-Sputnik, Madeline Hunter (1994) created the Instructional Theory into Practice (ITIP) as a lesson plan design for effective instruction.

Standardized testing. Measurement of U.S. students' performance was based on standardized testing. The Michigan Educational Assessment Program (MEAP) is a standardized test that was first administered in Michigan during the 1969–1970 school year. The MEAP tested students in five content areas: mathematics, reading, science, social studies, and writing. Standerfer (2006) reported that the National Assessment of Educational Progress (NAEP) test came about in the late 1960s “as a way to assess student learning” . . . the intent was to measure how schools were performing, in general, not to make “comparisons between specific states or schools” (p. 26).

During the 2014–2015 school year, Michigan students began taking the M-STEP test. (Michigan Department of Education, 2017). Measuring student progress against state standards, this primarily online test is given to students in Grades 3–8 covering math, English language arts, science and social studies. The test is administered each spring.

Conversations have suggested replacing this test with a test administered several times a school year that could measure growth within a school year.

The Elementary and Secondary Education Act (ESEA, 1965). This far-reaching law enacted in 1965 under former teacher, President Lyndon B. Johnson and his War on Poverty focused on equal access to education by providing funding to schools that served poor students. ESEA has been reauthorized seven times. Section 101 of Title I of the Elementary and Secondary Education Act of 1965, entitled Improving the Academic Achievement of the Disadvantaged, ensured that “all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on challenging State academic achievement standards and state academic assessments”(para.1). ESEA not only recognized the need to address the need for parity in education but also established the role of the federal government in determining achievement standards.

In 1994, under President Bill Clinton, ESEA was reauthorized and named the Improving America’s Schools Act. This reauthorization set standards and accountability by making districts identify schools that were not making adequate yearly progress (AYP) and insisting that steps were taken to improve (Thomas & Brady, 2005). Congress reauthorized and amended the ESEA in 2002 under President George W. Bush. This act was named No Child Left Behind and addressed the topics of “increased accountability, highly qualified teachers, research-based practices, and school choice” (Thomas & Brady, 2005, p. 57). Standerfer (2006) said that the No Child Left Behind Act brought about accountability in our schools (p. 27). Title I schools had to make AYP with students receiving Title I services or be forced to create an action plan. The law mandated that every child would be proficient in

mathematics and reading by the 2013–2014 school year or there would be sanctions. NCLB (2001) gave parents choices, opening the door for charter schools.

Emphasis on education reforms. In 1983, the report, *A Nation at Risk*, sparked a series of education reforms. Written during President Ronald Reagan’s term in office, the report came from the National Commission on Excellence in Education. Comprised of members from education, the private sector, and government, the commission was established by and had members appointed by Secretary of Education Terrell Bell. The commission of 18 members was led by David Pierpoint Gardner. Secretary of Education Bell suspected that American education needed improvement and called for a thorough investigation. The commission was tasked with examining the quality of education from primary grade through college and to compare the results to the educational quality in other countries. This effort was meant to draw attention to the quality of schools in the U. S. and to “call the attention of the American people to the need to rally around their schools,” at a time when there was “a steep decline in the nurturance and motivation provided by some students' homes” (Bell, 1993, p. 593). Test scores were a concern. The report stated that “the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people” (National Commission on Excellence in Education, 1983, p. 5). Concerns reflected an increase in comparisons between student achievement in the United States and other countries, particularly in areas of math and science. Comparisons may have omitted information regarding the nature of public education for all students in the U. S as opposed to more elitist selection of students elsewhere.

The commission found, in relation to teachers, that too many teachers were from the lower end of their graduating classes, teacher education programs were weak, teachers were not treated as professionals, and there were teacher shortages in certain subject areas. Although “No one intended for teachers to receive the blame that was heaped upon them” (Bell, 1993, p. 593), many states, and governors running for office, turned their attention to school reform. Commission reports were the foundation for a continuing political and social dialogue linking teacher performance and student achievement. Teacher evaluation and employment were central concepts in the school reform discussion.

Goals 2000. Under President Bill Clinton, there was a national movement to introduce state standards. Goals 2000, as this movement was known, inspired Michigan to create its own state standards in 1997. These standards gave teachers a focus on what would be tested so they would know what to teach. Administrators have felt pressured for time on the job and adherence to new standards has had an impact into the amount of time principals put into evaluations. Summative evaluations were suggested by Sergiovanni and Starratt (1998), who developed a system where principals were not directly involved in a formal teacher evaluation every year. A cycle was developed where a formal observation was done one year, and another evaluative measure was done on other years. These measures included self-evaluations, peer evaluations, and action research.

Competitive funding initiatives. In 2009, as part of the American Recovery and Reinvestment Act (ARRA), President Obama introduced a competitive funding initiative called Race to the Top (RT3, 2009). At stake was 4.35 billion dollars for which states could compete. Conditions of the funding were that states should design and implement rigorous standards and high-quality assessments. It also demanded revised teacher evaluations (Office

of the Press Secretary, 2009) . Points were awarded for improving teacher effectiveness. This initiative led to a focus on teacher evaluations. States were concurrently trying to meet the student achievement growth targets from No Child Left Behind.

States varied in their attempts to comply with federal mandates to meet annual progress goals. Michigan chose an option that allowed states to implement teacher and administrator evaluation systems and to assign rankings of effectiveness based upon student growth and other factors (U.S. Department of Education, 2010).

Michigan Legislation

In the past decade, several Michigan house bills and senate bills have been introduced and passed, becoming public acts (see Appendix B). Multiple public acts in Michigan include the Revised School Code, Teacher Tenure Act, the Public Employment Relations Act (PERA), and State School Aid Act. Most legislation relating to teacher evaluations is mandated in the Revised School Code, wherein Section 1248 deals with teacher layoff and recall, and Section 1249 is about how teacher evaluations will be done.

Race to the Top (RT3, 2009). On December 31, 2009, Michigan legislators passed a series of tie-barred bills known as *Race to the Top Education Reform* (House Fiscal Agency, 2009, n. p.). This package included three House bills and two Senate bills. Whereas the House bills (4787, 4788, and 5596) enacted as Public Acts 204, 201, and 202 of 2009, respectively, were part of the Race to the Top tie-barred Education Reform Package and made several amendments to the Revised School Code, they did not have ties to teacher evaluations. However, Senate Bill 981, sponsored by Senator Wayne Kuipers, enacted as Public Act 205 of 2009 and effective on January 4, 2010, launched the beginning of several

modifications the Revised School Code relevant to teacher evaluations. Public Act 205 added Section 1249 to the Revised School Code (see Appendix C).

This sweeping reform bill introduced “a rigorous, transparent, and fair performance evaluation system” (para. 1) done once a year and provide both timely and constructive feedback. The evaluation tool was required to define student growth measurement and provide that data to educators. The bill also mandated that multiple rating categories, taking into account student growth, must be used for a teacher or administrator’s job performance. Further, that national, state, or local tests and other *objective criteria* be used to measure student growth. Senate Bill 981 mandated that evaluations be used in decisions involving the effectiveness of administrators and teachers, providing opportunities for improvement promotion, retention, and development of teachers and school administrators; tenure decisions; and in removing ineffective teachers and administrators. It was estimated that the State costs for this bill was \$25 million in fiscal year 2009–2010 and \$17 million in fiscal year 2010–2011. Funding for future years would be less than \$17 million. The bill also funded 14 full-time employees in the Michigan Department of Education. Local school districts were required to cover costs associated with student growth measures in relation to teacher and administrator evaluations and compensation. Section 1250 of Senate Bill 981 of 2009 provided for linking teacher and school administrators’ compensation at least in part to student growth upon expiration of collective bargaining agreements (see Appendix D).

Another component of this tie-barred package was Senate Bill 926, sponsored by Senator Buzz Thomas. Known as Public Act 203 of 2009, this bill was also effective on January 4, 2010. This act changed the State School Aid Act and forced changes that would impact educator evaluations. Specifically, the bill appropriated funding from the federal

incentive Race to the Top grant program, the American Recovery and Reinvestment Act of 2009 (see Appendix E).

Other components of Senate Bill 926, Sections 94(a), and 94(h–j) had ties to teacher evaluations, and required the Center for Educational Performance and Information (CEPI) to implement a system that would tie students’ data to their teachers (see Appendix F). This legislation would be the beginning of tying teachers to their students’ performance. This identifier system was estimated to cost \$15.9 million in fiscal year 2009–2010, \$4.4 million in fiscal year 2010–2011 and less than \$4.4 million in the years following. If passed, this legislation would also make State test records accessible. Student growth would be correlated to his or her teacher. Educators at many levels would be provided the access to this data. In November of 2010, Republican Rick Snyder was elected as governor of Michigan. In 2010, Michigan was unsuccessful in its bid for millions of dollars in the Federal Department of Education’s grant, Race to the Top (RT3, 2009).

Teacher tenure. In Michigan, teacher tenure has been a controversial topic. Beginning in 1937, the Michigan legislature “authorized each school district to approve a system of tenure for their teachers” (House Fiscal Agency, 2011, p. 2). In 1964, provisions of the Teachers’ Tenure Act were applied to all Michigan school districts. The provisions were enacted for three reasons: job security, protection from “arbitrary employment practices such as political patronage, and to advance academic freedom by providing protection to teachers who promoted open or controversial ideas (p. 2).

The Michigan legislature overhauled the Michigan Teacher Tenure Law in 1993. The probationary period for teachers was extended from two years to four years. Non-probationary teachers were now required to have an evaluation every three years.

Probationary teachers were now required to have two classroom observations a year, an annual evaluation, and an individualized development plan (IDP). This overhaul shifted tenure hearings from the local level to the state level with time requirements for the appeal process. The new law also “limited the rights of tenured teachers whose services are terminated due to necessary reductions in personnel” (House Fiscal Agency, 2011, p. 2). The intent of tenure was to “protect teachers from arbitrary discharge and unfair discrimination” (p. 2). However, critics of tenure believe the law “discouraged, delayed, and denied the discharge of ineffective teachers” (p. 2).

The Michigan Teacher Tenure Law, addressed again in 2011, tie-barred four House Bills: 4625, 4626, 4627, and 4628. The goal of these bills was “to ensure that ineffective teachers improve their practice or be removed from the teaching profession in a more timely manner.” Introduced by Representative Bill Rogers, House Bill 4625 was enacted as Public Act 101 of 2011. It amended the Teacher Tenure Law and added evaluation requirements (See Appendix G).

In essence, Public Act 101 specified that probationary teachers with an effective or highly effective rating could not be displaced by a tenured teacher because the other teacher has continuing tenure. The legislation increased probation from four to five years, with the exception of a teacher with three consecutive highly effective ratings; shortened the time required for probationary teachers to be notified of release of employment from 60 days to 15 days; allowed for the termination of probationary teachers at any time; permitted a board of education to determine the format and number of observations for teachers with tenure and teachers on probation; and shortened the deadlines for tenure hearings (Senate Fiscal Agency, 2011). House Bill 4626 introduced by Representative Paul Scott and enacted as

Public Act 100 of 2011, amended the Teacher Tenure Law but did not impact teacher evaluations.

Teacher evaluation. House Bill 4627, introduced by Representative Margaret O'Brien and enacted as Public Act 102 of 2011, amended the Revised School Code. This bill amended Section 1249 and added Sections 1248 and 1249a to the Revised School Code. Section 1249c defined teacher ratings in four categories. Legislation now mandated that school district evaluation tools now had to include the terminology *highly effective*, *effective*, *minimally effective*, and *ineffective* in their ratings. (See Appendix H for specific terms of HB 4627, Sec.1249c.)

In relation to teacher evaluations, specifically personnel decisions, House Bill 4627 added Section 1248 to the Revised School Code. (See Appendix I). House Bill 4627 affected personnel reduction decisions in various ways. Staffing reduction decisions were not to be based on seniority and tenure (Senate Fiscal Agency, 2011, p. 2). School boards must base staffing reduction decisions on “retaining effective teachers, as measured by the evaluation system” (p. 2). Ineffective teachers, as determined by Section 1249, were not to be given partiality over minimally effective, effective, or highly effective teachers in decisions related to staffing reductions. (p. 5). The teacher’s individual performance “must be the major factor in decision-making” for staffing reductions (p. 2). Individual performance involves pedagogical skills, classroom management, and teacher attendance and discipline. Further, student growth must be the “predominant factor in assessing” the teacher’s performance (See Appendix J). Seniority and tenure were not to be a factor of staffing reductions unless all other factors are equal (p. 2).

Annual year-end review and midyear reports. Section 1249 of House Bill 4627 amended the Revised School Code by requiring annual year-end evaluations beginning in 2013–2014. The bill required teacher dismissal if a teacher was “rated as ineffective on three consecutive year-end evaluations,” that non-probationary teachers with an ineffective rating be allowed to ask the district superintendent for a review, that “at least 25% of the year-end evaluation be based on student growth and assessment data in 2013–2014,” then up to 40% in 2014-2015 and “50% beginning in 2015–2016.” (Senate Fiscal Agency, 2011, p. 2). House Bill 4627 added requirements for a midyear progress report for first-year probationary teachers or for teachers who, in their last year, received a minimally effective or ineffective rating. Components of the midyear progress report include student achievement, individual development plans (IDPs), and performance goals. The report is supplementary, and the goal is to improve the rating of the teacher (See Appendix K).

Classroom observations. Section 1249 of HB 4627 also spelled out the requirements for classroom observations. Under the law, classroom observations were to be multiple “unless a teacher has received a rating of effective or highly effective on” their last two evaluations and “prescribed in the evaluation tool,” include a “review of the teacher’s lesson plan,” a note of the state curriculum standard from the lesson and “a review of pupil engagement.” The observation does not have to be done for an entire class period.” (Senate Fiscal Agency, 2011, p. 3, See Appendix L).

HB 4627 also addressed requirements for the teacher evaluation system and exempted district teacher evaluation system requirements if a district met certain criteria. In essence, the bill provided options for bypassing teacher evaluation system requirements if the district’s plan complied with other stipulated measures for teacher ratings that included

emphasis on documented student assessment data and multiple observations conducted annually. Further requirements linked teacher effectiveness and ratings, as measured by student achievement, to job security, formed the basis of professional growth, and mandated notification of the district's plan of evaluation exemption to the governor's council and to the public via the district's website. (See Appendix M.)

Michigan Council for Educator Effectiveness (MCEE). According to Hu (2015), Michigan schools saw the need to produce a teacher evaluation system, and legislators were beginning to see the need for research-based evaluation tools. The law did not offer an evaluation framework; therefore, school districts improvised an algorithm to rate teachers for the state. House Bill 4627 launched the bipartisan Governor's Council on Educator Effectiveness. Later renamed the Michigan Council for Educator Effectiveness (MCEE, 2017), the committee was charged with making recommendations for the teacher evaluation system in Michigan and was required to submit, by April 30, 2012, recommendations on a student growth and assessment teacher evaluation tool, state evaluation tools, and recommendations for the "effectiveness rating categories." The bill also required that the legislators enact a teacher evaluation tool into law that would facilitate MCEE's recommendations (Senate Fiscal Agency, 2011, p. 2). This independent and temporary commission of six educators, led by the University of Michigan's dean of education, Deborah Ball, worked together through June 30, 2013 to make its recommendations (See Appendix N).

This portion of the bill created the council, defined who would be on the council, and defined who had voting rights. Further, it spelled out that appointed members must have certain areas of expertise, including "psychometrics, measurement, performance-based

educator evaluation models, educator effectiveness, or development of educator evaluation frameworks in other states” (House Bill 4627).

The MCEE vision states,

The Michigan Council for Educator Effectiveness will develop a fair, transparent, and feasible evaluation system for teachers and school administrators. The system will be based on rigorous standards of professional practice and of measurement. The goal of this system is to contribute to enhanced instruction, improve student achievement, and support ongoing professional learning” (Michigan Council on Educator Effectiveness, 2013).

Teacher evaluations, according to the MCEE, would need to be based on the evidence of two key factors – their practice, or evaluation tool, and student growth. By law, the Council was charged with the following agenda:

- A state evaluation tool for teachers.
- A student growth and assessment tool.
- A state evaluation tool for school administrators.
- Changes to the requirements for a professional teaching certificate.
- A process for evaluating and approving local evaluation tools for teachers and administrators that are consistent with the state evaluation tool for teachers and administrators and the act. (Michigan Council on Educator Effectiveness, 2013)

In July, 2013, the MCEE announced its recommendation of four teacher evaluation instruments for the Michigan legislature to consider: Marzano Teacher Evaluation Model (2011), The Thoughtful Classroom (Silver Strong and Associates, 2007), The Five

Dimensions of Teaching and Learning (Center for Educational Leadership, 2016, and Charlotte Danielson’s (2013) Framework for Teaching. The Council selected 13 Michigan local education agencies (LEAs) to pilot-test the four evaluation systems:

- Big Rapids Public Schools
- Cassopolis Public Schools
- Clare Public Schools
- Farmington Public Schools
- Garden City Public Schools
- Gibraltar School District
- Harper Creek Community Schools
- Leslie Public Schools
- Marshall Public Schools
- Montrose Community Schools
- Mt. Morris Consolidated Schools
- North Branch Area Schools
- Port Huron Area School District

The council recommended that the state choose one model, in a competitive request for proposal (RFP) process, for the state, and that the state provide funding for training. The council also recommended that school districts could choose one of the other three observation tools, but recommended that the school district pay any expenses beyond the base funding offered by the selected tool. The committee also recommended three categories for rating teachers: professional, provisional, and ineffective (Michigan Council on Educator Effectiveness, 2013).

A bill to measure growth and a new evaluation system for educators. For the 2013–2014 school year, Section 1249 of the Revised School Code called for a state assessment that would measure growth and a new evaluation system for educators. These tools were not ready, so legislators had to produce a *fix* and take Michigan back to the 2012–2013 law. This came about in Senate Bill 817 in 2014. House Bill 4627 required, beginning in the 2015–2016 school year, written parent notification by July 15 if a student had a teacher

that was rated ineffective “on his or her two most recent annual year-end evaluations under section 1249” (Senate Fiscal Agency, 2011, p. 2; See Appendix O).

Introduced by Representative Ken Yonker, House Bill 4628 was enacted as Public Act 103 of 2011 amended the Public Employment Relations Act (PERA). In relation to teacher evaluations, this bill prohibited the following topics from collective bargaining: “teacher placement,” personnel decisions when reducing staff, “the performance evaluation system,” “classroom observation,” “a performance-based method of compensation,” and “parental notification of ineffective teachers.” (Senate Fiscal Agency, 2011, p. 2; See Appendix P)

As noted, House Bills 4625, 4626, 4627, and 4628 were tie-barred and passed as Public Acts 101, 100, 102, and 103 on July 19, 2011. Fiscally, the bills could incur costs from the Michigan Online Educator Certification System (MOECS) as a result of teachers’ change in probationary status, new staff to the Governor’s Council on Educator Effectiveness, MCCC’s hiring of “experts on the design and implementation of educator evaluations,” districts updating policies and implementing them, districts updating evaluation systems, and possibly costs from districts filling or reducing teaching positions “based on effectiveness ratings and not seniority or tenure” that could result in hiring changes. It is unknown if the state would incur costs on the Teacher Tenure part of the bills because there could be more or fewer hearings. (Senate Fiscal Agency, 2011, p. 11).

Senate Bill 817 offered a delay, An e-mail from Justin Gluesing, Alpena Public Schools HR Director described the sequence of events set in motion with Senate Bill 817 that provided a window of opportunity for the legislature to return after a summer recess and pass

the still-pending House Bills 5223 and 5224 that dealt with the MCEE recommendations.

Gluesing wrote;

Senate Bill 817 moved Michigan back to the 2012-2013 expectations regarding evaluations (See Appendix Q). Introduced in February of 2014, sponsored by Senator John Pappageorge and introduced by Senators Pappageorge, Pavlov, Colbeck, Nofs, Hansen, and Hildenbrand, this bill became Public Act 257 of 2014. Senate Bill 817, passed on June 30, 2014, the last day of the legislative session prior to the lawmakers' summer break.

This bill ignored the three rating categories suggested by the MCEE and mandated the four rating categories: highly effective, effective, minimally effective, and ineffective. Senate Bill 817 deleted all of the Revised School Code's legislation on the MCEE and added this small section (1249, (4):

It is the intent of the legislature to review the report submitted by the former Michigan council for educator effectiveness and to enact appropriate legislation to put into place a statewide performance evaluation system taking into consideration the recommendations contained in the report.

Essentially, legislation had given the MCEE six months to carry out their assignment. Their job took two years. Previous amendments to the Revised School Code wrongly assumed that other tasks would be done as well. It was assumed that there would be a new state test that would measure student growth. It was also assumed that a new state teacher evaluation system would be in place. Neither of these happened by 2013–2014, so schools would have been out of compliance with the Revised School Code.

Senate Bill 817 defined how to measure student growth for the 2014–2015 school year. Further, in Section 1249 (1c), the bill deleted the former legislation that said student growth shall be measured “by national, State, or local assessments and other objective criteria.”(Senate Fiscal Agency, 2011, p. 1). The new bill required that, beginning in 2014–2015, state assessments be used to measure student growth. There were some exemptions to this requirement if certain criteria were already in place. Schools were to use state tests for grades and subjects where state tests are “administered in accordance with federal law.” For grades and subjects that did not require state assessments, districts were mandated to use alternative assessments (Senate Fiscal Agency, 2011, p.1).

Senate Bill 817 delayed until the 2015–2016 school year the above requirements, which were supposed to be implemented during the 2014–2015 school year. Previous legislation dictated a 2013–2014 requirement that student growth be at least 25% of a teacher’s evaluation, and a 2014–2015 requirement that student growth be at least 40% of a teacher’s evaluation (Senate Fiscal Agency, 2011, p. 2). The SB 817 deleted the 2013–2014 and 2014–2015 yearly percentage requirements. This bill kept the Revised School Code requirement that said beginning with the 2015–2016 school year, 50% of a teacher evaluation must be based on student growth and assessment data. Legislators budgeted \$14.8 million during 2014–2015 “for the first year of phasing in educator evaluations and student assessments.”(Senate Fiscal Agency, 2011, p. 4)

House Bill 5223 dealt with teacher evaluations, whereas House Bill 5224 addressed administrator evaluations. These two bills were tie-barred. Sponsored by Representative Margaret E. O’Brien, House Bill 5223 would amend section 1249, 380.1249a, and 1531j of the Revised School Code.

Under the tie-barred bills, districts had to adopt and use either a state-approved evaluation tool or a local tool that met certain criteria. Districts could choose one of the following frameworks or choose another: the Charlotte Danielson Framework for Teaching (2013), the Marzano Teacher Evaluation Model (2011), The Thoughtful Classroom (Silver Strong and Associates, 2007), or Five Dimensions of Teaching and Learning (Center for Educational Leadership, 2016). House Bill 5223 granted permission to the Michigan Department of Education to allow other evaluation tools. They also gave local districts permission to use their own model if it met certain requirements.

House Bill 5223 addressed teacher evaluation observation requirements. House Bill 5223 mandated multiple observations, with at least one being unscheduled. Teacher feedback was required within 30 days after an observation. The bill required one unscheduled observation for teachers who were not effective or highly effective on two prior evaluations and also required that observers must be trained by the vendor in the district's framework. Observers' retraining was also required every three years, and retraining was suggested retraining every three years, for coaching, providing feedback, and rater reliability.

In previous legislation, districts had to notify parents of a teacher who had two ineffective evaluation ratings. Under House Bill 5223, districts would not be allowed to assign a student to a teacher who has had two ineffective evaluations. If a school district could not comply with this requirement, they would have to notify parents of their non-compliance and the reason thereof before July 17 of that school year.

House Bill 5223 addressed student growth. As this bill was introduced, the percentage of a teacher evaluation, based on student growth and assessment, would be at least 25% in 2013–2014, at least 40% in 2014–2015, and 50% in 2015–2016 (House Fiscal

Agency, 2014). Under House Bill 5223, the percentage of a teacher evaluation based on student growth and assessment would be 25% for the 2014–2015, 2015–2016, and 2016–2017 school years and rose to 40% during the 2017–2018 school year (House Fiscal Agency, 2014). Also, under this bill, 50% of student growth and assessment data must come from the state student growth assessment tool for teachers who teach in a core subject area. For teachers in a non-core subject area and special education teachers, there were other provisions. They “could use state-provided growth data for up to one-half of the teacher’s student growth and assessment data” (House Fiscal Agency, 2014, p. 2), or districts “could use (one or more) locally determined student measures and assessments with valid growth measurements” (House Fiscal Agency, 2014, p. 2) . The portion of a teacher’s student growth data that was not based on state data would come from local measures and the portion not based on student growth must come from the “teacher’s performance, as measured by the evaluation tool” (House Fiscal Agency, 2014, p. 3) . This could include student learning objectives (SLOs) or individualized education programs (IEPs).

House bill 5223 had other mandates. It required parent and student feedback as part of a teacher evaluation. Districts were previously encouraged, and now required, to provide mentors or coaches for minimally effective and first-year teachers. It would disallow the superintendent of public instruction from awarding a teaching certificate to a teacher who was not effective or highly effective for three years. The Revised School Code had previously required schools to dismiss teachers who had had three ineffective evaluations. Under House Bill 5223, this would only apply if the evaluations were conducted using the same evaluation framework and under the same performance evaluation system. Further, House Bill 5223 eliminated the MCEE and all of its provisions. House Bill 5223 deleted

certain administrator evaluation requirements from the Revised School Code and created performance and practice criteria that legislators laid out in House Bill 5334 by adding section 1249b to the Code (House Fiscal Agency, 2014). House Bill 5224, sponsored by Representative Adam F. Zemke, dealt with school administrator evaluations.

According to the House Fiscal Agency, costs incurred from the bills would range between \$16 million and \$42 million based on factors such as the cost of the evaluation tool, evaluation tool management, technical support, training, evaluator coaching, and staff costs for mentors and coaches. Further, additional costs could be incurred for the Michigan Department of Education's review of evaluations and analysis of student growth assessment data (House Fiscal Agency, 2014). Tie-barred House Bills 5223 and 5224 passed in the house in May 2014, but died in the lame duck session.

Senate Bill 103, known as Public Act 173 of 2015. Some believed the Michigan Council on Educator Effectiveness gave the State too much control over teacher evaluations. Senate Bill 103 of 2015 was sponsored by Senator Phil Pavlov and was aimed at giving districts more local control (MEA, 2015). Michigan Council of Educator Effectiveness Chair, Deborah Loewenberg Ball, said, "Michigan should be embarrassed by SB 103. . . The idea of local control doesn't make any sense" (MEA, 2015, p. 9). The bill was enacted as Public Act 173 on November 5, 2015. This bill amended sections 1249 and 1249a of the Revised School Code, and added sections 1249b, 1531j, and 1531k.

Beginning in 2015–2016, the amended Revised School Code mandated teacher evaluation systems. The bill specified certain evaluation tool requirements. Districts required to post their evaluation tool online, could use their own evaluation tool, and were no longer mandated to use a specific evaluation tool named by the state. Districts are required

to use the same tool district-wide. Senate Bill 103 required the Michigan Department of Education to keep a list of recommended evaluation instruments.

Beyond teacher evaluation tool requirements, Senate Bill 103 proposed changes to the evaluation requirements. Starting with the 2017–2018 school year, the bill changed what is required in the “portion of the evaluation not based on student growth and assessment data” (Senate Fiscal Agency, 2015, p. 3). This piece of the evaluation would be “based primarily on the teacher’s performance as measured by the evaluation tool” (Senate Fiscal Agency, 2015, p. 3), and the remaining portion of the evaluation would be based on Section 1248(1)(b)(i)-(iii) of the Revised School Code, which includes requirements about discipline, pedagogical skills, classroom management, attendance, training, and accomplishments and contributions (Senate Fiscal Agency, 2015).

Senate Bill 103 of 2015 amended Senate Bill 817 that passed in June of 2014, wherein the student growth requirement that was currently in effect for the Revised School Code said beginning with the 2015–2016 school year, 50% of a teacher evaluation must be based on student growth and assessment data. The amended terms now stated that student growth would be worth 25% of a teacher’s annual year-end evaluation for the 2015–2016, 2016–2017, and 2017–2018 school years and the percentage will increase to 40% during the 2018–2019 school year. Half of that 40% must be based on a state test, and the other half may be determined by local growth tools, including Student Learning Objectives (SLOs) (MEA, 2015). Previously, student growth only had to involve one measure. With the passage of Senate Bill 103, student growth had to include multiple measures.

Portions of the bill addressed safeguards for students assigned to an ineffective teacher. Districts could no longer assign a student to a teacher who had been rated

ineffective for two years in a row. Further, if the school did not comply, the district was required to notify the parents.

Senate Bill, known as Public Act 173, had many other various mandates. Year-end evaluations must involve a teacher and administrator discussing the teacher's professional growth goals and creating a plan for support for those goals for the upcoming school year. Another mandate said that, beginning July 1, 2018, states cannot issue a professional teaching certificate to teachers who did not meet certain requirements. Legislators set aside \$14.8 million in the school aid budget during the 2014–2015 fiscal year to pay for teacher observation tools and training (House Fiscal Agency, 2015) .

Many states competed for federal funding on a state-waiver system that was part of the No Child Left Behind Act of 2001. Part of the requirement for that waiver was for states to tie student assessment scores to teacher evaluations. The No Child Left Behind Act was drastically changed by the passage of the Every Student Succeeds Act (ESSA), “the latest reauthorization of the Elementary and Secondary Education Act, signed into law,” on December 10, 2015 and updated January 2016 (Education Week, 2016). ESSA shifted control of teacher evaluation and accountability measures from the federal government to state and local governments.

Under ESSA, although states can select their own accountability goals, they must address proficiency on assessments—states can determine the weights given to assessments (Education Week, 2016). However, student test scores under ESSA are not federally mandated to be a significant part of teacher evaluations (Sawchuk, 2016) .This is a change from the No Child Left Behind Act. ESSA mandated that states were required to have four accountability indicators—three of them being academic and one determined by the state—

that might include student engagement or educator engagement, among others (Education Week, 2016).

The Four Evaluation Frameworks

Researchers Lussier and Hendon (2016), believing that teacher evaluation frameworks should have several components in place, noted that the teacher evaluation tool must be valid and reliable, implementable, feasible, specific, meaningful, and aligned with the district's mission and objectives. Years earlier, Mohrman, et al. (1989) recognized the multi-faceted functions of evaluation to be flexible, directive, and motivational. The researchers determined that the continuing process of evaluation should involve more than one evaluator to provide meaningful feedback.

The Michigan Council of Educator Effectiveness piloted four teacher evaluation frameworks that they found worthy of recommendation. These include the R. Marzano Teacher Evaluation Model (2007), The Thoughtful Classroom (Silver Strong, 2007), the Five Dimensions of Teaching and Learning, (Center for Educational Leadership, 2016), and The Charlotte Danielson Framework for Teaching (2013). The council recommended that the state choose one model in a competitive Request for Proposal (RFP) process.

The Marzano Teacher Evaluation Model. Robert Marzano's framework for teaching (Learning Sciences International, n.d.) includes four domains: Classroom Strategies and Behaviors, Planning and Preparing, Reflecting on Teaching, and Collegiality and Professionalism. These domains are organized into 60 elements. Within this framework, 41 out of its 60 elements fall under Domain I, highlighting the importance that this framework places on classroom strategies and behaviors. Robert Marzano's (2007) research-based instructional model stated that there are three general characteristics of effective teaching,

including the use of effective instructional strategies, the use of effective classroom management strategies, and effective classroom curriculum design. Marzano believed it was important for teachers to know when and how to use the right instructional strategies, and that makes teaching an art.

The Thoughtful Classroom. The Thoughtful Classroom Teacher Effectiveness Framework (Silver Strong and Associates, 2007) comprises ten dimensions divided into three components: The Four Cornerstones of Effective Teaching, The Five Episodes of Effective Instruction, and Effective Professional Practice: Looking Beyond the Classroom. In the first component, the four cornerstones named as the foundation of effective teaching are the following:

1. Organization, Rules, and Procedures
2. Positive Relationships
3. Engagement and Enjoyment
4. A Culture of Thinking and Learning

The five episodes of effective instruction include the following:

1. Preparing Students for New Learning
2. Presenting New Learning
3. Deepening and Reinforcing Learning
4. Applying Learning
5. Reflecting on and Celebrating Learning

The Five Dimensions of Teaching and Learning. Developed by the Center for Educational Leadership (2016), this model, based on research from the University of

Washington, builds on purpose, student engagement, curriculum and pedagogy, assessment for student learning, and classroom environment and culture.

The Danielson Framework for Teaching and Learning. Four domains, divided into 22 components and 76 elements form the structure of Danielson’s research-based components of constructivist-based learning and teaching instruction (Danielson, 2013b).

Danielson’s four domains include the following:

1. Planning and Preparation
2. The Classroom Environment
3. Instruction
4. Professional Responsibilities

Charlotte Danielson (2013a) said her intentions and purpose for writing her text, *Enhancing Professional Practice*, included defining the complex nature of good teaching, which teachers could use for their own self-assessment and reflection. Further, to provide guidance for professional development; and teacher evaluation, beginning with programs involving teacher preparation, recruitment and hiring, mentoring and induction.

The Framework for Teaching is “based on the Praxis III criteria that had been “developed by the Educational Testing Service (ETS)” (Danielson, 2007, p. 183). With Praxis III, the framework was meant for new professionals and only for assessment. However, the Framework for Teaching was intended for all teachers and “ professional conversations that accompany mentoring or peer coaching” (p. 184). Danielson wanted a framework because it “conveys that educators . . . are members of a professional community” (p. 2). The framework also enriches conversation by providing a common language (p. 6). The framework is grounded in research. Some of the research is empirical (“grounded in

experience, with formal research data to support it”), whereas some of it is theoretical, based on “research on cognition” (p. 20).

Sartain, Stoelinga, and Brown (2009) found that “Overall individual measures for teachers created from all of the principal and observer framework ratings are reliable” (p. 26). In addition, the Measures of Effective Teaching Project (MET Project, 2013) funded by the Bill and Melinda Gates Foundation, found the Danielson Framework reliable, noting that increasing the number of observations or the number of observers increases the reliability (p. 5). Further, the MET Project defined validity as “the extent to which observation results are related to student outcomes” and found that the Danielson instrument was “positively associated with student achievement gains” (p. 5). Teachers who scored an effective rating on the Danielson rubric had higher student growth than other teachers. More research by the Consortium for Policy Research in Education (CPRE) examined the Danielson Framework for Teaching with teacher evaluations in Cincinnati and Chicago and discovered small, positive correlations between the Danielson ratings and student growth (MET Project, 2010).

Conceptual Framework

A conceptual framework organizes ideas. The framework shown in Figure 1 was grounded in the Danielson Framework while analyzing the relationship between teacher performance evaluation system ratings and student achievement. The Danielson Framework provided a common language for educators. The summative rating of teachers, using the Danielson instrument, is the independent variable. The Northwest Evaluation Association Measures of Academic Progress (NWEA MAP scores are the dependent variables. Figure 1 shows how the Danielson Framework for Teaching’s domains provide the score for the Teacher Proficiency Rating. The question being explored is whether this Teacher

Proficiency Rating relates to Student Achievement.

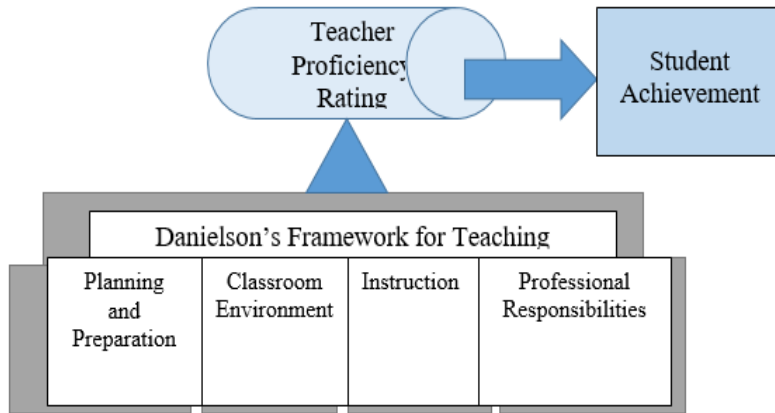


Figure 1 Conceptual framework for determining the relationship of teacher proficiency rating and student achievement.

Various influences and factors contribute to teacher proficiency rating and affect student achievement, as shown in Table 1.

Table 1

Influences on Teacher Evaluations, Teacher Proficiency Rating, and Student Achievement Factors.

Influences	Teacher Proficiency Rating (Independent Variable)	Student Achievement (Dependent Variable)
<p>History</p> <p>National Defense Education Act (NDEA) Sputnik Test Scores Elementary and Secondary Education Act Reauthorization of the Elementary and Secondary Education Act</p> <p>No Child Left Behind</p> <p><i>A Nation at Risk</i> Goals 2000 Race to the Top Every Student Succeeds Act</p>	<p>Method of Observation</p> <p>Formal observation Walk-throughs Announced Observation Unannounced Observation</p>	<p>Assessment</p> <p>NWEA MAP</p>
Stakeholders	Evaluator factors	Legislation
<p>Unions Professional groups Politicians Policy-makers Private evaluation developers Researchers School districts Schools Teachers Principals Administrators School boards Legislators</p>	<p>Principals as certified observers Rater reliability</p>	<p>Student growth</p>

<i>Table 1 Continued</i> Influences	Teacher Proficiency Rating (Independent Variable)	Student Achievement (Dependent Variable)
	Platform	
	Teachscape Frontline	
	Danielson Framework Domains	
	Planning and Preparation Classroom Environment Instruction Professional Responsibilities	
	Danielson Framework Embraced by the District	
	Interviews Employment decisions Professional development <i>Enhancing Professional Practice</i> Evaluation instrument is a 77-page rubric Mentor Training Software training	
	Legislation	
	Annual evaluations A rigorous, transparent, and fair performance evaluation system Timely and constructive feedback Staffing reduction decisions on retaining effective teachers as measured by the evaluation system	

The Danielson (2007) Framework as an instrument was examined to determine whether what is defined as good teaching using the rubric in the framework actually had a relationship with student achievement. The literature review emphasized the poor

perceptions of teacher evaluations in the past. This draws attention to the need for a valid and reliable teacher evaluation instrument. The literature review provided an argument for the validity and reliability of the Danielson Framework. The 2013 edition of *The Framework for Teaching Evaluation Instrument* provided careful attention to detail for every element of the Danielson Framework, helping teachers and administrators define good teaching. The Focus Training provided to administrators as they became certified Danielson observers helped calibrate their inter-rater reliability.

The school district involved in this research fully-embraced the Danielson Framework for teaching and used it for organization. The Danielson Framework has been embedded in the district's mentor training, employment interview design and questions, and professional development. Teachers were provided a copy of *Enhancing Professional Practice*, and training modules and quizzes over the components of the framework. Newly-hired teachers are provided Danielson framework training as part of their mentor/mentee program.

Employment decisions have been made based on the framework. For instance, several job interviews have been based on questions organized by the framework. Each person on the interview panel asked a series of questions based on one domain of the four. This method of interviewing emphasizes that this school district embraces the framework and makes it a part of its culture.

The four domains of the Danielson Framework are embedded in the operation of the school district selected for this study. Domains I and IV, Planning and Preparation and Professional Responsibilities, respectively, are *behind the scenes* domains. Domains II and III, the Classroom Environment and Instruction, respectively, are the domains where student interaction is involved.

Domain I: Planning and Preparation. Domain I emphasizes the elements of a well-organized classroom brought about by purposeful planning and preparation. Skowron (2001) said that teachers in successfully functioning classroom have planned for expected student outcomes. This domain also recognizes the need for teachers to have knowledge about content, students, and resources, the capability to design coherent instruction and assessments, and the ability to set instructional outcomes.

Domain II: The Classroom Environment. Recently a Facebook post has been circulating saying students cannot reach Bloom's if Maslow has not been met. Essentially, this means that it is difficult to help a child learn if his or her basic needs are not being met. This concept is addressed in Domain II, where emphasis is placed on respect and rapport, a culture for learning, procedures, behavior, and organizing physical space.

Domain III: Instruction. Charlotte Danielson (2007) maintained that Domain III, Instruction, is "the heart of the framework for teaching" (p. 77). This domain focuses on student communication, questioning and discussion techniques, student engagement, using assessment in instruction, and being flexible and responsive.

Domain IV: Professional Responsibilities. This domain provides the opportunity for teachers to "improve their practice" (Danielson, 2007, p. 92). The domain places emphasis on reflection, maintaining accurate records, family communication, professional communities, professional development, and professionalism.

Summary

The literature review in Chapter 2 analyzed teacher evaluations from many angles, including the need for great teaching, the purpose of teacher evaluations, the impact of teacher evaluations on student performance, criteria for an effective teacher evaluation

system, and various approaches to teacher evaluations. The history of teacher evaluations included a legislative timeline of federal and state policies and discussion on the National Defense Education Act (NDEA), Sputnik, test scores, the Elementary and Secondary Education Act, the Reauthorization of the Elementary and Secondary Education Act, No Child Left Behind, *A Nation at Risk*, Goals 2000, Race to the Top, and Every Student Succeeds Act. The recommendations of the Michigan Council on Educator Effectiveness were discussed, followed by presentation of the four legislative-approved teacher evaluation frameworks. Finally, the conceptual framework for this study was described as it relates to the Danielson Framework.

Chapter 3: Research Design and Methods

This chapter includes discussion of the research design and methods that were employed in this study to determine a possible relationship between teacher evaluation ratings and student achievement. Teacher and student data in this study were collected in a Class A school district in northern Michigan with a 2015–2016 enrollment of 875 or more (Johnson & Kimmerly, 2015). The selected school district extends over more than 600 square miles, has 118 daily bus routes, and serves about 4000 students. More than half (55%) of the students in this district participate in the free-and-reduced lunch program (MI School Data, 2014–2015). In existence for more than 130 years, the district employs more than 500 staff persons including teachers, administrators, aides, bus drivers, cooks, custodians, secretaries, and support personnel. Preschool through fifth graders attend the district's six elementary schools. In addition, the district has a junior high, a high school, and an alternative education school. The community comprises service employees, professionals, businesses, farms, students, parents, and retirees.

Quantitative or empirical methods were chosen to analyze numerical data, explore correlation, and transform data into statistics. The data included evaluation ratings of all K-5 teachers in the district, a total of 69, and student test scores for students in Grades K-5 from six elementary schools. In this study the summative rating of teachers, based on the rubric in the Danielson (2007) Framework, was the independent variable. The Northwest Evaluation Association Measures of Academic Progress (NWEA MAP) scores were the dependent variables. Pre-approval from the Human Resources Department of the selected Northern Michigan school district was sought. Teacher rating data collected anonymously were plotted against the NWEA MAP scores to determine whether there was a relationship

between teacher ratings and student achievement. The name of the school district was revealed in the study, and all data were confidential. Employed as a professional in this district, the researcher sought to minimize bias by presenting previous research from all angles and collecting data with anonymity. Further, student data were only tied to the teacher and no other variable (e.g., gender, socioeconomic status).

The name of the school district was not revealed in the study, and all data were confidential. NWEA scores are normed, based on a bell-shaped curve, and independent of grade level. While the NWEA MAP measures both student achievement and student growth, this study focused only on student achievement. Appendix R provides student status norms.

This study was limited to data collected from elementary schools, because the elementary-level test scores can be assigned to one teacher. Although students were tested during the fall, winter, and spring of the 2015–2016 and 2016–2017 school years, the fall testing for both years was excluded because teachers only had students in their classroom for one week before testing commenced each year. Further, kindergarteners were excluded from fall testing both years because the district found that kindergarten students need training on computers, and a computer mouse, before testing. Teacher classroom observations occurred throughout the school year, and evaluation ratings were assigned by April 15, 2016 for the 2015–2016 school year and by May 15, 2017 for the 2016–2017 school year.

The selected school district had embraced the Danielson (2007) Framework for several years following an administrative team’s study of Danielson’s book, *Enhancing Professional Practice: A Framework for Teaching*. In 2009, the district formed an evaluations committee, composed of administrators from the book study and 12 teachers from the district, including the researcher. The purpose of the committee was to select an

evaluation tool and make a plan for its implementation. The administrative team shared their knowledge about the Danielson Framework, and teachers were given copies of Danielson's book. After becoming knowledgeable with the Danielson Framework, the teachers on the committee agreed with the administrative team's choice for the district's evaluation model and framework for the district's evaluation tool. The Danielson Framework has been embedded in the district's mentor training, employment interview design and questions, and professional development.

Together, the evaluations team of administrators and teachers crafted a plan for teachers to opt for a Professional Learning Community (PLC) in lieu of a teacher evaluation. During the 2009–2010 school year, teachers were given the opportunity to have an observation using the Danielson Framework, or participate in a PLC in lieu of their evaluation. The PLC was required to have a goal based on one of Danielson Framework's (2007) four domains. In January 2010, Public Act 205 added Section 1249 to the Revised School Code and mandated that teachers be evaluated annually. The district responded by taking away the PLC in lieu of an evaluation option, because evaluations had to be completed to comply with the new legislation.

Commencing in the 2010–2011 school year, teachers were placed on a three-year cycle. Using the rubric in the Danielson (2007) Framework, all teachers would complete a self-evaluation, then were assigned a level each year, from 1 to 3. One-third of the teaching staff was assigned to each level. Teachers were not given information about how their levels were determined. A teacher at Level 1 received a full, in-depth evaluation involving two formal observations of at least 30 minutes in duration. Teachers at Levels 2 and 3 were rated by walk-throughs that were less than 15 minutes. For the next school year, teachers were

placed at the next level. This process continued until the end of the 2015–2016 school year. Beginning with the 2016–2017 school year, levels were eliminated.

In 2011, the researcher secured \$6000 in grant funding for the district to provide Danielson (2007) Framework training. Veteran teachers in the school district have been trained on the Danielson rubric in the Framework for Teaching by watching modules and taking quizzes over the material covered in the modules. Newly-hired teachers in the district received Danielson training as part of their mentor/mentee program. In September 2015, all teachers in the school district were given the 2013 edition of *The Framework for Teaching Evaluation Instrument*. This 77-page document was created as Danielson’s (2013) response to instruction in classrooms that adopt the Common Core State Standards, which this district had done. In the manual, each component of the four domains spelled out the elements, indicators, critical attributes, and possible examples for each of the four levels in each component. Using *Teachscape* software during the 2015–2016 school year and *Frontline* software during the 2016–2017 school year, principals scored teachers in the district using this 2013 edition of *The Framework for Teaching Evaluation Instrument*. Teachers were assigned a score of 1 for *unsatisfactory*, 2 for *basic*, 3 for *proficient*, and 4 for *distinguished*, for each component of the tool. Those scores equated to the district’s evaluation system to the state rating system: 1 for *ineffective*, 2 for *minimally effective*, 3 for *effective*, and 4 for *highly effective*.

Principals were at various stages of becoming certified Danielson (2007) observers during this study. Delivered by Teachscape’s Focus training, the videos and quizzes provided instruction and calibration for each of the components in the Danielson Framework.

The training window for becoming certified opened during the summer of 2015. All principals completed the training by January 12, 2017.

On September 30, 2015, teachers were given a packet —2015–2016 Evaluation System (See Appendix S). In the past, the district used *Stages* as the online instrument for teacher evaluations. For the 2015–2016 school year, the district began using *Teachscape* and were provided training for the new platform.

As the 2015–2016 school year began, state legislation mandated that 50% of the teacher evaluations be based on student growth. However, as noted earlier, in November 2015, Public Act 173 changed this percentage. So, midyear, the percentage used for student growth for this district changed from 50% to 25% to comply with the law. The other 50% of the teacher evaluation, which now increased to 75%, was based on the rating from the Danielson rubric. Further, as seen on page 1 of Appendix S, the required components for Section 1249 of the Revised School Code in the top pie chart are a portion of the district’s Effectiveness Rating for Reduction and Recall in the bottom pie chart.

Page 2 of Appendix S lists items teachers and administrators must address for each teacher evaluation. These include a professional growth goal; an individualized development plan (IDP), if applicable; a student growth goal; self-evaluation; a midyear progress report, if applicable; a year-end summative review, points for accomplishments and contributions, points for professional development, and an evaluation plan based on levels. This document also specifies what action must be taken relative to levels. Teachers assigned to Levels 1 or 2 must have not fewer than two observations and one of them must have been unannounced. Teachers assigned to Level 3 must have not fewer than two announced observations for probationary teachers and one announced and one unannounced or two announced

observations for non-probationary teachers, along with a pre-observation and a post-observation conference.

Using Teachscape software, teachers did a self-assessment at the beginning of the school year. They also identified one professional growth goal that went into Teachscape. Teachers developed their plans for Accomplishment and Contribution points and Professional Development points and submitted them to their administrators. Finally, teachers selected which assessments they would use to demonstrate student growth and entered their choices on a Data Source template. Principals used Teachscape as they conducted classroom observations, both for walk-throughs and for formal evaluations.

During the observations, principals reviewed required daily lesson plans that had to have included the following four components: learning target, prior learning, instructional delivery/student engagement strategies, and evidence of learning/assessment. The evaluation system also specified how the district determined teacher performance levels based on the Danielson rubric for state reporting as shown in Table 2.

Table 2

Rubrics Used for the 2015–2016 Performance Evaluation

Performance Levels	Domain Scoring	Overall Scoring
Ineffective	One or more Components marked as “Ineffective.”	One or more Domains marked as “Ineffective” OR any Domain marked with three or more “Minimally Effective” OR eight or more components marked “Minimally Effective.”
Minimally Effective	No Components marked as “Ineffective” but two or more marked as “Minimally Effective.”	NO Domains marked as “Ineffective” BUT one or more Domains marked as “Minimally Effective” OR a total of four or more individual Components marked as “Minimally Effective.”
Effective	NO Components marked as “Ineffective” and no more than one marked as “Minimally Effective.”	NO Domains marked as “Ineffective” or “Minimally Effective.”
Highly Effective	NO Components marked less than “Effective” and 3 or more Components marked as “Highly Effective.”	NO Domains marked less than “Effective” and 3 or more Domains marked as “Highly Effective.”

Note: (p. 9 of Appendix S)

Frontline Technologies bought Teachscape, so the platform changed to Frontline for the 2016–2017 school year. Teachers and administrators were provided training on the new software. This would be the third platform used by the district in three years.

During the 2016–2017 school year, the selected school district updated its Evaluation System guidance document to reflect district changes and state mandates. Teachers were given a hard copy and a screencast covering the 2016–2017 Evaluation System packet. The following items remained the same in the evaluation plan for the 2016–2017 school year: a professional growth goal, an IDP, if applicable; self-evaluation, a midyear progress report, if applicable; a year-end summative review; points for accomplishments and contributions;

points for professional development; and an evaluation plan. However, many components changed. By law, teachers and administrators would now need a specific performance goal established from the previous school year and this would need to be documented in Frontline. Levels were eliminated. Student growth was now going to be carried out by using student learning objectives (SLOs).

Research Question

This study was guided by the following question: Is there a statistically significant relationship between the teacher evaluation tool (using the summative rating of teacher evaluations from the 2015–2016 and 2016–2017 school year for teachers of Grades K-5 using the Danielson Framework for Teaching model) and student achievement (as measured using the NWEA MAP) as measured using the same year in a selected Michigan school district?

Data Collection Process

All data were received anonymously from the school district human resources director or designee, who assigned a code to teacher names, and then assign students' NWEA MAP scores for reading, mathematics, and English language arts to each teacher's code. The teacher evaluation ratings based on the Danielson evaluation rubric for the 2015–2016 and 2016–2017 school years were also assigned to each teacher's code. The name of the district was not mentioned in the study, all data were locked in a filing cabinet, and electronic data were accessible only on a password-protected computer. No names or identifying information were disclosed when interpreting the results of this study.

Instrumentation

The Danielson (2007) Framework rubric, based on four domains—Planning and Preparation, the Classroom Environment, Instruction, and Professional Responsibilities—were used to calculate teacher ratings. Based on a Rasch Unit (RIT) scale, scores of NWEA MAP computerized adaptive tests that are aligned to the Common Core State Standards determined student achievement.

Test results used included grades kindergarten through fifth winter and spring tests for the 2015–2016 and 2016–2017 school years. Fall tests for both school years were excluded because students were only with their teachers for one week when fall testing began. Kindergarteners, first, and second grade students, or primary grades, were tested in reading and mathematics. Third, fourth, and fifth graders were tested in reading, mathematics, and language usage. Student RIT scores were presented in aggregate form.

Method of Analysis

This study used bivariate statistics. To measure “the degree of linear association between two quantitative variables” (Minium, Clarke, & Coladarci, 1999, p. 103), a Spearman correlation determined if there was a positive, negative, or no relationship between the independent variable, teacher evaluation ratings, and the dependent variable, NWEA MAP scores. A positive correlation between the teacher evaluation rating and student growth would validate the administrator’s rating of the teacher and indicated that good teaching, as determined by the Danielson (2007) Framework, produces good test scores. A negative correlation would raise questions as to the reliability and validity of the teacher evaluation rating in relation to test scores. Further, the findings of this study determined the strength of the relationship between the variables. The results of this study are available to inform

educational leaders, teachers, policy-makers, private evaluation developers, and other researchers.

Validity and Reliability

Kimball and Milanowski (2009) found issues with the accuracy and validity of teacher evaluations, noting variation with the relationship between teacher evaluation ratings and student achievement scores. This emphasized the sensitivity to perceptions of teacher evaluations. Cook and Campbell (1979) defined validity as the “best available approximation to the truth or falsity of a given inference, proposition or conclusion.”

NWEA consistently self-monitors for validity and reliability and “conducts regular linking studies that analyze students’ performance on MAP as compared to other assessments” (Measures of Academic Progress, 2015, p. 16) that include state tests such as Michigan’s M-STEP, college readiness tests, and Smarter Balanced Assessment Consortium performance. In December 2016, NWEA analyzed data from Michigan’s M-STEP test and NWEA MAP test to determine whether a relationship existed. Data from 116 Michigan determined that “the correlation coefficients between MAP reading M-STEP ELA scores and range from .80 to .82, . . . the correlation coefficients between MAP and M-STEP math scores range from .82 to .89” (Linking the Michigan. . . 2016, p. 24); thus showing a strong relationship between NWEA’s MAP scores and Michigan’s M-STEP scores.

Validity of the findings of this study depended in part upon demographics of the selected site, which are different than the demographics in other parts of the state. Further, this paper acknowledged that when these teacher evaluations were completed, principals were at varying stages of becoming Danielson observers; thus teacher evaluation ratings may have been less consistent, or less reliable than if the principals had been certified. As a

measure of reliability, findings in this study determined whether teacher evaluation ratings have a consistent correlation across NWEA subject areas. It also needs to be acknowledged that the NWEA is only one measure of student achievement, and other tools for future studies could add to the reliability of this correlation.

Summary

This study examined the relationship between teacher evaluation ratings and NWEA MAP scores for elementary students in a selected school district in Northern Michigan. Teacher ratings were calculated according to Danielson (2007) Framework rubrics. Student achievement was determined by scores of NWEA MAP computerized adaptive tests that are aligned to the Common Core State Standards. Anonymity of all participants and confidentiality of all data were assured.

Chapter 4: Findings

Introduction

The findings of this study on the relationship between the teacher evaluation tool and student achievement are discussed in this chapter. Descriptive statistics with findings, answers to the research question, and a conclusion are presented following a review of the research question, research design, and description of methods.

The purpose of this quantitative study was to explore the relationship between teacher proficiency and student achievement at K-5 grade levels across six schools in a Class A Northern Michigan school district. This research centered on the question: Is there a statistically significant relationship between the teacher evaluation tool (using the summative ratings of teacher evaluations from the 2015–2016 and 2016–2017 school years for teachers of Grades K-5 using the Danielson Framework Teaching model) and student achievement (as measured using the Northwest Evaluation Association Measures of Academic Progress (NWEA MAP), as measured using the same time period in a selected Michigan school district? In other words, this study explored the questions “Does good teaching produce greater student achievement?” and “Can teacher performance (evaluation rating) predict an NWEA MAP score?”

The research design included the independent variable of teacher effectiveness ratings and the dependent variable of student achievement. Survey data were gathered from 69 teachers and their students. Teacher performance evaluation was rated using the Danielson Framework for Teaching, and the tool used by principals to measure student achievement was the Northwest Evaluation System’s (NWEA’s) Measures of Academic Progress (MAP) test.

To maintain confidentiality and anonymity and minimize bias, teacher names were coded by the district's human resources director for the district. Both teacher ratings and student test scores of the coded teachers' numbers were entered into SPSS (Statistical Package for the Social Sciences) statistics software. Teacher evaluation ratings were plotted against the NWEA MAP reading, mathematics, and English language arts (ELA) scores to determine if there was a relationship. Student scores were presented in aggregate form.

Quantitative methods were used to analyze the numerical data, explore correlation, and transform data into statistics. A Spearman correlation was used to determine if a relationship between teacher evaluation ratings and student test scores existed. Student data were tied only to the instructor and no other variable (e.g., gender, socioeconomic status).

Descriptive Statistics

The participants included in this study were students from Grades kindergarten through fifth grades in a Northern Michigan school district during the 2015–2016 and 2016–2017 school years. Participants also included 69 teachers who taught kindergarten through fifth grade during the same time period. Ten administrators conducted teacher observations and valuated teachers using the Danielson Framework.

Table 3 displays the descriptive statistics for the 2015–16 winter and spring NWEA language, reading, and math RIT scores. Students' mean spring scores increased compared to winter scores for all three subjects, with math having the highest gain from winter ($M = 195.73$, $SD = 12.71$) to spring ($M = 200.99$, $SD = 11.59$).

Table 3

Descriptive Statistics for 2015–2016 NWEA RIT Scores (N = 69)

Score	<i>M</i>	<i>SD</i>	Low	High
2015–2016 NWEA language winter test RIT score	200.91	7.59	182.62	214.47
2015–2016 NWEA language spring test RIT score	202.13	7.89	174.14	214.87
2015–2016 NWEA reading winter test RIT score	193.07	12.51	165.37	216.11
2015–2016 NWEA reading spring test RIT score	195.71	11.53	172.00	216.62
2015–2016 NWEA math winter test RIT score	195.73	12.71	174.44	221.75
2015–2016 NWEA math spring test RIT score	200.99	11.59	177.02	223.36

Table 4 provides the descriptive statistics for the 2016–17 winter and spring NWEA language, reading, and math RIT scores. Students' mean spring scores increased compared to winter scores for all three subjects, with math again having the highest gain from winter ($M = 202.60$, $SD = 11.84$) to spring ($M = 206.34$, $SD = 11.48$)

Table 4

Descriptive Statistics for 2016–2017 NWEA RIT Scores (N = 69)

Score	<i>M</i>	<i>SD</i>	Low	High
2016–2017 NWEA language winter test RIT score	202.90	7.39	182.00	217.61
2016–2017 NWEA language spring test RIT score	204.56	7.57	178.42	218.35
2016–2017 NWEA reading winter test RIT score	198.01	11.50	166.38	218.59
2016–2017 NWEA reading spring test RIT score	201.01	11.13	165.69	220.98
2016–2017 NWEA math winter test RIT score	202.60	11.84	180.30	226.56
2016–2017 NWEA math spring test RIT score	206.34	11.48	184.08	229.99

The data provided by the school district that was loaded into SPSS software by the district's data manager to determine frequency counts for teacher effectiveness variables and correlations between NWEA RIT scores and teacher effectiveness ratings. The table displayed in Appendix T offers the coded teacher number (Random #); the 2015–2016 and 2016–2017 NWEA MAP winter and spring student scores for language, reading, and mathematics; and teacher effectiveness ratings. *Highly Effective* is shown as 1; *Effective* as 2; *Minimally Effective* as 3; and *Ineffective* as 4.

The scores for the (NWEA MAP) test are norm-referenced and reveals the amount of growth that should be seen from students from the fall testing cycle to the spring testing cycle. Appendix R shows the 2015 NWEA MAP Student Status Norms Chart. It provides

reading, mathematics, language usage, and science student status norms for Grades K-11 and takes into consideration testing at the beginning, middle, and end of the school year. Scoring procedures are based on the bell-shaped curve. Therefore, 68% of scores fall between the ranges provided on the table.

Table 5 displays the frequency counts for the teacher effectiveness variables. The teachers' 2015–16 effectiveness ratings ranged from “*Minimally effective*” to “*Highly effective*” with most receiving ratings of *Effective* (71.0%). Most teachers were not considered highly effective for 2015–16 by the effectiveness ratings standard (73.9%). The teachers' 2016–17 effectiveness ratings ranged from “*Ineffective*” to “*Highly effective*” with most receiving ratings of *Effective* (69.6%). Again, most teachers were not considered highly effective for 2016–17 by the effectiveness ratings standard (72.5%).

Table 5

Frequency Counts for Teacher Effectiveness Variables (N = 69)

Variable	Category	<i>n</i>	%
2015–16 Effectiveness Rating	Minimally effective	2	2.9
	Effective	49	71.0
	Highly effective	18	26.1
Highly Effective 2015–2016 ^a	No	51	73.9
	Yes	18	26.1
2016–17 Effectiveness Rating	Ineffective	1	1.4
	Minimally effective	1	1.4
	Effective	48	69.6
	Highly effective	19	27.5
Highly Effective 2016–2017 ^a	No	50	72.5
	Yes	19	27.5

^a Frequencies based on number of *Highly effective* ratings from effectiveness variable.

Answering the Research Question

Is there a statistically significant relationship between the teacher evaluation tool (using the summative ratings of teacher evaluations from the 2015–2016 and 2016–2017 school years for teachers of Grades K-5 using the Danielson Framework for Teaching model) and student achievement (as measured using the NWEA MAP) as measured using the same time period in a selected Michigan school district? Table 6 shows the Spearman correlations for the 12 RIT scores with the four teacher effectiveness ratings. None of the resulting 48 correlations were significant at the $p < .05$ level.

Table 6

Spearman Correlations for NWEA RIT Scores with Effectiveness Ratings (N = 69)

Variable	2015-16 Effectiveness Rating^a	Highly Effective 2015-16^b	2016-17 Effectiveness Rating^a	Highly Effective 2016-17^b
2015–2016 NWEA language winter test RIT score	.01	.01	.10	.14
2015–2016 NWEA language spring test RIT score	-.02	-.02	.09	.11
2015–2016 NWEA reading winter test RIT score	-.12	-.13	-.01	-.01
2015–2016 NWEA reading spring test RIT score	-.12	-.14	-.02	-.02
2015–2016 NWEA math winter test RIT score	-.11	-.12	-.03	-.04
2015–2016 NWEA math spring test RIT score	-.07	-.09	.01	-.01
2016–2017 NWEA language winter test RIT score	-.12	-.11	.07	.08
2016–2017 NWEA language spring test RIT score	-.07	-.08	.12	.11
2016–2017 NWEA reading winter test RIT score	-.15	-.17	-.03	-.05
2016–2017 NWEA reading spring test RIT score	-.13	-.15	-.01	-.03
2016–2017 NWEA math winter test RIT score	-.14	-.17	-.03	-.05
2016–2017 NWEA math spring test RIT score	-.13	-.15	-.01	-.03

* $p < .05$.

^a Coding: 1 = *ineffective* 2 = *minimally effective* 3 = *effective* 4 = *highly effective*

^b Coding: 0 = *No (not highly effective)*; 1 = *Yes (highly effective)*.

The researcher explored whether there was a difference between the teacher evaluation summative ratings and student achievement when considering all four evaluation ratings and the teacher evaluation summative ratings, and student achievement when

considering only highly effective evaluation ratings. The first and third columns of Table 7 provide the Spearman correlations for the 2015–2016 and 2016–2017 RIT scores with all four teacher effectiveness ratings. None of the resulting correlations were significant at the $p < .05$ level. The second and fourth columns of Table 7 provide the Spearman correlations for the 2015–2016 and 2016–2017 RIT scores of only highly effective teacher effectiveness ratings. None of the resulting correlations were significant at the $p < .05$ level.

Conclusion

This study used data from 69 teacher effectiveness ratings and their students' NWEA achievement scores to determine if there was a relationship between teacher proficiency and student achievement at K-5 grade levels in a northern Michigan school district. None of the 48 Spearman correlations between teacher proficiency and student achievement were significant. In the final chapter, these findings are compared to the literature, conclusions and implications are drawn, and a series of recommendations are suggested.

Chapter 5: Discussion and Conclusions

Introduction

In response to recently passed legislation at the state level, the researcher set out to determine whether there is a statistically significant relationship between teacher evaluation ratings and student achievement. Topics in this chapter include the statement of the problem, the purpose of the study, the significance of the study, the research question, and methods employed in the conduct of this study. Discussion includes a brief summary of the findings, a comparison of the results with the literature, and recommendation for policy-makers, practitioners, and future research.

Statement of the Problem

The relationship between teacher evaluation ratings and student achievement is unclear. The perception, accuracy, correlation to good teaching, cost, and politics of teacher evaluations have all been challenged. Scriven's (1981) comment that "the principles and the principals are unclear in evaluations" (p. 3) was cited by Epstein in 1985 and the criticism continued with Peterson (2000), who noted the failure of teacher evaluations to improve teachers (p. 18). This study was conducted to provide some insight into teacher evaluation ratings and student achievement.

Purpose of the Study

Does good teaching produce greater student achievement? Can teacher performance predict an NWEA MAP score? These questions led to the purpose of this quantitative study to determine if a relationship existed between teacher proficiency, as measured by the teacher performance evaluation system rating, using the Danielson Framework for Teaching, and

student achievement, as measured by the Northwest Evaluation System's (NWEA's) Measures of Academic Progress (MAP) test.

Significance of the Study

Findings of this study provided information to stakeholders about the relationship between teacher evaluation ratings and student growth. Data gathered on each side of the equation with the use of a recognized teacher evaluation tool and standard measurement of student growth informed policy-makers' efforts to comply with federal and state mandates to improve student achievement outcomes and to link teacher performance. Many teachers report that a benefit of the revised evaluation system is the conversations that occur about student learning. Input of stakeholders—teachers, principals, administrators, school boards, unions, professional groups, the Michigan Department of Education, and legislators—contributed to the success of the participating school district in this study to address the research question.

Research Question

The following question was the focus of this study: Is there a statistically significant relationship between the teacher evaluation tool (using the summative ratings of teacher evaluations from the 2015–2016 and 2016–2017 school years for teachers of Grades K-5 using the Danielson Framework for Teaching model) and student achievement (as measured using the Northwest Evaluation Association Measures of Academic Progress (NWEA MAP) using the same time period in a selected Michigan school district)?

Methods

Quantitative methods were used to analyze the numerical data, explore correlation, and transform data into statistics. The data in this study included teacher evaluation data and

student achievement data. The evaluation data of 69 teachers of Grades K-5 in the six elementary schools in the school district were drawn from the summative evaluation rubrics using the Danielson Framework for Teaching. Student data were NWEA MAP scores in reading, mathematics, and English language arts (ELA) for the 2015–2016 and 2016–2017 school years. A Spearman correlation was used to determine if a relationship between teacher evaluation ratings and student test scores existed. Student data were tied only to the instructor and no other variable (e.g., gender, socioeconomic status.).

Summary of Findings

Spearman correlations for the 12 NWEA RIT scores with the four teacher effectiveness ratings—highly effective, effective, minimally effective, and ineffective—compared all effectiveness ratings with student achievement for the 2015–2016 and 2016–2017 school years. Correlations were also conducted comparing just highly effectiveness ratings with student achievement for the 2015–2016 and 2016–2017 school years. None of the 48 correlations were significant at the $p < .05$ level (See Table 4). Therefore, this study found that in this selected Northern Michigan school district, no relationship was found between the teacher evaluation tool (using the summative ratings of teacher evaluations from the 2015–2016 and 2016–2017 school years for teachers of Grades K-5 using the Danielson Framework for Teaching model) and student achievement (as measured using the NWEA MAP) as measured using the same time period.

Comparison of Results to the Literature

As noted in the literature review, research has supported both sides of the argument regarding a relationship between teacher evaluation ratings and student achievement. This study found no relationship between teacher evaluation ratings and student achievement.

The result of this study was consistent with Medley and Coker (1987) who, after analyzing several studies, concluded that “the correlations between the average principal's ratings of teacher performance and direct measures of teacher effectiveness were near zero” (p. 242). Although Medley and Coker’s study was on a larger scale, involving 46 principals and 322 teachers, their study, similar to the present study, examined teacher effectiveness ratings with math and reading scores.

Medley and Coker (1987) found a low accuracy in the average principals’ ratings of teachers they supervised, and an unanticipated finding in their study was that “Principals regarded their teachers as far superior to teachers in other schools” (p. 245). It is possible that principals in the present study also regarded their teachers as superior to teachers in other schools and rated their own teachers higher than they would have rated teachers in other schools. This consideration would suggest further studies that include teacher observations with multiple observers to ensure inter-rater reliability.

Findings in this study were also consistent with the findings of Kimball and Milanowski (2009), who found variation with the relationship between teacher evaluation ratings. Kimball and Milanowski’s study was on a much larger scale, involving 328 teachers and 5683 students in Grades 3–5 for the 2001–2002 school year, and 569 teachers and 9873 students in Grades 3–6 for the 2002–2003 school year. Their study was similar to this study in that it used Danielson’s Framework for Teaching as the teacher evaluation tool and the students were tested in reading and mathematics. The researchers’ found that “because principals have to work with the teachers after their evaluation is complete, principals may still tend to inflate ratings even in high-stakes situations to maintain collegiality” (p. 63). It is possible that principals in the present study also inflated ratings to maintain collegiality. The

Kimball & Milanowski's use of larger sampling, use of the same evaluation tool, same subjects being taught, and suggestion that principals might inflate ratings might support the findings of this study that no relationship exists between teacher effectiveness ratings and student achievement.

Research in the literature review found that there exists, or should exist, a relationship between teacher evaluation ratings and student achievement. First, in *The Research Findings from the Tennessee Value-Added Assessment System (TVAAS)*, Sanders and Horn (1998) found that "a component linking teacher effectiveness to student outcomes is a necessary part of any effective educational evaluation system" (p. 247). These remarks suggested that there is a relationship between student outcomes and teacher effectiveness ratings. This is inconsistent with the results of this research that found no relationship exists within the given parameters. Differences in the two studies could contribute to the inconsistent findings. The differences between the TVAAS findings and this study included a much larger sample size. The TVAAS included more than 5 million records and three years of data. Another difference is testing in more subject areas. The TVAAS included mathematics, reading, and language, as did this study; however, TVAAS also included science and social studies. The fact that the TVAAS included a larger sample size, more years of testing, and more subjects being tested, could account for different results than found in this study.

Sanders and Horn (1998) stated that the TVAAS "cannot be the only source of data in a teacher's evaluation" (p. 249). This statement leaves room for the argument that student achievement is not the only factor that should be considered in teacher effectiveness ratings and that there might be factors (socioeconomic status, race, and so on) other than teacher effectiveness ratings that come into play. Kupermintz (2002) concurred that researchers need

to consider other factors for teacher effectiveness ratings. The confusion appears to concern a clear definition of teacher effectiveness and the relationship of teacher effectiveness and student growth. The conundrum offers fertile ground for further studies.

This study found no relationship between teacher evaluation ratings and student achievement. Because this study suggested that no relationship exists between the two variables, Kupermintz's (2002) claim that other factors need to be considered are supported by the results of this study.

Wright, Horn, and Sanders (1997) tell us the TVAAS was a process constructed to estimate "the effects of teachers and schools on student academic outcomes free of ... traditional objections..." (p. 58). In their own study referencing the TVAAS process and data, Wright, Horn, and Sanders (1997) stated that teacher quality is the most important factor affecting academic achievement at school. However, they admitted, "There were no direct, systematic observations of the quality of teaching and learning at the classroom level of this study" (p. 66). A major difference between the data collected with the TVAAS and this study is that this study utilized teacher observations and collected those data, whereas the TVAAS failed to observe or collect data related to the quality of teaching at the classroom level. The TVAAS did not take teacher observations into consideration. This difference in the type of data utilized could contribute to the discrepancy in results.

Disparate findings in the literature would suggest that more research is needed on teacher effectiveness as it relates to student achievement. Wright, Horn, and Sanders (1997) suggested further research comparing teachers who get good student achievement results over time with teachers who do not, and using those data to explore the "relationship between teacher effectiveness and teacher evaluation" (p. 66). Further, they suggested examining

teacher evaluation systems “if characteristics of teaching and learning environments that differentiate teachers who are demonstrably effective . . . in different contexts over time can be documented” (p. 66). Kupermintz (2002) suggested that future research examine factors other than student achievement when determining teacher effectiveness. He stated: “At a minimum, such studies should employ independent measures of teacher effectiveness, such as teaching practices, supervisor evaluations, scores from teacher tests, and so on” (p. 17). Studies documented in the literature review showed that student achievement has been closely monitored over the last few years, as test scores of students in the United States trail behind other countries. The Programme for International Student Assessment (PISA, 2012) test scores for 2012 indicated that the United States ranked 27th in mathematics, 17th in reading and 20th in science of the 34 Organization for Economic Co-operation and Development countries. These scores have generated discussions on how to improve student achievement in the United States. Teacher quality and teacher evaluations are often a part of these conversations. The connection assumed between improving student achievement and teacher effectiveness ratings is inconsistent with the findings of the present study, as well. However, because this study found no relationship between teacher evaluation ratings and student achievement, perhaps the conversations should shift, looking for factors other than teacher evaluations that might impact student achievement.

Sanders and Rivers (1996) examined teacher effectiveness levels and student achievement levels and found that “regardless of initial achievement level, teachers in the top quintile facilitated desirable academic progress for *all* students” (p. 7) Although the present study found no relationship between teacher evaluation ratings and student achievement, it might be beneficial for a study to be conducted on the relationship between teacher

evaluation ratings and student *growth* (as opposed to achievement) during the time period only of when students are assigned to their particular teacher because, as Sanders and Rivers (1996) have determined, all students can show progress if assigned to an effective teacher. The researcher suggests a future study that during a particular school year, data be collected that would determine how much a student gains while assigned to a particular teacher. This time constraint would take into account that students have had varying experiences and only measure academic growth while assigned to a particular teacher. The findings in this suggested study would provide information on teacher effectiveness with less dependency on the level of a student entering a classroom.

As mentioned previously in this research, Charlotte Danielson (2011), in an e-mail to this researcher, said "...using standardized tests...are highly unreliable for purposes of teacher accountability. However, when based on classroom evidence, looking at such evidence can lead to important conversations about student learning. And when conducted with teams of teachers, these conversations are richer still" (personal communication, March 4, 2011). Because this study found no relationship between teacher evaluation ratings and student achievement, the researcher agrees with Danielson that the evidence from this study should lead to important conversations about student achievement. The next sections of this study will focus on ideas for these conversations.

Policy Recommendations

Policy recommendations involve working *on* our legislative system to create an ideal future. This study is significant because of all the recently passed national and Michigan legislation pertaining to teacher evaluations and student learning. The researcher has recommendations for stakeholders at the national and state levels. These stakeholders

include the Michigan State Board of Education, the Michigan Department of Education, and state and national legislators. The researcher suggests that lawmakers, when writing bills and passing legislation, take into consideration the findings of this study that showed no relationship between teacher evaluation ratings and student achievement. State Board of Education members need to consider the findings of this research when passing policy and MDOE employees need to consider the findings of this research when interpreting legislation and making their recommendations on how school districts carry out the laws. Specifically, these stakeholders need to consider the lack of proof of a link between teacher evaluation rating relationship and student achievement when creating laws and policies that could eliminate teaching positions based on test scores. The researcher also suggests that these stakeholders facilitate conversations with educators to have deeper conversations about how the system can improve student achievement.

Caution should be taken when passing legislation mandating that student test scores be taken into consideration with teachers' evaluation scores. Because the findings of this research suggest that there is no significant relationship between teacher evaluation ratings and student achievement, the researcher recommends that student achievement be eliminated as a disproportionate percent of a teacher's overall evaluation score. Further, a teacher's evaluation rating should take multiple measures into consideration, not just assessment, and it is recommended that these multiple measures be taken into consideration when writing legislation.

When considering major legislative overhauls, as was the case with teacher evaluation requirements recently in Michigan, lawmakers need to educate themselves. The Michigan Council for Educator Effectiveness was created to provide information to

lawmakers. Legislators chose to take some recommendations from the council. The researcher recommends other panels like this in the future. Further, it is recommended that lawmakers engage in rich conversation with the panel to make informed decisions.

Practitioner Recommendations

Recommendations for practitioners based on this study focus on the management and operations of schools at the local level working *in* the system, administrators have many take-aways from the findings of this study.

Issues at the school district level include employment decisions based on teacher evaluations and student achievement. These employment decisions include teacher retention, teacher compensation, and teacher tenure. Because the results of this study indicated no relationship between teacher evaluation ratings and student achievement, caution must be exercised when school districts make high-stakes employment decisions based on test scores.

Because current Michigan legislation mandates that teacher evaluation framework training and personnel decisions be tied to test scores, principals need to take professional development for training on rater reliability and continued calibration with scoring teachers using their districts' chosen evaluation framework. School districts need to ensure consistency in scoring across schools and may find it beneficial for principals to watch teacher observation videos together and engage in group discussions about the observations. Because elementary schools usually have one administrator in their building, principals may also find it beneficial to observe teachers in other schools in their districts and compare the results with the principal scoring in the other buildings.

As recommended to policy-makers, the researcher recommends to local districts to be mindful of the percent value placed on student achievement when calculating a teacher's

overall rating. Because this study found no significant relationship between teacher evaluation ratings and student achievement, assessment should not be a large portion of a teacher's evaluation rating score. Further, districts should use multiple measures to assess the effectiveness of their educators and not include student assessment, which has no significant relationship to their rating as the only one tool.

Principals are often advocates for students, teachers, and policy. The researcher recommends that administrators, as education leaders, reach out to policy-makers and discuss variables that impact student learning. Principals could attend legislator town hall meetings, write letters, and visit lawmakers in Lansing to share findings of research that could help policy-makers make informed decisions when considering legislation related to teacher evaluations.

Administrators could use social media to inform the public and policy-makers. On a local level, administrators could also share research findings relative to teacher evaluation ratings and student achievement during public meetings.

Recommendations for Future Research

Given that this study showed no relationship between teacher evaluation ratings and student achievement, and arguments in the literature that were both supportive of and not supportive of whether a relationship exists, we know that knowledge is lacking in some areas. Therefore, the researcher suggests future research should address other issues involved in the evaluation process and take into consideration other variables. A replication of this study could use a different population, a different data collection instrument, and/or a different research design approach. A larger population studied would improve reliability; the study could be conducted in a population setting more socially or economically diverse,

in a less rural area, in school districts of different sizes than the school district in this study, or include students in grades above the elementary level. Other populations could also include public, private, parochial, charter, and alternative education schools. The study could be conducted with a larger and more diverse sample of teachers and include more principals who perform classroom observations.

Another consideration for future study would involve change of instruments that test the variables. The same research could be conducted using the M-STEP, ACT, or SAT rather than the NWEA MAP test to determine whether the instrument impacts the outcomes differently. The study could be conducted using other teacher evaluation frameworks, such as the R. Marzano (2007) Teacher Evaluation Model, the Thoughtful Classroom (Silver Strong, 2007), and the Five Dimensions of Teaching and Learning, (Center for Educational Leadership, 2016).

The same study could be replicated using a different research design approach, such as a qualitative analysis of the phenomenon surrounding teacher evaluation and examining why there appears to be no relationship between teacher evaluation ratings and student achievement. Or, another study could focus on student growth in a specified time period, as opposed to student achievement and/or be conducted as longitudinal research. A study could also be conducted without using aggregate classroom test scores and examining scores at the individual student level. By isolating student variables, data could be collected about the relationship of student test scores based on gender, age, special education, attendance, curriculum, English language learners, class size, home influences, community influences, and free-and-reduced lunch qualifications.

Final Summary

Numerous laws passed in Michigan relating to teacher evaluations in recent years led to the question: Does good teaching produce greater student achievement? This study was conducted to determine if there was a relationship between teacher evaluation ratings and student achievement.

Steps toward an answer to the question included researching the background of legislation, refining the problem, defining a clear purpose of the study, and determining the significance or benefit of the study. A thorough review of literature included a history of teacher evaluations, legislative timeline, federal and state policy, and relevant Michigan legislation. Methods and design of the study led to statistical analysis and interpretation of its results with recommendations that followed.

Although no relationship was found between teacher evaluation ratings and student achievement, valuable information was revealed that exposed the need for more conversation among stakeholders, including school districts, schools, teachers, principals, administrators, school boards, unions, professional groups, private evaluation developers, researchers, the Michigan Department of Education, and legislators. The researcher passes the baton on to others to follow up on the foundation of data from this study toward the goals of excellence in teaching and greater student achievement.

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Appendices

Appendix A: University Research Human Subjects Committee Approval

UHSRC Determination: EXEMPT

DATE: June 13, 2017

TO: Lisa Hilberg

Eastern Michigan University

Re: UHSRC: # 1074879-1

Category: Exempt category 4

Approval Date: June 13, 2017

Title: An Examination of the Relationship Between Teacher Performance Evaluation System Ratings and Student Achievement

Your research project, entitled An Examination of the Relationship Between Teacher Performance Evaluation System Ratings and Student Achievement, has been determined Exempt in accordance with federal regulation 45 CFR 46.102. UHSRC policy states that you, as the Principal Investigator, are responsible for protecting the rights and welfare of your research subjects and conducting your research as described in your protocol.

Renewals: Exempt protocols do not need to be renewed. When the project is completed, please submit the Human Subjects Study Completion Form (access through IRBNet on the UHSRC website).

Modifications: You may make minor changes (e.g., study staff changes, sample size changes, contact information changes, etc.) without submitting for review. However, if you plan to make changes that alter study design or any study instruments, you must submit a Human Subjects Approval Request Form and obtain approval prior to implementation. The form is available through IRBNet on the UHSRC website.

Problems: All major deviations from the reviewed protocol, unanticipated problems, adverse events, subject complaints, or other problems that may increase the risk to human subjects or change the category of review must be reported to the UHSRC via an Event Report form, available through IRBNet on the UHSRC website

Follow-up: If your Exempt project is not completed and closed after three years, the UHSRC office will contact you regarding the status of the project. Please use the UHSRC number listed above on any forms submitted that relate to this project, or on any correspondence with the UHSRC office.

Good luck in your research. If we can be of further assistance, please contact us at 734-487-3090 or via e-mail at human.subjects@emich.edu. Thank you for your cooperation.

Sincerely,

Sonia Chawla, PhD

Research Compliance Officer

Appendix B: Legislative Timeline

Date	Notes	House Bills	Senate Bills	Public Act	Highlights/Significance
Beginning in 1937	Teacher Tenure				<ul style="list-style-type: none"> Michigan legislature “authorized each school district to approve a system of tenure for their teachers”
1964	Teacher Tenure				<ul style="list-style-type: none"> Michigan legislature “made the provisions of the Teachers’ Tenure Act applicable to all school districts in Michigan” enacted for three reasons: job security, protection from “arbitrary employment practices such as political patronage, and to advance academic freedom by providing protection to teachers who promoted open or controversial ideas
1993	Overhaul of Teacher Tenure Law				<ul style="list-style-type: none"> probationary period for teachers was extended from two years to four years non-probationary teachers were now required to have an evaluation every three years probationary teachers were now required to have two classroom observations a year, an evaluation once a year, and an individualized development plan (IDP) shifted tenure hearings from the local level to the state level with time requirements for the appeal process “limited the rights of tenured teachers whose services are terminated due to necessary reductions in personnel”

2011	Teacher Tenure Law Tie-barred, “to ensure that ineffective teachers improve their practice or be removed from the teaching profession in a more timely manner”	4625 4626 4627		101 of 2011 100 of 2011 102 of 2011	<ul style="list-style-type: none"> • expanded evaluation requirements • specified that probationary teachers with an effective or highly effective rating could not be displaced by a tenured teacher because the other teacher has continuing tenure • increased probation from four to five years, with the exception of a teacher with three consecutive highly effective ratings • shortened the time required for probationary teachers to be notified of release of employment from 60 days to 15 days • allowed for the termination of probationary teachers at any time • permitted a board of education to determine the format and number of observations for teachers with tenure and teachers on probation • shortened the deadlines for tenure hearings • did not impact teacher evaluations. • amended the Revised School Code • amended Section 1249, added Sections 1248 and 1249a • Section 1249c defined teacher ratings in four categories • Legislation mandated that school district evaluation tools now had to include the terminology <i>highly effective</i>, <i>effective</i>, <i>minimally effective</i>, and <i>ineffective</i> in their ratings • staffing reduction decisions were not to be based on seniority and tenure • school boards must base staffing reduction decisions on “retaining effective teachers, as measured by the evaluation system” • ineffective teachers were not to be given partiality over minimally effective, effective, or highly effective teachers in decisions related to staffing reductions • the teacher’s individual performance “must be the major factor in decision-making” for staffing reductions • individual performance involves pedagogical skills, classroom management, and teacher attendance and discipline • student growth must be the “predominant factor in assessing” the teacher’s performance
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		4628		103 of 2011	<ul style="list-style-type: none"> • seniority and tenure were not to be a factor of staffing reductions unless all other factors are equal • annual year-end evaluations beginning in 2013-2014 • teacher dismissal if a teacher was “rated as ineffective on three consecutive year-end evaluations” • non-probationary teachers with an ineffective rating be allowed to ask the district superintendent for a review • “at least 25% of the year-end evaluation be based on student growth and assessment data in 2013-2014” • 40% in 2014-2015 • 50% in 2015-2016” • midyear progress report for first-year probationary teachers or for teachers who, in their last year, received a minimally effective or ineffective rating • components of the midyear progress report include student achievement, individual development plans (IDPs), and performance goals • multiple classroom observations • “unless a teacher has received a rating of effective or highly effective on” their last two evaluations • review lesson plans, noting the state curriculum standard, pupil engagement • “observation does not have to be done for an entire class period” • school districts are exempt from teacher evaluation system requirements if a “significant portion” of the evaluations are based on “student growth and assessment data,” if student growth is determined by “research-based measures,” there are multiple observations, “teacher effectiveness and ratings as measured by student achievement and growth data are factored into” personnel decisions, “evaluation results” inform professional development, and teachers and administrators are evaluated yearly • districts must notify the newly-formed governor’s council of its exemption • districts had to describe its evaluation system on their website • launched the bipartisan Michigan Council for Educator Effectiveness (MCEE) • amended the Public Employment Relations Act (PERA)
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					<ul style="list-style-type: none"> prohibited the following topics from collective bargaining: “teacher placement,” personnel decisions when reducing staff, “the performance evaluation system,” “classroom observation,” “a performance-based method of compensation,” and “parental notification of ineffective teachers”
6/30/14	A fix to previous legislation, moved back to 2012-2013 expectations		817	257 of 2014	<ul style="list-style-type: none"> ignored MCEE’s recommendation of three rating categories mandated four rating categories defined student growth measurement deleted: student growth shall be measured “by national, State, or local assessments and other objective criteria” from previous legislation required that, beginning in 2014-2015, state assessments be used to measure student growth (with some exemptions) use state tests for grades and subjects where state tests are “administered in accordance with federal law” deleted the 2013-2014 and 2014-2015 yearly student growth percentage requirements beginning with the 2015-2016 school year, 50% of a teacher evaluation must be based on student growth and assessment data
	tie-barred, died in lame duck session	5223			<ul style="list-style-type: none"> teacher evaluations districts had to adopt and use either a state-approved evaluation tool or a local tool that met certain criteria frameworks (or choose another): The Charlotte Danielson Framework for Teaching (2013), The Marzano Teacher Evaluation Model (2011), The Thoughtful Classroom (Silver Strong, 2007), or Five Dimensions of Teaching and Learning (Center for Educational Leadership, 2016) multiple observations, with at least one being unscheduled teacher feedback within 30 days one unscheduled observation for teachers who were not effective or highly effective on two prior evaluations observers must be trained by the vendor in the district’s framework observers’ retraining was also required every three years districts would not be allowed to assign a student to a teacher who has had two ineffective evaluations

		5224			<ul style="list-style-type: none"> • if a school district could not comply with this requirement, they would have to notify parents of their non-compliance and the reason thereof before July 17 of that school year • the percentage of a teacher evaluation based on student growth and assessment would be 25% for the 2014-2015, 2015-2016, and 2016-2017 school years and raised to 40% during the 2017-2018 school year • 50% of student growth and assessment data must come from the state student growth assessment tool for teachers who teach in a core subject area • the portion not based on student growth must come from the “teacher’s performance, as measured by the evaluation tool • parent and student feedback as part of a teacher evaluation • required to provide mentors or coaches for minimally effective and first-year teachers • disallow the Superintendent of Public Instruction from awarding a teaching certificate to a teacher who was not effective or highly effective for three years • required schools to dismiss teachers who had had three ineffective evaluations if the evaluations were conducted using the same evaluation framework and under the same performance evaluation system • eliminated the Michigan Council for Educator Effectiveness and all of its provisions • deleted certain administrator evaluation requirements and created performance and practice criteria that legislators laid out in House Bill 5334 by adding section 1249b to the Code administrator evaluations
11/5/15			103	173 of 2015	<ul style="list-style-type: none"> • Revised School Code: amended Sections 1249 and 1249a • Revised School Code: added Sections 1249b, 1531j, and 1531k • mandated teacher evaluation systems • districts required to post their evaluation tool online

					<ul style="list-style-type: none"> • districts could use their own evaluation tool • districts required to use the same tool district-wide • required the Michigan Department of Education to keep a list of recommended evaluation instruments • beginning in 2017-2018, the “portion of the evaluation not based on student growth and assessment data” would be “based primarily on the teacher’s performance as measured by the evaluation tool” • the remaining portion would be based on Section 1248(1)(b)(i)-(iii) of the Revised School Code, which includes requirements about discipline, pedagogical skills, classroom management, attendance, training, and accomplishments and contributions • student growth would be worth 25% of a teacher’s annual year-end evaluation for the 2015-2016, 2016-2017, and 2017-2018 school years and the percentage will increase to 40% during the 2018-2019 school year • half of that 40% must be based on a state test, and the other half may be determined by local growth tools • student growth had to include multiple measures • districts could no longer assign a student to a teacher who had been rated ineffective for two years in a row and, if the school did not comply, the district was required to notify the parents • year-end evaluations must involve a teacher and administrator discussing the teacher’s professional growth goals and creating a plan for support for those goals for the upcoming school year • beginning July 1, 2018, states cannot issue a professional teaching certificate to teachers who did not meet certain requirements
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[https://www.legislature.mi.gov/\(S\(r12p2snfxmatwvw4trdbv4xn\)\)/mileg.aspx?page=home](https://www.legislature.mi.gov/(S(r12p2snfxmatwvw4trdbv4xn))/mileg.aspx?page=home)

Appendix C: Sec. 1249 of the Revised School Code. SB 981, Public Act 205

Sec. 1249. With the involvement of teachers and school administrators, the board of a school district or intermediate school district or board of directors of a public school academy shall adopt and implement for all teachers and school administrators a rigorous, transparent, and fair performance evaluation system that does all of the following:

(a) Evaluates the teacher's or school administrator's job performance at least annually while providing timely and constructive feedback.

(b) Establishes clear approaches to measuring student growth and provides teachers and school administrators with relevant data on student growth.

(c) Evaluates a teacher's or school administrator's job performance, using multiple rating categories that take into account data on student growth as a significant factor. For these purposes, student growth shall be measured by national, state, or local assessments and other objective criteria.

(d) Uses the evaluations, at a minimum, to inform decisions regarding all of the following:

(i) The effectiveness of teachers and school administrators, ensuring that they are given ample opportunities for improvement.

(ii) Promotion, retention, and development of teachers and school administrators, including providing relevant coaching, instruction support, or professional development.

(iii) Whether to grant tenure or full certification, or both, to teachers and school administrators using rigorous standards and streamlined, transparent, and fair procedures.

(iv) Removing ineffective tenured and untenured teachers and school administrators after they have had ample opportunities to improve, and ensuring that these decisions are made using rigorous standards and streamlined, transparent, and fair procedures.

Appendix D: Sec. 1250 of the Revised School Code. SB 981, Public Act 205

Sec. 1250. (1) A school district, public school academy, or intermediate school district shall implement and maintain a method of compensation for its teachers and school administrators that includes job performance and job accomplishments as a significant factor in determining compensation and additional compensation. The assessment of job performance shall incorporate a rigorous, transparent, and fair evaluation system that evaluates a teacher's or school administrator's performance at least in part based upon data on student growth as measured by assessments and other objective criteria.

(2) If a collective bargaining agreement is in effect for teachers or school administrators of a school district, public school academy, or intermediate school district as of the effective date of the amendatory act that added this subsection, and if that collective bargaining agreement prevents compliance with subsection (1), then subsection (1) does not apply to that school district, public school academy, or intermediate school district until after the expiration of that collective bargaining agreement.

Appendix E: Senate Bill 926, Public Act 203 of 2009

For the fiscal year ending September 30, 2010, there is also appropriated the sum of \$450,000,000.00 from the federal funding awarded to this state under title XIV of the American recovery and reinvestment act of 2009, Public Law 111-5, to be used solely for the purpose of funding the primary funding formula calculated under section 20, in accordance with federal law. In addition, any money received by this state from the federal incentive grant program created under sections 14005 and 14006 of title XIV of the American recovery and reinvestment act of 2009, Public Law 111-5, known as the “race to the top” grant program, and all other available federal funds are appropriated for the fiscal year ending September 30, 2010.

Appendix F: Sections 94(a), and 94(h-j) of the SB 926, Public Act 203

Sec. 94a. (1) There is created within the office of the state budget director in the department of management and budget the center for educational performance and information. The center shall do all of the following:

Sec. 94(h) To the extent funding is available, coordinate the electronic exchange of student records using a unique identification numbering system among entities receiving funds under this act and postsecondary institutions for students participating in public education programs from preschool through postsecondary education.

(i) In cooperation with the department, create and implement a teacher identifier system with the ability to match an individual teacher to individual pupils the teacher has taught. Subject to applicable law regarding student privacy, the system shall do all of the following:

(i) Make accessible annual state assessment records of individual pupils.

(ii) Enable individual pupil academic achievement data, including growth in academic achievement, to be correlated to each teacher who has taught the pupil.

(iii) Enable school board members, teachers, and school administrators to have access to the data so they can make informed decisions in order to improve instruction and pupil achievement.

(j) Other functions as assigned by the state budget director

ARTICLE II

Sec. 1. (1) Subject to subsections (2) and (3) and section 3b of this article, a teacher is in a probationary period during his or her first 5 full school years of employment.

(2) Subject to section 3b of this article, a teacher under contract but not on continuing tenure as of the effective date of the 2011 amendatory act that amended this subsection is in a probationary period during his or her first 4 full school years of employment.

(3) A teacher on continuing tenure as of the effective date of the 2011 amendatory act that amended this subsection continues to be on continuing tenure even if the teacher has not served for at least 5 full school years of employment.

Sec. 2. A teacher shall not be required to serve more than 1 probationary period in any 1 school district or institution.

Sec. 2a. A probationary teacher who is rated as effective or highly effective on his or her most recent annual year-end performance evaluation under section 1249 of the revised school code, 1976 PA 451, MCL 380.1249, is not subject to being displaced by a teacher on continuing tenure solely because the other teacher has continuing tenure.

Sec. 3. (1) Before the end of each school year, the controlling board shall provide the probationary teacher with a definite written statement as to whether or not his or her work has been effective. Subject to subsection (2), a probationary teacher or teacher not on continuing contract shall be employed for the ensuing year unless notified in writing at least 15 days before the end of the school year that his or her services will be discontinued.

(2) A teacher who is in a probationary period may be dismissed from his or her employment by the controlling board at any time.

Sec. 3a. The controlling board of a probationary teacher's employing school district shall ensure that the teacher is provided with an individualized development plan developed by appropriate administrative personnel in consultation with the individual teacher and that the teacher is provided with at least an annual year-end performance evaluation each year during the teacher's probationary period. The annual year-end performance evaluation shall be based on classroom observations and shall include at least an assessment of the teacher's progress in meeting the goals of his or her individualized development plan. The controlling board shall determine the format and number of the classroom observations in consultation with teachers and school administrators. A performance evaluation shall be conducted in accordance with section 1249 of the revised school code, 1976 PA 451, MCL 380.1249. Sec.

3b. (1) Except as otherwise provided in subsection (2), a teacher shall not be considered to have successfully completed the probationary period unless the teacher has been rated as effective or highly effective on his or her 3 most recent annual year-end performance evaluations under section 1249 of the revised school code, 1976 PA 451, MCL 380.1249, and has completed at least 5 full school years of employment in a probationary period.

(2) If a teacher has been rated as highly effective on 3 consecutive annual year-end performance evaluations under section 1249 of the revised school code, 1976 PA 451, MCL 380.1249, and has completed at least 4 full school years of employment in a probationary period, the teacher shall be considered to have successfully completed the probationary period.

ARTICLE III

Sec. 3. The controlling board of the school district employing a teacher on continuing tenure shall ensure that the teacher is provided with an annual year-end performance evaluation in accordance with section 1249 of the revised school code, 1976 PA 451, MCL 380.1249. If the teacher has received a rating of ineffective or minimally effective on an annual year-end performance evaluation, the school district shall provide the teacher with an individualized development plan developed by appropriate administrative personnel in consultation with the individual teacher. The individualized development plan shall require the teacher to make progress toward individual development goals within a specified time period, not to exceed 180 days. The annual year-end performance evaluation shall be based on multiple classroom observations conducted during the period covered by the evaluation and shall include, in addition to the factors required under section 1249 of the revised school code, 1976 PA 451, MCL 380.1249, at least an assessment of the teacher's progress in meeting the goals of his or her individualized development plan. The controlling board shall determine the format and number of the classroom observations in consultation with teachers and school administrators.

Appendix H: Section 1249c, House Bill 4627, Public Act 102 of 2011

(c) Evaluates a teacher's or school administrator's job performance, using multiple rating categories that take into account data on student growth as a significant factor. For these purposes, student growth shall be measured by national, state, or local assessments and other objective criteria. If the performance evaluation system implemented by a school district, intermediate school district, or public school academy under this section does not already include the rating of teachers as highly effective, effective, minimally effective, and ineffective, then the school district, intermediate school district, or public school academy shall revise the performance evaluation system within 60 days after the effective date of the amendatory act that added this sentence to ensure that it rates teachers as highly effective, effective, minimally effective, or ineffective.

Appendix I: Staff Reductions, Sec. 1248, HB 4627

Sec. 1248. (1) For teachers, as defined in section 1 of article I of 1937 (Ex Sess) PA 4, MCL 38.71, all of the following apply to policies regarding personnel decisions when conducting a staffing or program reduction or any other personnel determination resulting in the elimination of a position, when conducting a recall from a staffing or program reduction or any other personnel determination resulting in the elimination of a position, or in hiring after a staffing or program reduction or any other personnel determination resulting in the elimination of a position by a school district or intermediate school district:

(a) Subject to subdivision (c), the board of a school district or intermediate school district shall not adopt, implement, maintain, or comply with a policy that provides that length of service or tenure status is the primary or determining factor in personnel decisions when conducting a staffing or program reduction or any other personnel determination resulting in the elimination of a position, when conducting a recall from a staffing or program reduction or any other personnel determination resulting in the elimination of a position, or in hiring after a staffing or program reduction or any other personnel determination resulting in the elimination of a position.

(b) Subject to subdivision (c), the board of a school district or intermediate school district shall ensure that the school district or intermediate school district adopts, implements, maintains, and complies with a policy that provides that all personnel decisions when conducting a staffing or program reduction or any other personnel determination resulting in the elimination of a position, when conducting a recall from a staffing or program reduction or any other personnel determination resulting in the elimination of a position, or in hiring after a staffing or program reduction or any other personnel determination resulting in the elimination of a position, are based on retaining effective teachers. The policy shall ensure that a teacher who has been rated as ineffective under the performance evaluation system under section 1249 is not given any preference that would result in that teacher being retained over a teacher who is evaluated as minimally effective, effective, or highly effective under the performance evaluation system under section 1249.

Appendix J: Student growth linked to teacher performance, Sec. 1248, HB 4627

Effectiveness shall be measured by the performance evaluation system under section 1249, and the personnel decisions shall be made based on the following factors:

(i) Individual performance shall be the majority factor in making the decision, and shall consist of but is not limited to all of the following:

(A) Evidence of student growth, which shall be the predominant factor in assessing an employee's individual performance.

(B) The teacher's demonstrated pedagogical skills, including at least a special determination concerning the teacher's knowledge of his or her subject area and the ability to impart that knowledge through planning, delivering rigorous content, checking for and building higher-level understanding, differentiating, and managing a classroom; and consistent preparation to maximize instructional time. (C) The teacher's management of the classroom, manner and efficacy of disciplining pupils, rapport with parents and other teachers, and ability to withstand the strain of teaching.

(D) The teacher's attendance and disciplinary record, if any.

(ii) Significant, relevant accomplishments and contributions. This factor shall be based on whether the individual contributes to the overall performance of the school by making clear, significant, relevant contributions above the normal expectations for an individual in his or her peer group and having demonstrated a record of exceptional performance.

(iii) Relevant special training. This factor shall be based on completion of relevant training other than the professional development or continuing education that is required by the employer or by state law, and integration of that training into instruction in a meaningful way.

(c) Except as otherwise provided in this subdivision, length of service or tenure status shall not be a factor in a personnel decision described in subdivision (a) or (b). However, if that personnel decision involves 2 or more employees and all other factors distinguishing those employees from each other are equal, then length of service or tenure status may be considered as a tiebreaker.

(2) If a collective bargaining agreement is in effect for employees of a school district or intermediate school district as of the effective date of this section and if that collective bargaining agreement prevents compliance with subsection (1), then subsection (1) does not apply to that school district or intermediate school district until after the expiration of that collective bargaining agreement.

(3) If a teacher brings an action against a school district or intermediate school district based on this section, the teacher's sole and exclusive remedy shall be an order of reinstatement commencing 30 days after a decision by a court of competent jurisdiction. The remedy in an action brought by a teacher based on this section shall not include lost wages, lost benefits, or any other economic damages.

Appendix K: Year-end Review and Mid-year Progress Report, HB 4627

(2) Beginning with the 2013–2014 school year, the board of a school district or intermediate school district or board of directors of a public school academy shall ensure that the performance evaluation system for teachers meets all of the following:

(a) The performance evaluation system shall include at least an annual year-end evaluation for all teachers. An annual year-end evaluation shall meet all of the following:

(i) For the annual year-end evaluation for the 2013–2014 school year, at least 25% of the annual year-end evaluation shall be based on student growth and assessment data. For the annual year-end evaluation for the 2014–2015 school year, at least 40% of the annual year-end evaluation shall be based on student growth and assessment data. Beginning with the annual year-end evaluation for the 2015–2016 school year, at least 50% of the annual year-end evaluation shall be based on student growth and assessment data. All student growth and assessment data shall be measured using the student growth assessment tool that is required under legislation enacted by the legislature under subsection (6) after review of the recommendations contained in the report of the governor’s council on educator effectiveness submitted under subsection (5).

House Bill 4627 added requirements for a midyear progress report for first-year probationary teachers or for teachers who, in their last year, received a minimally effective or ineffective rating.

(b) The performance evaluation system shall include a midyear progress report for a teacher who is in the first year of the probationary period prescribed by section 1 of article II of 1937 (Ex Sess) PA 4, MCL 38.81, or who received a rating of minimally effective or ineffective in his or her most recent annual year-end evaluation. The midyear progress report shall be used as a supplemental tool to gauge a teacher’s improvement from the preceding school year and to assist a teacher to improve. All of the following apply to the midyear progress report:

(i) The midyear progress report shall be based at least in part on student achievement.

(ii) The midyear progress report shall be aligned with the teacher’s individualized development plan under subdivision (a)(iii).

(iii) The midyear progress report shall include specific performance goals for the remainder of the school year that are developed by the school administrator conducting the annual year-end evaluation or his or her designee and any recommended training identified by the school administrator or designee that would assist the teacher in meeting these goals. At the midyear progress report, the school administrator or designee shall develop, in consultation with the teacher, a written improvement plan that includes these goals and training and is designed to assist the teacher to improve his or her rating.

(iv) The midyear progress report shall not take the place of an annual year-end evaluation.

Appendix L: Classroom observation, Sec 1249, HB 4627

(c) The performance evaluation system shall include classroom observations to assist in the performance evaluations. All of the following apply to these classroom observations:

- (i) Except as provided in this subdivision, the manner in which a classroom observation is conducted shall be prescribed in the evaluation tool for teachers described in subdivision (d).
- (ii) A classroom observation shall include a review of the teacher's lesson plan and the state curriculum standard being used in the lesson and a review of pupil engagement in the lesson.
- (iii) A classroom observation does not have to be for an entire class period.
- (iv) Unless a teacher has received a rating of effective or highly effective on his or her 2 most recent annual year-end evaluations, there shall be multiple classroom observations of the teacher each school year.

Appendix M: Requirement for teacher evaluation system and exemption, HB 4626

(8) If, after the effective date of this subsection, a school district, intermediate school district, or public school academy begins operating a new public school, or implements a new performance evaluation system for a public school it operates, and all of the following apply, then the school district, intermediate school district, or public school academy is not required to comply with subsection (2) or (3) for that public school:

(a) The performance evaluation system adopted and implemented for that public school replicates and is identical to the performance evaluation system of a public school that is exempt under subsection (7). (b) The school district, intermediate school district, or public school academy posts a description of the performance evaluation system on its website.

Subsection 7 referenced above states the following conditions:

(7) If all of the following apply for a public school operated by a school district, intermediate school district, or public school academy, then the school district, intermediate school district, or public school academy is not required to comply with subsection (2) or (3) for that public school:

(a) As of the effective date of this subsection, the school district, intermediate school district, or public school academy has already implemented and is currently using a performance evaluation system for that public school that meets all of the following requirements:

(i) Under the system, the most significant portion of a teacher's or school administrator's evaluation is based on student growth and assessment data, which may include value-added measures.

(ii) The system uses research-based measures to determine student growth, which may be measured by standards-based, nationally normed assessments.

(iii) The system determines professional competence through multiple direct observations of classroom practices and professional practices throughout the school year.

(iv) Under the system, teacher effectiveness and ratings, as measured by student achievement and growth data, are factored into teacher retention, promotion, and termination decisions.

(v) Under the system, teacher and school administrator performance evaluation results are used to inform teacher professional development for the succeeding year.

(vi) The system ensures that teachers and school administrators are evaluated at least annually.

(b) The school district, intermediate school district, or public school academy notifies the governor's council on educator effectiveness by November 1, 2011 that it is exempt under this subsection from the requirements of subsections (2) and (3).

(c) The school district, intermediate school district, or public school academy posts a description of its evaluation system on its website.

Appendix N: Michigan Council for Educator Effectiveness, HB 4627

(4) The governor's council on educator effectiveness is created as a temporary commission described in section 4 of article V of the state constitution of 1963. All of the following apply to the governor's council on educator effectiveness:

(a) The governor's council on educator effectiveness shall consist of the following 5 voting members:

(i) The governor shall appoint 3 members.

(ii) The senate majority leader shall appoint 1 member.

(iii) The speaker of the house of representatives shall appoint 1 member.

(b) In addition to the members appointed under subdivision (a), the superintendent of public instruction or his or her designee shall serve as a nonvoting member.

(c) The members appointed under subdivision (a), and the designee of the superintendent of public instruction if he or she appoints a designee, shall have expertise in 1 or more of the following areas: psychometrics, measurement, performance-based educator evaluation models, educator effectiveness, or development of educator evaluation frameworks in other states.

(d) Not later than October 31, 2011, the governor's council on educator effectiveness shall contract with 1 or more additional experts in the areas described in subdivision (c) as the council considers necessary.

(e) The governor shall appoint an advisory committee for the governor's council on educator effectiveness to provide input on the council's recommendations. The advisory committee shall consist of public school teachers, public school administrators, and parents of public school pupils.

(f) The governor's office shall provide staffing and support for the governor's council on educator effectiveness.

(5) Not later than April 30, 2012, the governor's council on educator effectiveness shall submit to the state board, the governor, and the legislature a report that identifies and recommends all of the following for the purposes of this section and that includes recommendations on evaluation processes and other matters related to the purposes of this section:

(a) A student growth and assessment tool. The student growth and assessment tool shall meet all of the following:

(i) Is a value-added model that takes into account student achievement and assessment data, and is based on an assessment tool that has been determined to be reliable and valid for the purposes of measuring value-added data.

(ii) In addition to measuring student growth in the core subject areas of mathematics, science, English language arts, and social science, will measure student growth in other subject areas.

(iii) Complies with all current state and federal law for students with a disability.

(iv) Has at least a pre- and post-test.

(v) Is able to be used for pupils of all achievement levels.

(b) A state evaluation tool for teachers. All of the following apply to this recommendation:

(i) In addition to the student growth and assessment tool, the recommended state evaluation tool for teachers may include, but is not limited to, instructional leadership abilities, teacher and pupil attendance, professional contributions, training, progress report achievement, school improvement plan progress, peer input, and pupil and parent feedback.

- (ii) The council shall ensure that the recommended state evaluation tool for teachers will allow all special education teachers to be rated.
- (iii) The council shall seek input from school districts, intermediate school districts, and public school academies that have already developed and implemented successful, effective performance evaluation systems.
- (c) A state evaluation tool for school administrators described in subsection (3). In addition to the student growth and assessment tool, the recommended state evaluation tool for these school administrators may include, but is not limited to, teacher and pupil attendance, graduation rates, professional contributions, training, progress report achievement, school improvement plan progress, peer input, and pupil and parent feedback.
- (d) For the purposes of the recommended state evaluation tools for teachers and school administrators under subdivisions (b) and (c), recommended parameters for the effectiveness rating categories for teachers under subsection (2)(e) and for school administrators under subsection (3)(e).
- (e) Recommended changes to be made in the requirements for a professional education teaching certificate that will ensure that a teacher is not required to complete additional postsecondary credit hours beyond the credit hours required for a provisional teaching certificate.
- (f) A process for evaluating and approving local evaluation tools for teachers under subsection (2)(d) and school administrators under subsection (3)(d).
- (6) It is the intent of the legislature to review the report submitted by the governor's council on educator effectiveness under subsection (5) and to enact appropriate legislation to put into place a statewide performance evaluation system taking into consideration the recommendations contained in the report.

Appendix O: Written notice to parents, HB 4627, Sec. 1249a

Sec. 1249a. Beginning in 2015–2016, if a pupil is assigned to be taught by a teacher who has been rated as ineffective on his or her 2 most recent annual year-end evaluations under section 1249, the board of the school district or intermediate school district or board of directors of the public school academy in which the pupil is enrolled shall notify the pupil’s parent or legal guardian that the pupil has been assigned to a teacher who has been rated as ineffective on his or her 2 most recent annual year-end evaluations. The notification shall be in writing, shall be delivered to the parent or legal guardian not later than July 15 immediately preceding the beginning of the school year for which the pupil is assigned to the teacher, and shall identify the teacher who is the subject of the notification.

Appendix P: Topics prohibited from collective bargaining. HB4628, PA103 or 2011

(3) Collective bargaining between a public school employer and a bargaining representative of its employees shall not include any of the following subjects:

(j) Any decision made by the public school employer regarding the placement of teachers, or the impact of that decision on an individual employee or the bargaining unit.

(k) Decisions about the development, content, standards, procedures, adoption, and implementation of the public school employer's policies regarding personnel decisions when conducting a reduction in force or any other personnel determination resulting in the elimination of a position or a recall from a reduction in force or any other personnel determination resulting in the elimination of a position or in hiring after a reduction in force or any other personnel determination resulting in the elimination of a position, as provided under section 1248 of the revised school code, 1976 PA 451, MCL 380.1248, any decision made by the public school employer pursuant to those policies, or the impact of those decisions on an individual employee or the bargaining unit.

(l) Decisions about the development, content, standards, procedures, adoption, and implementation of a public school employer's performance evaluation system adopted under section 1249 of the revised school code, 1976 PA 451, MCL 380.1249, or under 1937 (Ex Sess) PA 4, MCL 38.71 to 38.191, decisions concerning the content of a performance evaluation of an employee under those provisions of law, or the impact of those decisions on an individual employee or the bargaining unit.

(n) Decisions about the format, timing, or number of classroom observations conducted for the purposes of section 3a of article II of 1937 (Ex Sess) PA 4, MCL 38.83a, decisions concerning the classroom observation of an individual employee, or the impact of those decisions on an individual employee or the bargaining unit.

(o) Decisions about the development, content, standards, procedures, adoption, and implementation of the method of compensation required under section 1250 of the revised school code, 1976 PA 451, MCL 380.1250, decisions about how an employee performance evaluation is used to determine performance-based compensation under section 1250 of the revised school code, 1976 PA 451, MCL 380.1250, decisions concerning the performance-based compensation of an individual employee, or the impact of those decisions on an individual employee or the bargaining unit.

(p) Decisions about the development, format, content, and procedures of the notification to parents and legal guardians required under section 1249a of the revised school code, 1976 PA 451, MCL 380.1249a.

Appendix Q: SB 817, PA 251. Reversed expectations for evaluations to 2012-2013

Sec. 1249. (1) Subject to subsection (7), with the involvement of teachers and school administrators, the board of a school district or intermediate school district or board of directors of a public school academy shall adopt and implement for all teachers and school administrators a rigorous, transparent, and fair performance evaluation system that does all of the following:

(a) Evaluates the teacher's or school administrator's job performance at least annually while providing timely and constructive feedback.

(b) Establishes clear approaches to measuring student growth and provides teachers and school administrators with relevant data on student growth.

(c) Evaluates a teacher's or school administrator's job performance, using multiple rating categories that take into account data on student growth as a significant factor. For 2014-2015, for grades and subjects in which state assessments are administered in compliance with 20 USC 6311, student growth must be measured, at least in part, using the state assessments, and for grades and subjects in which state assessments are not required and administered for purposes of 20 USC 6311, student growth must be measured, at least in part, using alternative assessments that are rigorous and comparable across schools within the school district, intermediate school district, or public school academy. If the performance evaluation system implemented by a school district, intermediate school district, or public school academy under this section does not already include the rating of teachers as highly effective, effective, minimally effective, and ineffective, then the school district, intermediate school district, or public school academy shall revise the performance evaluation system not later than September 19, 2011 to ensure that it rates teachers as highly effective, effective, minimally effective, or ineffective.

(d) Uses the evaluations, at a minimum, to inform decisions regarding all of the following:

(i) The effectiveness of teachers and school administrators, ensuring that they are given ample opportunities for improvement.

(ii) Promotion, retention, and development of teachers and school administrators, including providing relevant coaching, instruction support, or professional development.

(iii) Whether to grant tenure or full certification, or both, to teachers and school administrators using rigorous standards and streamlined, transparent, and fair procedures.

(iv) Removing ineffective tenured and untenured teachers and school administrators after they have had ample opportunities to improve, and ensuring that these decisions are made using rigorous standards and streamlined, transparent, and fair procedures.

(2) Beginning with the 2015–2016 school year, the board of a school district or intermediate school district or board of directors of a public school academy shall ensure that the performance evaluation system for teachers meets all of the following:

(a) The performance evaluation system shall include at least an annual year-end evaluation for all teachers. An annual year-end evaluation shall meet all of the following:

(i) At least 50% of the annual year-end evaluation shall be based on student growth and assessment data. All student growth and assessment data shall be measured using the student growth assessment tool that is required under legislation enacted by the legislature after review of the recommendations contained in the report of the former Michigan council for educator effectiveness.

(ii) If there are student growth and assessment data available for a teacher for at least 3 school years, the annual year-end evaluation shall be based on the student growth and assessment data for the most recent 3-consecutive-schoolyear period. If there are not student growth and assessment data available for a teacher for at least 3 school years, the annual year-end evaluation shall be based on all student growth and assessment data that are available for the teacher.

(iii) The annual year-end evaluation shall include specific performance goals that will assist in improving effectiveness for the next school year and are developed by the school administrator or his or her designee conducting the evaluation, in consultation with the teacher, and any recommended training identified by the school administrator or designee, in consultation with the teacher, that would assist the teacher in meeting these goals. For a teacher described in subdivision

(b), the school administrator or designee shall develop, in consultation with the teacher, an individualized development plan that includes these goals and training and is designed to assist the teacher to improve his or her effectiveness.

Appendix R: NWEA Student Status Norms

The norms in the tables below have a very straightforward interpretation. For example, in the status norms for Reading, grade 2 students in the middle of the “begin-year” period had a mean score of 174.7 and a standard deviation of 15.5. To get a sense of how much dispersion there was, the SD 15.5 can be subtracted from the mean and added to the mean to produce a range of about 159–190. Since the norms are based on the bell curve, we know that 68% of all scores are expected to fall between in this range.

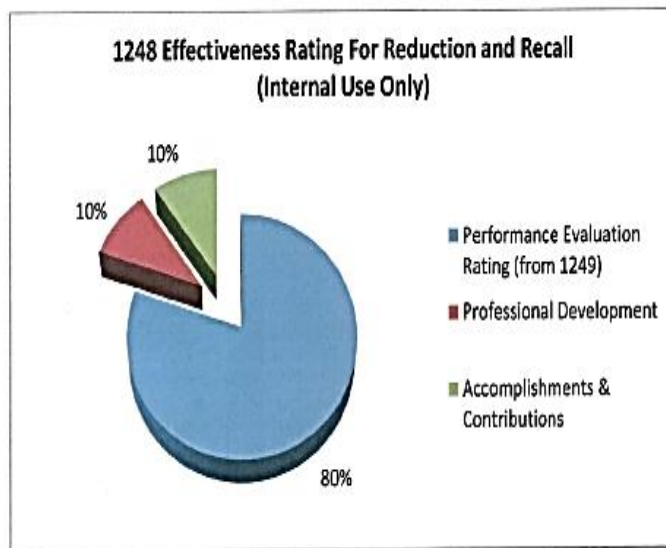
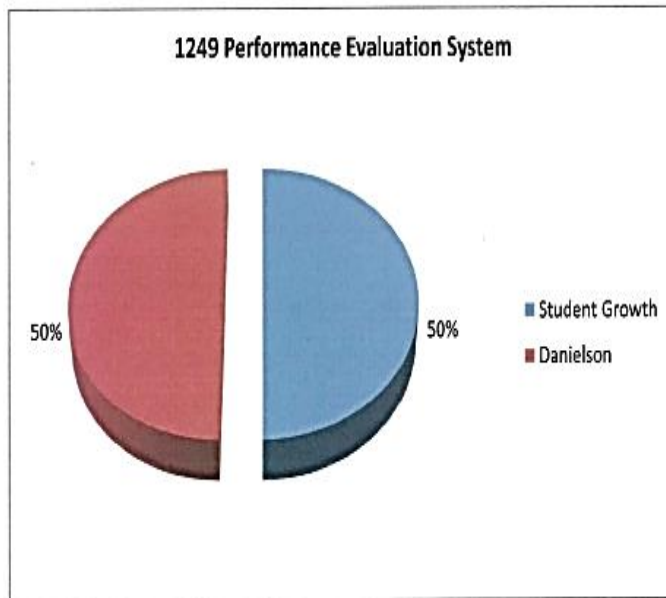
2015 READING Student Status Norms						
Grade	Begin-Year		Mid-Year		End-Year	
	Mean	SD	Mean	SD	Mean	SD
K	141.0	13.54	151.3	12.73	158.1	12.85
1	160.7	13.08	171.5	13.54	177.5	14.54
2	174.7	15.52	184.2	14.98	188.7	15.21
3	188.3	15.85	195.6	15.14	198.6	15.10
4	198.2	15.53	203.6	14.96	205.9	14.92
5	205.7	15.13	209.8	14.65	211.8	14.72
6	211.0	14.94	214.2	14.53	215.8	14.66
7	214.4	15.31	216.9	14.98	218.2	15.14
8	217.2	15.72	219.1	15.37	220.1	15.73
9	220.2	15.68	221.3	15.54	221.9	16.21
10	220.4	16.85	221.0	16.70	221.2	17.48
11	222.6	16.75	222.7	16.53	222.3	17.68

2015 MATHEMATICS Student Status Norms						
Grade	Begin-Year		Mid-Year		End-Year	
	Mean	SD	Mean	SD	Mean	SD
K	140.0	15.06	151.5	13.95	159.1	13.69
1	162.4	12.87	173.8	12.96	180.8	13.63
2	176.9	13.22	186.4	13.11	192.1	13.54
3	190.4	13.10	198.2	13.29	203.4	13.81
4	201.9	13.76	208.7	14.27	213.5	14.97
5	211.4	14.68	217.2	15.33	221.4	16.18
6	217.6	15.53	222.1	16.00	225.3	16.71
7	222.6	16.59	226.1	17.07	228.6	17.72
8	226.3	17.85	229.1	18.31	230.9	19.11
9	230.3	18.13	232.2	18.62	233.4	19.52
10	230.1	19.60	231.5	20.01	232.4	20.96
11	233.3	19.95	234.4	20.18	235.0	21.30

2015 LANGUAGE USAGE Student Status Norms						
Grade	Begin-Year		Mid-Year		End-Year	
	Mean	SD	Mean	SD	Mean	SD
2	174.5	16.58	184.9	15.34	189.7	15.47
3	189.4	15.20	196.8	14.24	200.0	14.11
4	198.8	14.66	204.4	13.83	206.7	13.64
5	205.6	13.87	209.7	13.23	211.5	13.19
6	210.7	13.79	213.9	13.30	215.3	13.38
7	214.0	13.82	216.5	13.52	217.6	13.70
8	216.2	14.17	218.1	13.92	219.0	14.26
9	218.4	14.15	219.7	13.98	220.4	14.50
10	218.9	15.04	219.7	14.99	220.1	15.74
11	221.5	14.96	222.1	14.85	222.1	15.80

2015 GENERAL SCIENCE Student Status Norms						
Grade	Begin-Year		Mid-Year		End-Year	
	Mean	SD	Mean	SD	Mean	SD
3	187.5	11.74	192.6	10.92	195.4	11.01
4	194.6	11.16	198.7	10.75	201.0	10.92
5	200.2	11.06	203.7	10.80	205.7	11.07
6	204.3	11.54	207.1	11.40	208.6	11.73
7	207.2	11.92	209.5	11.87	210.9	12.23
8	210.3	12.28	212.3	12.19	213.5	12.63

Appendix S: 2015–2016 Evaluation System



PERFORMANCE EVALUATION OVERVIEW

A completed evaluation will include most/all of the items below. Not all items are required of each teacher/evaluation. Please review carefully.

- Professional Growth Goal** entered in Teachscape (*required of non-probationary teachers only*).
- IDP** completed, signed, and scanned/uploaded into Teachscape (*required of probationary teachers or any teacher who received a rating of minimally effective or ineffective on his/her most recent annual year-end evaluation*). The IDP will be initiated by the evaluating administrator and developed in consultation with the teacher.
 - Once the IDP is completed, the administrator will scan/upload a copy into Teachscape under Goal Setting Forms and Conference/Evaluator Artifacts.
- Student Growth Goal(s)** entered in Teachscape.
 - Each teacher will identify **multiple sources of assessment data from Appendix A** to indicate student growth and will be responsible to provide evidence to their evaluator. (Three sources are recommended.) Teachers will complete the Student Growth Goal section in Teachscape. *Complete the sections in as much detail as needed/appropriate to the section.*
 - Presenting Your Analysis:** Teachers will share copies of their individual data sources/results with the evaluating administrator. Data could take the form of class lists, data printouts, anecdotal records, photographs, or other forms. These items may have been created by the teacher or a third party. Building administrators can provide guidance as to what hard-copy evidence would be appropriate. Each teacher is asked to type a brief narrative summary of results as a cover sheet, reflecting on the Student Growth Goal(s) entered into Teachscape. The entire packet, including data, will then be scanned/uploaded by the teacher into Teachscape under Goal Setting Artifacts.
- Teacher Self-Evaluation:** Each teacher will complete a self-evaluation in Teachscape.
 - Select the appropriate radio button for each component within a domain and then comment on the domain as a whole. A narrative comment is requested for any component that the teacher is rated Highly Effective, Minimally Effective and/or Ineffective.
- Midyear Progress Report:** In Teachscape, the Midyear Forms and Conference section must be completed for any teacher who is in the first year of the probationary period or who received a rating of minimally effective or ineffective in his/her most recent annual year-end evaluation. All others can skip this section.
- Year-End Summative Review:** Found under Year-End Forms and Conference, this item should be completed by all teachers. This section provides an opportunity for reflection on professional goals. Artifacts may be uploaded here as well (optional).
- Points for Accomplishments and Contributions:** Appendix B (Accomplishments and Contributions) and Appendix C (Professional Development) summarize various ways teachers can acquire points towards 1248 Effectiveness Rating For Reduction and Recall.
 - NEW for 2015-2016:** *Points possible for each section have been reduced from 15 in each area to 10. In addition, points possible have been increased in many areas.*
- Completed Evaluation Plan (see next page):** Each teacher will be assigned one of four (4) evaluation plans: Level 1, Level 2, Level 3, or Probationary. All evaluations will include multiple observations, which may include walk-throughs.

Appendix T: 2015–16 and 2016–17 Student Scores for Language, Reading, and Mathematics, and Teacher Effectiveness Ratings

Random #	2015-2016 NWEA Language	2015-2016 NWEA Language	2015-2016 NWEA Reading	2015-2016 NWEA Reading	2015-2016 NWEA Math Winter Test	2015-2016 NWEA Math Spring Test	2016-2017 NWEA Language	2016-2017 NWEA Language	2016-2017 NWEA Language	2016-2017 NWEA Reading	2016-2017 NWEA Reading	2016-2017 NWEA Math Winter Test	2016-2017 NWEA Math Spring Test	2015-16 Effectiveness Rating	2016-17 Effectiveness Rating
1	214.47	214.87	216.11	216.62	221.75	223.36	217.61	218.35	218.59	220.98	226.56	229.99	2	2	
2	212.49	213.24	213.41	215.16	215.07	221.40	213.76	215.94	215.33	218.65	221.01	225.63	1	1	
3	209.69	212.52	212.02	213.88	217.30	218.84	215.25	215.56	216.72	216.94	222.56	224.35	2	2	
4	211.04	211.59	211.92	213.08	218.48	220.37	212.05	213.25	212.53	215.14	220.10	222.35	1	1	
5	209.79	211.24	210.14	211.99	212.96	218.13	212.66	214.85	214.03	216.70	220.00	222.99	2	1	
6	209.91	210.60	210.36	211.70	212.38	215.09	211.33	213.34	212.54	214.96	217.39	221.16	2	2	
7	209.35	209.98	210.29	210.54	213.50	216.64	212.81	212.97	213.66	214.39	219.59	221.29	2	2	
8	207.65	209.27	208.40	210.07	210.86	214.10	211.14	212.84	213.11	213.97	217.37	219.43	2	2	
9	207.52	208.76	208.14	209.54	212.51	215.92	207.22	209.78	207.95	212.45	218.22	219.76	2	2	
10	212.02	211.56	207.33	209.44	216.39	218.23	211.56	210.81	206.33	209.23	218.76	221.79	1	2	
11	207.57	209.03	207.33	209.09	208.99	213.44	211.55	213.03	211.74	214.33	216.48	220.52	2	2	
12	206.86	208.21	208.49	208.52	211.05	214.18	211.21	212.14	213.00	214.78	217.40	219.27	2	1	
13	204.26	207.01	206.08	208.30	209.11	211.84	209.66	210.37	210.34	211.57	216.18	218.50	2	2	
14	202.63	202.43	202.34	207.86	205.90	208.10	209.48	208.35	206.07	207.02	213.16	214.57	2	2	
15	205.96	206.47	207.65	207.79	207.00	210.68	208.00	210.98	209.19	212.83	212.77	218.10	2	2	
16	207.02	207.88	208.01	207.73	212.14	215.02	209.20	211.68	208.34	212.44	215.43	220.08	2	2	
17	207.03	207.88	207.16	207.53	209.97	213.30	210.25	211.50	211.20	212.51	216.13	218.39	2	2	
18	203.54	206.40	204.04	206.14	206.31	210.83	208.73	209.01	205.93	210.18	211.82	214.02	3	2	
19	206.59	207.42	201.48	205.08	202.84	208.76	206.50	209.27	206.61	210.46	211.23	214.35	1	1	
20	208.23	208.51	203.91	204.93	205.82	211.73	206.55	209.47	208.41	212.30	212.85	216.97	1	1	
21	203.27	205.16	203.36	204.81	207.83	211.42	205.45	206.79	206.29	209.70	213.74	217.11	2	2	
22	208.31	210.24	200.64	204.77	203.94	209.71	204.53	205.33	205.91	207.04	210.73	212.77	2	4	
23	206.18	207.65	201.84	203.11	203.90	209.23	206.53	208.57	207.19	209.16	210.32	213.89	2	2	
24	200.47	201.47	201.13	201.52	201.51	204.72	203.95	206.37	205.11	207.61	207.74	213.34	2	2	
25	208.59	209.82	197.32	201.44	198.96	206.68	209.20	212.02	204.16	207.26	207.19	212.11	1	1	
26	197.32	201.03	198.37	201.05	200.20	205.61	205.08	207.05	205.50	206.37	209.74	212.89	2	2	

27	205.68	207.67	197.10	200.43	200.29	205.59	206.85	208.70	201.09	203.92	205.90	209.51	2	2
28	205.39	206.30	197.54	199.35	198.43	203.60	206.23	208.89	201.30	205.09	204.88	210.40	2	2
29	204.03	204.96	196.85	199.17	199.60	204.36	206.22	207.04	201.12	203.44	206.34	209.54	2	2
30	206.00	206.86	195.52	198.22	197.77	203.40	206.93	208.01	199.92	202.52	204.33	208.24	2	1
31	204.13	204.68	194.52	197.32	194.09	201.99	202.95	206.51	196.00	200.90	198.28	202.40	1	1
32	201.09	201.73	193.55	196.32	195.27	200.96	203.52	205.10	200.45	203.45	203.69	207.58	2	2
33	200.44	203.00	192.35	196.16	196.22	202.03	202.33	204.59	199.66	201.87	203.93	206.60	2	2
34	204.24	205.24	193.87	196.08	195.44	200.98	205.69	207.43	198.03	201.50	201.97	206.85	2	2
35	200.12	201.43	193.43	195.78	193.05	197.32	201.83	205.16	199.50	202.63	200.71	207.11	2	2
36	195.92	198.77	193.39	195.49	193.98	200.37	199.20	202.20	198.33	203.64	202.17	206.28	2	2
37	209.00	210.34	191.68	195.27	195.12	200.35	201.60	205.64	188.13	193.25	191.46	196.48	1	2
38	195.76	196.26	195.79	195.24	198.46	202.12	202.17	203.90	202.65	203.66	205.57	207.87	2	2
39	199.33	200.17	190.65	194.33	192.64	198.71	203.31	204.54	197.62	200.52	201.95	205.51	2	2
40	185.75	191.75	186.59	192.73	190.63	201.23	191.64	196.30	193.51	197.23	195.98	198.88	2	2
41	189.57	194.90	186.89	191.52	192.00	199.11	195.23	199.76	195.06	198.75	197.69	201.53	2	2
42	199.03	199.95	188.30	191.18	188.06	193.67	195.43	199.47	195.70	199.20	195.26	201.58	2	2
43	201.99	201.92	190.14	190.88	190.16	196.12	204.50	205.65	198.18	198.69	199.36	204.01	2	2
44	198.66	202.39	185.67	190.13	186.56	194.14	203.08	205.78	194.52	198.68	196.55	201.73	1	1
45	197.10	195.40	190.77	189.32	192.76	198.81	197.59	199.19	198.00	198.27	198.96	201.96	2	2
46	201.57	202.94	182.27	189.07	181.96	189.84	202.06	205.32	193.49	197.68	194.18	204.26	1	1
47	203.88	205.12	185.13	188.02	185.89	194.25	201.38	205.19	193.23	196.88	195.91	201.64	2	1
48	199.60	201.69	184.19	187.97	185.18	191.68	201.43	203.97	190.16	194.24	192.94	198.92	2	2
49	204.53	206.92	184.02	186.25	185.26	189.58	208.20	209.52	185.15	189.46	189.52	196.81	2	1
50	195.82	196.72	180.08	186.03	180.76	188.95	199.16	198.10	190.05	192.99	194.49	198.73	2	2
51	192.46	193.68	180.74	185.64	183.01	191.47	198.05	200.13	191.35	194.90	193.46	198.62	2	2
52	204.24	204.55	182.72	184.87	181.09	189.35	204.58	206.49	183.71	188.17	185.26	191.20	1	1
53	188.62	189.68	183.90	184.81	188.99	191.77	192.60	195.14	189.62	191.18	194.93	195.24	1	1
54	198.12	197.88	179.46	184.69	178.18	189.86	196.67	195.60	189.70	192.57	194.33	198.17	1	1
55	202.01	201.59	181.98	184.67	182.77	186.84	203.20	203.15	185.87	189.16	186.74	192.47	3	3
56	182.62	174.14	165.37	183.86	176.92	177.02	193.72	178.42	166.38	165.69	194.48	187.22	2	2
57	194.00	197.90	180.63	183.27	185.91	192.75	189.95	195.57	187.71	191.92	191.22	194.56	2	2
58	191.01	193.71	178.98	182.90	182.04	188.21	199.42	199.58	185.98	189.88	189.47	194.31	1	1
59	189.67	189.45	180.12	182.78	182.35	189.98	195.55	197.35	189.86	193.00	192.85	197.50	1	2

60	197.92	201.90	180.54	182.69	182.78	188.15	196.51	200.13	183.50	187.54	186.41	190.81	2	2
61	193.57	188.33	187.10	181.91	191.42	194.15	192.62	194.62	186.51	192.89	192.11	194.34	1	1ve
62	192.49	195.19	176.41	181.89	179.39	187.25	195.22	198.37	185.20	189.26	189.56	193.61	2	2
63	196.77	200.33	179.05	180.90	179.68	186.98	197.53	199.22	184.01	186.78	186.56	190.86	2	2
64	200.50	202.00	174.71	180.84	180.42	188.73	191.66	193.75	187.49	189.20	190.17	194.75	2	2
65	192.95	193.93	174.05	180.25	175.35	182.64	194.54	190.81	177.27	181.27	180.30	185.91	2	2
66	184.23	186.71	177.07	180.22	182.66	187.19	191.78	195.09	184.17	189.94	189.62	194.03	2	2
67	194.67	197.19	173.77	178.24	175.50	183.70	200.50	201.35	184.86	190.26	188.50	195.14	2	2
68	187.90	188.40	175.24	173.54	186.20	187.30	182.00	185.95	174.05	178.46	182.80	184.08	1	1
69	182.91	182.73	172.40	172.00	174.44	178.52	184.23	188.44	178.56	179.91	183.99	184.71	1	2