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## PRINCIPAL LEADERSHIP PRACTICES AT KENTUCKY HIGH SCHOOLS ADMINISTERING THE PISA FOR SCHOOLS: LEADING FOR GLOBAL COMPETITIVENESS

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PRINCIPAL LEADERSHIP PRACTICES AT KENTUCKY HIGH SCHOOLS  
ADMINISTERING THE PISA FOR SCHOOLS: LEADING FOR GLOBAL  
COMPETITIVENESS

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DISSERTATION

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A dissertation submitted in partial fulfillment of the  
requirements for the degree of Doctor of Philosophy in the  
College of Education  
at the University of Kentucky

By  
Marjorie L. Johnson  
Lexington, Kentucky  
Director: Dr. Justin Bathon, Associate of Educational Leadership Studies  
Lexington, Kentucky  
2023

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## ABSTRACT OF DISSERTATION

### PRINCIPAL LEADERSHIP PRACTICES AT KENTUCKY HIGH SCHOOLS ADMINISTERING THE PISA FOR SCHOOLS: LEADING FOR GLOBAL COMPETITIVENESS

Since launching Sputnik in 1957, the United States education system has been trying to climb to the top of the international education rankings. The Organisation for Economic and Co-operative Development (OECD) began analyzing how well school systems prepared students to compete in the global economy in 2000. The OECD uses the Programme for International Student Assessment (PISA). U.S. students rank at or near the OECD averages in reading and science but consistently perform below the OECD average in mathematics. In addition to the PISA, the OECD released the PISA for Schools, which provides PISA data at the school level.

In 2010, the OECD released its report, *Strong Performers and Successful Reformers in Education: Lessons from PISA for the United States*, in which the OECD proposes strategies and recommendations for the USA education system. Among these recommendations are highly qualified school administrators. Through extensive analysis of studies about effective leadership practices, Hitt and Tucker (2016) developed a unified model of effective leadership practices that yields theoretical support for the framework used for this study. The framework used for this study is the Globally Competent Educational Leadership Framework (GCELF). This study aims to determine if Kentucky high school principals whose schools use PISA for Schools use effective leadership practices for global competence identified by Tichnor-Wagner and Manise (2019). The principals were selected because their schools use PISA for Schools and focus on global competency for students in mission.

A qualitative methods approach integrating two parts was used for this study. This is an exploratory case study using a set of researcher-created principal interview questions, a tour of the high schools, a document analysis, and an analysis of the schools' PISA for Schools results as background data. The goals for the study were to (a) produce research about how leadership practices relate to the global preparedness of students in Kentucky schools administering PISA for Schools using the Globally Competent Educational Leadership framework (Tichnor-Wagner, 2019), (b) identify global competency leadership practices of selected Kentucky principals and their level of

immersion in these practices using the high schools' success on PISA for Schools founded on the baseline proficiency indicating preparedness for global competitiveness, and (c) explore potential additional research in this area to increase the knowledge base and inform leadership practice and policy.

The study's findings show that the principals lead with different styles but incorporate leadership practices that align with the GCELF, mainly at the "First Steps" level. These principals are preparing their graduates to be globally competent at initial levels based on GCELF alignment and PISA for Schools results. An extension of this study that could provide additional beneficial information is to change the parameters and conduct the study with principals whose schools do not administer PISA for Schools to determine if their leadership practices align with the GCELF.

**KEYWORDS:** Programme for International Student Assessment, PISA for Schools, Educational Leadership, Global Competitiveness, Global Competency

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Marjorie L. Johnson

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3-6-2023

PRINCIPAL LEADERSHIP PRACTICES AT KENTUCKY HIGH SCHOOLS  
ADMINISTERING THE PISA FOR SCHOOLS: LEADING FOR GLOBAL  
COMPETITIVENESS

By

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3-6-23

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## DEDICATION

To my parents, Lewis and Polly Burke, who instilled in me a love of education and life-long learning. And to my Uncle Jack Evans and Aunt Joyce Evans, who consistently encouraged me to complete this journey.

## ACKNOWLEDGMENTS

For many years I have dreamed of completing my Ph.D. I have realized this desire is probably because my parents instilled in me the importance of education, which is a gateway to a better life and career choices they did not have. I was adopted at birth by my father and mother. My father dropped out of school in the 9<sup>th</sup> grade, and he enlisted in the Navy as soon as he could. After completing his time in the Navy, he worked in construction and coal mining. My mother graduated from high school, worked in a factory for a while, and became a teacher's aide. She always loved teaching and advised me to become an educator. For their input in my life, I am grateful. I recently found my maternal biological family and based on how four out of five of my siblings turned out, I am blessed that my birth mother gave me up for adoption.

Further, this accomplishment is only possible with the support and encouragement of many people. First, I thank my husband, Steve, for pushing me toward my goals when I did not push myself. I am blessed that I have been able to take my educational journey with you by my side. Second, I thank my daughters, Rachel and Micaiah, for encouraging me to keep writing and challenging me to pursue this dream as an example of perseverance to them. Many family members and friends encouraged me and prayed for me to complete this process. Although I am not listing each name here, I am grateful for your involvement.

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Finally, I thank all the principals who participated in this study. Three principals participated in field testing the interview questions: Travis Marcum, Chriss Diaz Florez Rooney, and Meocha Williams. Your input was valuable in helping create the most beneficial interview questions for the study. I am deeply grateful. I will not name the principals that participated in the study because of confidentiality. Still, their tireless work and dedication to students and all members of the school community is incredible. Few will ever understand how much they strive for the good of all students.

## TABLE OF CONTENTS

ACKNOWLEDGMENTS .....	iii
LIST OF TABLES .....	ix
LIST OF FIGURES .....	xi
CHAPTER ONE: INTRODUCTION .....	1
1.1 Globalization.....	2
1.2 Problem Statement .....	5
1.3 School Principals’ Leadership .....	6
1.4 Purpose of Public Education .....	9
1.5 Assessment.....	11
1.6 Standardized Assessment Use in United States Schools .....	12
1.7 International Assessment .....	18
1.8 Purpose and Significance of the Study .....	19
1.9 Research Questions and Methodology.....	20
1.10 Sites and Participants .....	22
1.11 Analysis of PISA for Schools Reports for High Schools in Study .....	23
1.12 Instrumentation .....	28
1.13 Data Analysis .....	28
1.14 Limitations .....	29
1.15 Summary .....	29
CHAPTER TWO: LITERATURE REVIEW .....	31
2.1 Theoretical Framework.....	32
2.1.1 Instructional Leadership.....	33
2.1.2 Transformational Leadership .....	33
2.1.3 Hitt and Tucker Unified Model of Effective Leadership Practices .....	34
2.1.3.1 Establishing and conveying the vision.....	35
2.1.3.2 Building professional capacity.....	35
2.1.3.3 Creating a supportive organization for learning .....	37
2.1.3.4 Facilitating a high-quality learning experience for students.....	38
2.1.3.5 Connecting with external partners .....	39
2.1.4 OECD Identified Leadership Practices for Student Learning.....	40

2.2	Global Competency .....	40
2.2.1	Educational Leadership for Global Competency of High School Graduates .....	45
2.2.2	Globally Competent Educational Leadership Framework.....	47
2.2.2.1	Vision setting .....	47
2.2.2.2	Pedagogy and practice .....	48
2.2.2.3	Situated action.....	49
2.2.2.4	Systems and structures.....	49
2.3	Organisation for Economic and Co-operative Development.....	52
2.4	Programme for International Student Assessment Development and USA Involvement .....	55
2.5	Programme for International Student Assessment.....	58
2.5.1	USA Results.....	61
2.5.2	Value of the OECD Study of Education Systems.....	63
2.5.3	Concerns Related to PISA .....	65
2.6	PISA for Schools.....	70
2.7	Research Procedure Map .....	73
2.8	Summary .....	73
CHAPTER THREE: METHODS .....		76
3.1	Research Questions .....	77
3.2	Study Design.....	78
3.3	Research Setting.....	79
3.3.2	Descriptions of the High Schools in the Study .....	81
3.3.3	Participants.....	84
3.3.4	Rights of the Participants .....	86
3.4	Instruments and Procedures .....	86
3.4.1	Part One .....	87
3.4.2	Part Two.....	88
3.4.3	Background Data .....	90
3.5	Data Collection .....	91
3.6	Data Analysis .....	92
3.7	Dependability .....	95
3.8	Role of the Researcher .....	96
3.9	Potential Researcher Bias and Limitations .....	97
3.10	Summary .....	97
CHAPTER FOUR: FINDINGS .....		99

4.1	Part One: Document Analysis.....	99
4.1.1	PISA for Schools.....	99
4.1.2	Mission Statements .....	100
4.1.3	Portrait of a Graduate.....	101
4.1.4	Principals' Messages.....	104
4.1.5	Course Catalogs .....	104
4.1.6	Student Handbooks .....	106
4.2	Part Two: Principal Interviews and School Tours .....	108
4.2.1	Vision Setting.....	108
4.2.2	Pedagogy and Practice .....	112
4.2.2.1	Curriculum, instruction, and assessment .....	114
4.2.2.2	Collaborative professional community .....	116
4.2.3	Situated Action: Connecting Local and Global .....	120
4.2.3.1	Global connections and collaborations .....	123
4.2.3.2	Advocacy and community engagement .....	125
4.2.4	Systems and Structures .....	127
4.2.4.1	Equity and inclusivity .....	130
4.2.4.2	Inclusivity .....	131
4.2.4.3	Ensuring equity and inclusivity .....	133
4.2.4.4	Operations and management.....	134
4.2.5	PISA for Schools.....	135
4.2.6	High School Tour Observation, Unstructured Interview, and Reflection ..	142
4.2.6.1	East High School.....	142
4.2.6.2	North High School .....	143
4.2.6.3	South High School .....	146
4.3	Comparison to Global Competencies Framework .....	149
4.3.1	Leadership Practice Highlights .....	150
4.3.1.1	East High School.....	150
4.3.1.2	North High School .....	151
4.3.1.3	South High School .....	152
4.3.2	GCELF Immersion Level .....	154
4.4	Summary .....	157
CHAPTER FIVE: DISCUSSION AND CONCLUSION .....		158
5.1	Summary of the Study .....	159
5.2	Discussion .....	160
5.2.1	Research Procedure Map .....	160
5.2.2	Principal Leadership Supporting Global Competency .....	161
5.2.2.1	Vision setting .....	162
5.2.2.2	Pedagogy and practice .....	163
5.2.2.3	Situated action.....	165

5.2.2.4	Systems and structures.....	166
5.2.3	PISA for Schools Results.....	168
5.2.4	GCELF Immersion.....	170
5.3	Summary .....	172
5.3.1	Global Competency Integration.....	180
5.4	Contribution of the Study to the Field .....	183
5.5	Limitations .....	184
5.6	Implications.....	185
5.7	Conclusion .....	188
	Appendices.....	191
	APPENDIX ONE: IRB APPROVAL LETTER.....	191
	IRB APPROVAL CONTINUATION LETTER .....	192
	APPENDIX TWO: CONSENT TO PARTICIPATE IN A RESEARCH STUDY .....	193
	APPENDIX THREE: STUDY INSTRUMENTS .....	197
	Principal Interview Questions.....	197
	Walk-Through Instrument .....	200
	Document Identification Form.....	201
	REFERENCES .....	202
	VITA.....	225

## LIST OF TABLES

Table 1.1 PISA for School Analysis: Mean Scores of High Schools Participating in the Study .....	24
Table 1.2 PISA Cut Scores .....	24
Table 1.3 Characteristics of Students at High Schools in the Study.....	26
Table 1.4 Kentucky High Schools in the Study: ACT Composite Scores.....	27
Table 1.5 Kentucky High Schools in the Study: Kentucky Summative Assessment Results.....	27
Table 2.1 Unified Model of Effective Leadership Practices.....	36
Table 2.2 Unified Model of Effective Leadership Practices and OECD Leadership Practices .....	41
Table 2.3 Globally Competent Educational Leadership Framework: Domains and Tenets .....	48
Table 2.4 Unified Model of Effective Leadership Practices, OECD Leadership Practices, and Globally Competent Educational Leadership Framework.....	51
Table 2.5 Alignment Between the Global Competency Leadership Tenets and the Professional Standards for Educational Leaders .....	53
Table 2.6 PISA Results 2009-2018 for Reading and Science OECD Mean vs. USA Mean .....	63
Table 2.7 PISA Cut Scores .....	71
Table 3.1 Description of Selected Kentucky High Schools Communities .....	80
Table 3.2 Kentucky High Schools Participating in the Study .....	82
Table 3.3 Kentucky High Schools in the Study: Selected Characteristics .....	83
Table 3.4 Linkage of Research Questions, Interview Questions, and Phase of Study ....	87
Table 3.5 Globally Competent Educational Leadership Framework.....	89
Table 3.6 2015 PISA Cut Scores .....	90
Table 3.7 Data Analysis and Representation, by Research Approaches .....	94
Table 4.1 Portrait of a Graduate.....	102
Table 4.2 Global Competency Framework and Study Principal Supporting Quotes: Vision Setting.....	113
Table 4.3 Study High Schools' PLC Focus .....	118
Table 4.4 Global Competency Framework and Study Principal Supporting Quotes: Pedagogy and Practice .....	121
Table 4.5 Global Competency Framework and Study Principals' Supporting Quotes: Situated Action.....	128
Table 4.6 Competency Framework and Study Principal Supporting Quotes: Systems and Structure.....	136
Table 4.7 PISA for Schools Interview Responses .....	140
Table 4.8 Immersion Level of the High School Principals.....	156
Table 5.1 Globally Competent Educational Leadership Framework with Activity Included and Evidence from Study Principals Excerpt .....	161

Table 5.2 PISA for Schools Analysis: Mean Scores of High Schools Participating in the Study .....	168
Table 5.3 2015 PISA Cut Scores .....	169
Table 5.4 Example of Level of Immersion in GCELF of Principals in the Study .....	171
Table 5.5 Globally Competent Educational Leadership Framework with Evidence of Similar Activities from Study Principals .....	173
Table 5.6 GCELF Activities Not Observed During the Study .....	179

## LIST OF FIGURES

Figure 1.1 High School Student Participation in the SAT Over Time .....	14
Figure 1.2 Longitudinal NAEP Data 4th and 8th Grades .....	16
Figure 1.3 Longitudinal NAEP Data 12th Grade.....	17
Figure 2.1 Comparison of USA and OECD Mathematics Mean PISA Scores .....	62
Figure 2.2 Research Procedure Map.....	75
Figure 3.1 Steps in Analyzing Qualitative Data .....	95
Figure 4.1 East High School Collaboration Room Image .....	143
Figure 4.2 North High School 1.....	145
Figure 4.3 North High School 2.....	145
Figure 4.4 North High School 3.....	145
Figure 4.5 North High School MS.....	145
Figure 4.6 North High School Student Council Award.....	146
Figure 4.7 South High School Awards .....	147
Figure 4.8 South High School Awards Continued.....	147
Figure 4.9 South High School Industry Certificates.....	147
Figure 4.10 South High Encouragement Notes .....	148
Figure 4.11 South High Faculty Pictures.....	148
Figure 4.12 South High School Pride Board .....	149



## **CHAPTER ONE**

### **INTRODUCTION**

The world is becoming increasingly interconnected. Yet, in United States schools, limited evidence exists that indicates high school graduates are ready to thrive in the ever-changing, interconnected world impacted by globalization. The recent spread of Covid 19 alone demonstrated that geographic boundaries were not a deterrent due to the ease and frequency of travel. Basic items like toilet paper or baby formula were scarce due to the global supply chain disruptions. Semiconductor shortages halted the production of cars because of an inability to acquire necessary parts from around the world. Theaters and shopping malls shut down. Concerts, sporting events, religious gatherings, and any event that brought people together, including schools, were closed to slow the spread of Covid 19. The closures lasted approximately a year, but many schools remained closed for almost two years beginning in March 2020. The progression of globalization is discussed in more detail later in this chapter. Globalization has created the need for the preparation of United States students to be competent in skills for interacting on a global level.

This qualitative case study explored what high school principals in Kentucky are doing to lead their schools through practices that support preparing high school graduates to be globally competent. A broad discussion of school leadership definitions and influence begins this chapter, followed by the purpose of United States public education through U. S. history. A broad discussion of school leadership is presented, then narrowed to global competency leadership practices and reasons these practices are important in the globalized world. This chapter discusses assessments because the school leadership framework used for this study identifies, as a leadership practice, the use of an

assessment that yields information about students' readiness to compete in a global society.

This study is significant because principal practices toward global competency of graduates are under-explored in educational research to a substantial degree. Two research methods were selected for this study, a document analysis and an interview followed by a tour of the high schools in the study. The Programme for International Student Assessment for Schools (PISA for Schools) is significant because it is an indicator of globally competent high school practices and is used in this study. The principals were interviewed in person at their high schools. Interviews were professionally transcribed and input into Dedoose, a computer program for qualitative analysis. Coding was completed, and results were reported. The contribution of this study is to add to the knowledge base about principal practices toward producing globally competent high school graduates.

### **Globalization**

A comprehensive definition of globalization generally means “that economic, social, technological and cultural phenomena are strongly influenced by multinational companies and international organizations” (Bush, 2004, p. 363). In 1996, Gibson-Graham described globalization as “a set of processes by which the world is rapidly being integrated into production and financial markets, the internationalization of a commodity culture promoted by an increasingly networked global telecommunications system” (p. 121). Globalization is characterized by similar trends, ideas, economic conditions, policies, practices, and interconnectedness among countries (Dimmock & Walker, 2005; Merryfield, 2008). The world is becoming flat (Friedman, 2005), meaning that the

barriers that once divided cultures due to geographic, economic, educational, and obstacles to job-opportunity are dissipating for many countries. Friedman (2005) cited ten events that act as catalysts for globalization. The first was the fall of the Berlin Wall, followed by the release of the Windows Operating System and Netscape's invention of the browser, which wired the world together. The technological advances that began to occur at exponential rates were instrumental in increasing outsourcing, offshoring, uploading information, insourcing, supply chaining, information availability, and the use of microchips for various advances. Friedman states that all ten flatteners began to converge in the year 2000, and substantial changes in how countries interact and do things within countries occurred. Specifically, changes that historically occurred vertically began to occur horizontally.

Supporting Friedman's view is the *strong theory*, or *convergence theory*, espousing that globalization occurs primarily through economic advancements characterized by the notion that the world's nations are becoming more alike in many ways and that the level of globalization is truly unprecedented (Neubauer, 2007). Among the six globalization effects Neubauer (2007) described is that we now live in a digitalized society, which is quickly changing human behavior. Cell phones, Internet use, and electronic resources have massively increased in recent years, leading to the spread of information and scientific experimentation that seemed, until now, impossible. However, educational change is not progressing at the same rate as globalization (Neubauer, 2007), mainly because educational practices are archaic in a world with information on demand for many people and with international connectivity (Zhao, 2009). Tichnor-Wagner (2020) asserted that "Schools today face a crisis of relevancy"

(p.9). Little has changed about educational practice and policy, while at the same time, the world is becoming more connected through technological advances. According to some sources, evidence is building to declare that current methods of instruction in the USA are inadequate and irrelevant to students (Tichnor-Wagner, 2020; Tribble, Skariah, Tran, & Gulacar, 2022; Stigler & Hiebert, 1999; Wagner, 2008).

During his two terms as the president of the United States from 2001-2009, George W. Bush developed the Global Competitiveness Initiative as a strategy to emphasize the importance of globalization in the USA. In 2006, a committee convened for a hearing to discuss the role of education in global competitiveness. The committee stressed educational accountability, the need for high-quality teachers, and the necessity of a national commitment to assuring USA youth are prepared to compete globally, think critically, problem solve, and be innovative and creative as adults (Committee on Health, Education, Labor, and Pensions, 2006).

The question “How should we prepare our students for such an emergent world?” was posed by Neubauer (2007, p. 321). Nearly 65% of students entering elementary school in 2016 will have jobs that currently do not exist (World Economic Forum, 2016). Zahidi (2020) predicts that by 2025 the skills employers will most desire are problem-solving, critical thinking, and analysis. Neubauer contends that teachers need to focus on helping students think critically, solve messy problems, and adapt to ever-changing circumstances rather than continuing to adhere to curriculum that gives primary focus to learning a set of facts about the world. Wagner (2008) proposes seven skills that students must possess to be successful now and in the future: (a) critical thinking and problem-solving, (b) collaboration through networks, (c) adaptability and agility, (d) effective

communication skills, (e) entrepreneurialism and initiative, (f) ability to access and analyze information, and (g) curiosity and imagination. The challenge for P-12 educators is to balance traditional methods of instruction with innovative, learner-centered strategies that address students' multiple learning modes and require them to use diverse knowledge, skills, and strategies to solve myriad problems and produce products.

### **Problem Statement**

Students in the USA must be prepared to compete for jobs on a global scale as the world becomes more interconnected. Students also need skills that allow them to interact with a global society. The Organisation for Economic Co-operation and Development (OECD) has been evaluating school systems using PISA since 2000 (OECD, 2017a). The OECD released PISA for Schools in the USA as a pilot test in 2012 (Northwest Education Association, 2017). Since PISA does not provide results at the school level, one way to assess how well students are college and career prepared globally is through utilizing PISA for Schools. Knowing that principal leadership affects student achievement through the many roles principals fulfill (Leithwood, Seashore-Louis, Anderson, & Wahlstrom, 2004), it is necessary to determine leadership practices that produce optimal student achievement. To date, no research concerning principal practices in schools that administer PISA for Schools has been conducted. Thus, it is important to study principal leadership practices to inform educational policy and leadership practices for schools striving toward the transition from high school and to prepare students for success globally.

## **School Principals' Leadership**

Leadership is a component of all organizations and is difficult to define (Crow, Matthews, & McCleary, 1996; Dimmock & Walker, 2005; Rost, 1991), and thus, no definition completely describes all the characteristics and practices of leadership. To narrow the description of leadership and for the purposes of this study, school leadership is the focus. Nonetheless, multiple leadership theories and descriptions exist within this context – even after narrowing the focus specifically to school leadership – making a succinct school leadership definition difficult (Loeb & Horng, 2010). Among the types of school leadership are transformational leadership (Mandinach & Jackson, 2012; Marks & Printy, 2003), organizational management (Kafele, 2015), creative leadership (Puccio, Mance, & Murdock, 2011), curriculum and instructional leadership (Glatthorn & Jailall, 2009; Kafele, 2015; Marks & Printy, 2003), and leadership for learning (Leithwood & Seashore-Louis, 2012; Williams, 2016).

Regardless of the complexity of school leadership, the school principal plays an important role in the overall function of an institution, including student achievement (Cotton, 2003; Friedman & Mandelbaum, 2012; Glatthorn, 2000; Leithwood & Seashore-Louis, 2012; Loeb & Horng, 2010; Marzano, Waters, & McNulty, 2005). The influence of school principals on student achievement has been established through research spanning about 40 years (Hitt & Tucker, 2016), recognizing that teacher influence on student achievement is consistently considered the primary factor (Childress, Doyle, & Thomas, 2009; Stronge, 2007). The school leader is the secondary factor making up 25% of the factors affecting student achievement, while teachers are 33% of the influence (Leithwood et al., 2004). The principal's influence on student achievement is often

indirect and through their influence on teachers (Gentilucci & Muto, 2007; Mathews & Brown, 1976). However, Gentilucci and Muto (2007) identified ways principals directly influence student achievement as perceived by middle school students. The authors assert that many studies identify the influence of the principal on student achievement through the lens of teachers, principals, and other adult stakeholders, but the direct customer is often overlooked because they are children. The study was conducted in three middle schools located in California. The participants were randomly selected from the schools' population. The study aimed to explore student perceptions about principal behaviors to discover which behaviors students believe directly impact student achievement and to identify the behaviors that students perceive to have the greatest positive impact on student achievement. A primary finding of the study was that students perceive teacher-principals as directly influencing their achievement more so than administrator-principals. Teacher-principals exhibit characteristics of a classroom teacher when they are in the classroom with the teacher and students. The teacher-principals walk around and help the students with their work instead of coming into the classroom as passive observers. Administrator-principals interacted less with the students than teacher-principals. This study supports principals' positive, direct influence on student achievement, as indicated by middle school students (Gentilucci & Muto, 2007). Studies have been conducted that illustrate relationships between principal behaviors and student achievement. For example, one study found that schools demonstrate higher achievement when principals strongly emphasize academic excellence and participate in instructional activities as compared to the schools with principals that did not exhibit these behaviors (Bamburg & Andrews, 1991). Another study found that outstanding

principal activities related to goal articulation, culture, climate, and teacher evaluation focused on effective teaching and learning (Bartell, 1989). Heck (1992) found that principals' behaviors that can influence student achievement are school governance, school climate, and instructional organization. Robinson, Lloyd, and Rowe (2008) found that student achievement increases as the principal focuses their relationships, work, and learning on teaching and learning in the school.

The studies described above are a sampling to illustrate the influence principals have on student achievement predominantly through instructional or transformational leadership practice, which will be discussed in more detail in Chapter Two. Because the principal is responsible for overseeing and evaluating student achievement and plays a significant role in student achievement, principal practices are the focus of this study on the achievement of global competencies. The evidence for including the global aspect in this study is discussed in more detail in the Globalization section of this chapter. Because the study explores principal practices relative to student achievement and global competence, principals' leadership practices are researched using the Global Competencies for Educational Leaders Framework (GCELF) (Tichnor-Wagner & Manise, 2019). Narrowing the focus of this study, principal practices were studied relative to developing graduates that are prepared to be successful in a globally connected world and the level of immersion in the GCELF. Kentucky high school principals were selected for the study based on their use of PISA for Schools derived from PISA. The PISA for Schools provides international benchmarking to school leaders. An additional principal selection criterion is a mission emphasizing global competence. Both criteria suggest a global competency focus in the school and were used to narrow the inquiry



only to schools both professing and measuring global competence. The following sections explain the relevance of using PISA for Schools to identify the study participants and the global focus, encompassing the (a) economic purpose for education, (b) international competitiveness preparation of students because of globalization, and (c) international assessment and benchmarking.

### **Purpose of Public Education**

During the 17<sup>th</sup> century, the belief that education was essential for the welfare of USA society emerged and continues to the present day (Bennett, 1988; Coxford & Jones, 1970; Marzano et al., 2005; West, 2012). A significant purpose of public schools was to prepare children for active participation in the USA's representative democracy through social studies, history, civics, and government courses. The educational process was intended to develop the social and emotional attributes of students and cultivate excellence (Bruner, 1960). Another purpose was to support the self-actualization of the individual using foreign language, vocational education, as well as traditional liberal arts courses, including English, mathematics, science, and philosophy. Societal demands in the USA have changed since public schooling began (Darling-Hammond, 1990). In 1900, fewer than 10% of jobs required higher education. Many current jobs require a high school diploma and also some college or postsecondary professional training. Contemporary USA education is tied to the economy more than ever before due to global competitiveness (Dall, 2012). An attitude of concern about the economic threat from other nations exists in the USA due to the perceived inferiority of the education systems in comparison to other countries, as evidenced by Trends in Mathematics and Science Study (TIMSS), PISA (Zhao, 2009), and *A Nation at Risk* report (National Commission

on Excellence in Education, 1983). The concern for economic stability and strength has affected education policy. For example, compulsory attendance policies were enacted for three reasons; among these is the belief that an educated society leads to economic growth and prosperity (Cabus & DeWitte, 2010). While serving as the Kentucky Commissioner of Education, Holliday (February 3, 2012) wrote about specific economic benefits for the commonwealth if students stay in school through graduation, such as increased spending, saving, tax revenue, and new jobs. He reported an increase of approximately \$336 million with a reduction of Kentucky dropouts by half. These statements support economic growth and stability as a purpose for education.

Education is not exclusively about economic growth. Education has also been for the cultural and civic development of society and for promoting creative, independent thinkers (Becker & Perl, 2003; Jacob, 1984; Kohlberg & Mayer, 1972). Education was historically reserved for the social and political elites, but civil rights movements based around gender, race, and disability opened many doors for all to obtain an education in the USA (Becker & Perl, 2003; Heck, 2004). Currently, for many, the purpose of education is shifting from preparation to participate in a democratic society to preparation for work and economic growth (Ferrini-Mundy & Graham, 2003; Meyer & Benavot, 2013; Tucker, 2015). Many believe an educated society is necessary for national economic stability and global competitiveness to improve social and economic well-being worldwide (Friedman & Mandelbaum, 2012; OECD, 2016a). Expanded globalization is influencing educational policy and trends; in the USA, it has reinforced the role of education and its role in the national economy.

Education policy needs to address issues arising from globalization. Because assessments often dictate classroom practices, using a variety of appropriate assessments is important. Kentucky policymakers attempted significant educational change through the passage of omnibus reforms beginning with the Kentucky Education Reform Act of 1990, that became difficult to sustain mostly due to inadequate education funding and multiple revisions of components of the act (Ellis, 2011; Wagner, 2008). Assessments, such as student-developed portfolios of multi-year products, are expensive and time-consuming. Thus, Kentucky education policies were initiated that was transformative in intent but limited in impact due to inadequate funding (Ellis, 2011). The Kentucky Senate Bill 1 of 2009 specifically required multiple-choice assessments and a test-based accountability system. A climate of assessment-rich education has emerged, driven by globalization resulting in implementing new standards and assessments mandated by governmental policy (Meyer & Benavot, 2013). In the next section, assessments are discussed. This discussion is necessary to identify reasons for the United States use of PISA and PISA for Schools to gauge the success of the USA education systems on an international level and is part of globalization's influence on educational assessments. The discussion progresses from generalities of assessment to specifically international assessments.

### **Assessment**

Political and educational leaders have been pushing for higher levels of student achievement, particularly in mathematics, science, and engineering (NASA, 2017), since the Russians launched Sputnik in 1957 (Divine, 1993), putting a satellite in space before the United States of America (USA). This has produced an assessment-rich educational

culture focused on monitoring student achievement and education-system effectiveness. Standardized assessments have increased in use since the early 1900s. National political leaders have created policies requiring states to create and administer school accountability measures based on student achievement on standardized examinations. The assessment policies do not stop there. The National Assessment for Education Progress (NAEP) has been administered every year in various content areas since 1969 and is mandated by the US Congress to produce comparative data about the state education systems that identify what students know and are able to do (NCES, 2013). The term *assessment* can be defined simply as making a judgment about something, but the process can be accomplished in various ways. For example, assessments are often made without evidence, such as when people are assessed or judged upon first meeting. Or assessments can be made based on evidence produced through some method or tool, such as a written test to assess student retention of information that was taught in a classroom. Historically, teachers taught concepts through direct instruction about facts or processes, administered written tests to determine what students retained about the content, and then proceeded to the next topic. This educational strategy is now questioned as USA society has changed to one that requires more employment-oriented education to ensure high school graduates can obtain good jobs. In fact, an analysis of 250 studies found that using data obtained from international assessments to inform instruction improves student achievement (Earl, 2007).

### **Standardized Assessment Use in United States Schools**

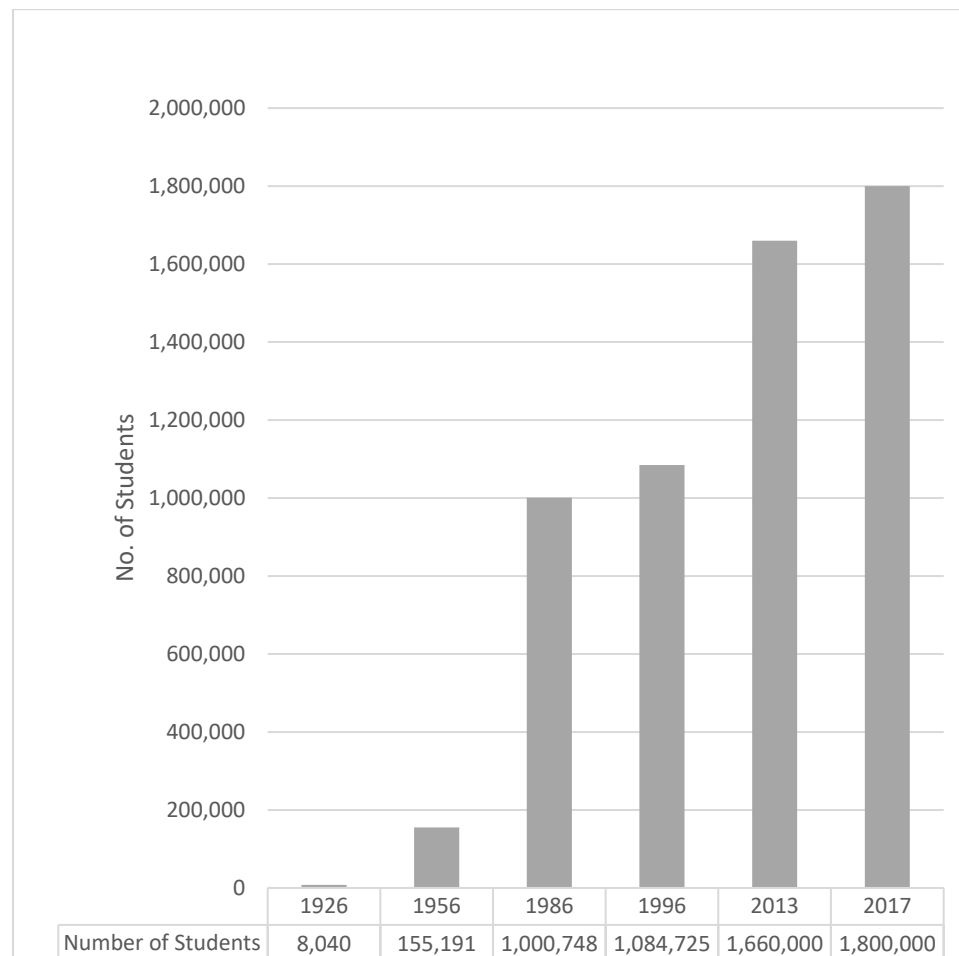
In the late 19<sup>th</sup> century, testing was used politically for (a) student certification; (b) administrator, teacher, and school accountability; and (c) school administrators to

initiate change (Madaus, Clarke, & O’Leary, 2003). In 1909, the first commercial arithmetic test was created and dispensed by Curtis (Madaus et al., 2003). Initially, this assessment was only used in one school; then, other administrators began to purchase the test for use in their schools. The assessment business was profitable for Curtis, and noticing that prosperity, others started creating assessments within five years of the development of Curtis’ first arithmetic test (Madaus et al., 2003). A form of standardized assessments thus began over 100 years ago in the United States. By 1918, intelligence and achievement tests were used as academic placement and employment tools. Tracking students into varying difficulty levels of classes did not begin with this practice, but it was foundational for rationalizing the use of tracking (Carl, 2003; Stephens, 2003). Standardized assessments were widely accepted at the local level and contributed to the development of measurement theory. Standardized assessment was not used nationally in a significant manner until the development of the National Assessment of Educational Progress (NAEP) in the 1960s (Stephens, 2003).

The use of standardized assessments increased in the 20<sup>th</sup> century due to the development and acceptance of scientific management, intelligence quotient tests (IQ), and the use of multiple-choice questions on assessments (Madaus et al., 2003; Stephens, 2003). Stanford Achievement Test (SAT) Administration grew substantially between 1926 and 1956 and then explosively afterward (see Figure 1.1).

Another example of expansive growth in the use of standardized assessments is the Advanced Placement (AP) tests. The Educational Testing Service (ETS), which designs and administers AP examinations for potential post-secondary course credit,

reported a 142% increase in the number of students taking AP examinations between 1997 and 2006 (Handwerk, Peterson, Coley, & Gitomer, 2008).



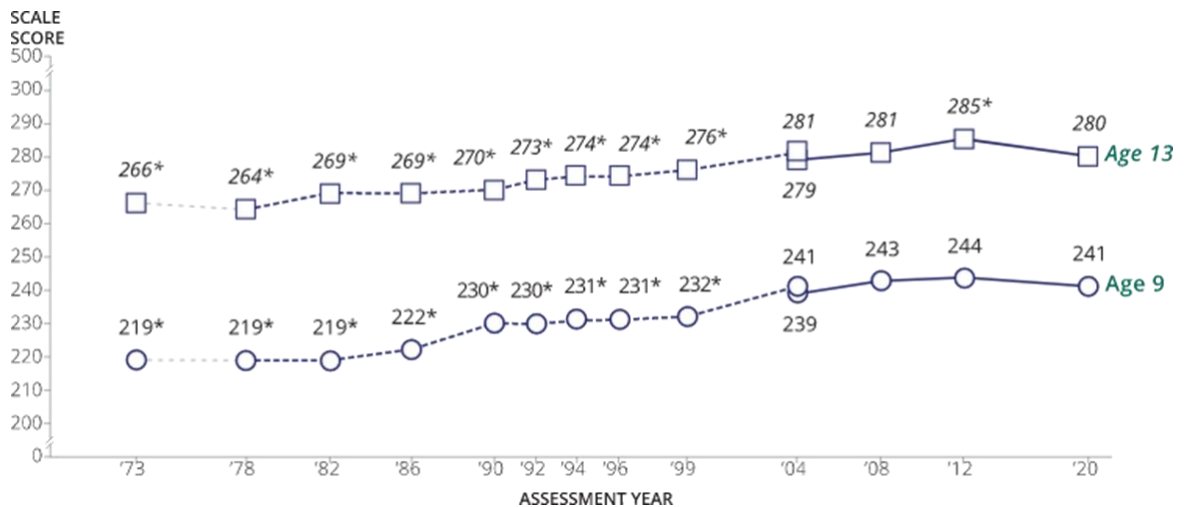
**Figure 1.1 High School Student Participation in the SAT over Time**  
Bar graph illustrates the substantial growth in the number of high school students taking the SAT using data from “A Century of Standardized Mathematics Testing,” by G. Madaus et al., 2003 and “FAQs” by the College Board, 2018.

The characteristics of achievement tests match the philosophy behind scientific management due to the perceived production of objective and impartial scores. By 1932, three-fourths of 150 large cities in the USA were using IQ tests in schools to track students into ability groups based on test performance (Madaus et al., 2003). By the mid-1940s, standardized assessments were publicly accepted and used for accountability and instructional purposes at the national level, particularly because multiple-choice questions

were relatively inexpensive to develop and score. The development of the high-speed scanner in 1960 made using multiple-choice assessments even less expensive than before (Madaus et al., 2003). Soon after, high schools began using multiple-choice achievement tests for the summative assessment of student learning, and colleges were using nationally norm-referenced standardized examinations as part of their admissions procedures.

Between 1950 and 1990, additional factors contributed to the increase in the use and acceptance of standardized assessments in the United States: (a) public discontent with the quality of public schools, (b) increases in mandated testing at the state and federal levels, (c) focal shift from educational inputs to educational outputs, and (d) increase in bureaucracy in society and schools (Madaus et al., 2003; Stephens, 2003). In the 1960s, data about student knowledge and performance ability was not readily available; during the 1970s and 1980s, standardized assessment scores were increasingly used to measure the quality of education in the USA (Madaus et al., 2003).

The National Assessment of Educational Progress (NAEP) is one such assessment, which was created to assess the progress and quality of USA public schools (Goodlad, 2004; Kifer, 2001; Madaus et al., 2003; National Center for Education Statistics, 2013). The NAEP was first administered in 1969 and is still used today (Institute for Education Sciences, 2012a). The NAEP produces student-learning results that have led policymakers and the general public to believe for decades that the U.S. education system needed improvements. Notice in Figure 1.2 that 4<sup>th</sup>-grade students (age 9) and 8<sup>th</sup>-grade students (age 13) have made steady improvements on the NAEP over time, with a slight decline in 2020 (U.S. Department of Education, 2023a).



- - - - Extrapolated data adjusting for the limited number of questions from the 1973 mathematics assessment in common with the assessments that followed  
 - - - - Original assessment format using the same assessment procedures established for the first assessment year  
 - Revised assessment format introducing more current assessment procedures and content

Figure 1.2 Longitudinal NAEP Data 4th and 8th Grades

\*Significantly different ( $p < .05$ ) from 2020.

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Figure 1.3 illustrates that 12<sup>th</sup>-grade students (age 17) have shown no improvement over time (Hanushek et al., 2010; U. S. Department of Education, 2023b). According to the NAEP website, NAEP selects participating schools using a random sampling procedure. Those who take the tests are randomly selected from all Grade 4, Grade 8, or Grade 12 students within participating schools. Over time, the NAEP has been used more to inform curriculum decisions than only to evaluate students. The NAEP became a federally mandated test related to federal funding with the No Child Left Behind Act of 2001 (Institute for Education Sciences, 2012a).

With the publication of *A Nation at Risk* (National Commission on Excellence in Education, 1983), policymakers and politicians increasingly connected a mediocre educational system and the economic well-being of the USA, particularly relative to



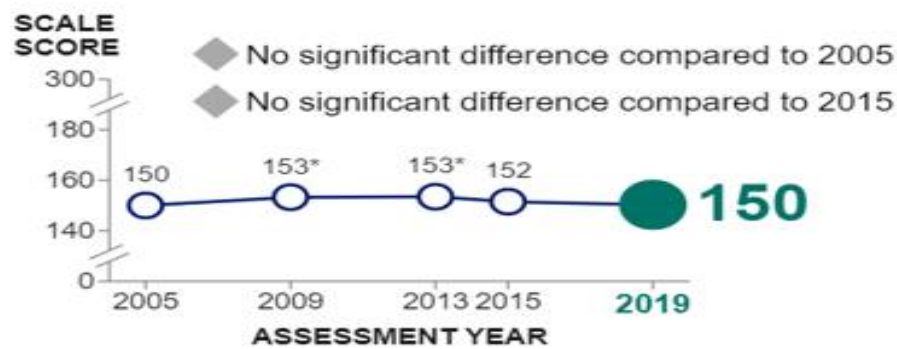


Figure 1.3 Longitudinal NAEP Data 12th Grade  
 \*Significantly different ( $p < .05$ ) from 2019.  
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global peers. The report was largely based on the analysis of standardized assessments (Kifer, 2001; Long, 2003; Madaus et al., 2003). During the ensuing decades, educational reform policy and efforts were increasingly based on standardized assessment results (Kifer, 2001). “This trend toward using tests as a policy mechanism for reform reflected the commonly held belief that standardized tests provided hard, objective evidence about student achievement” (Madaus et al., 2003, p. 1364).

The perception that standardized assessments produce scientific results that need not be questioned prevailed in the latter part of the 20<sup>th</sup> century, despite criticisms by educators and scholars for using standardized assessment results for school accountability. The National Commission on Testing and Public Policy concluded that the focus on testing was a distraction to finding solutions for educational issues. Nevertheless, criticisms did not stop the progression of the ever-increasing use of standardized assessments in policy and reform decisions. In addition to the national use of the NAEP, states began developing their own standards and assessments beginning in the 1970s (Madaus et al., 2003).

## International Assessment

Through technological, communication, and transportation advancements, the world has become *flat*, according to Friedman (2005), by which he means global competitiveness is increasing due to a leveling of opportunities among nations in the job markets and the availability of information. With this revelation and the release of *A Nation at Risk* (National Commission on Excellence in Education, 1983), renewed concern for the economic competitiveness of the USA occurred in the 1990s with evidence from standardized assessments, including the TIMSS assessment that was first administered in 1995 (International Study Center, 2012). The critics of the USA education system made international comparisons based on available international assessments and not just analyses based on national assessments.

By the end of the 20<sup>th</sup> century, the Organisation for Economic Co-operation and Development (OECD), founded in 1961 in Paris through their department called the Centre for Educational Research and Innovation (CERI), began to develop indicators in educational systems that contribute to strong economic systems. Other areas of focus were (a) political structures and practices and (b) social and cultural characteristics (Dossey, 2003). In 2000 the OECD first administered its PISA, composed of three examinations (reading, mathematics, science) to 15-year-old students in participating nations. Today, PISA is one of the most referenced assessments for policy development and reform, and the OECD has the largest and most intricate database for education policy, practice, and performance (Meyer & Benavot, 2013; Tucker, 2015). In addition to PISA used internationally, the OECD recently created the OECD Test for Schools, also called the PISA-based test for schools and PISA for Schools, to provide individual

schools with information about their 15-year-old students' achievement in reading, mathematics, and science literacy. The test will be called PISA for Schools for the rest of the study. The PISA for Schools is currently available in 14 countries and territories, including the USA (OECD, 2023).

### **Purpose and Significance of the Study**

This qualitative study case study consisted of a document analysis and principal interviews to explore principal practices in Kentucky high schools that administer PISA for Schools and have a global competency focus, looking at assessment results that indicate students are prepared for global competitiveness. The theoretical framework in this study incorporates the Tichnor-Wagner and Manise (2019) Global Competencies for Educational Leaders Framework (GCELf). Additionally, PISA for Schools assessment results are used to identify participants and analyze global competency proficiency. The GCELf framework was created experientially using a four-phase method. The first phase of the development of the GCELf was a literature review and analysis of global competence and school leadership research. The second phase utilized focus groups in elementary and secondary schools in the United States and internationally that demonstrate exposure to global competency. Feedback about the developed tenets was obtained from the focus groups. In the third phase, tenets and their corresponding features were reviewed by experts in K-20-related jobs. The fourth phase involved interviews with nine principals of schools demonstrating global competency features. All of this information was used to create the Global Competencies for Educational Leaders Framework (Tichnor-Wagner & Manise, 2019). School leadership practices affect student achievement (Leithwood, 2012; Murphy, Elliot, Goldring, & Porter, 2006;

Sebring, Allenworth, Bryk, Easton, & Luppescu, 2006). Thus, it is important to explore their practices. This study narrows the exploration of principal practices to those with a global competency focus.

This study is significant for at least three reasons. First, research on leadership practices linked to student achievement for preparedness to compete globally is not prevalent despite the ongoing certainty of global competitiveness. A hole in the literature exists on this topic, perhaps due in part to school districts' lack of implementation of global competency practices. Only the OECD was found to be observing leadership practices around global competitiveness. Few Kentucky high schools participate in this international benchmarking. At the time of this study, only 13 Kentucky high schools used PISA for Schools. This statistic was obtained from the company that first provided PISA for Schools to Kentucky schools. Second, it is a goal to determine the extent of principal immersion in the GCELF, using the authors' three levels of suggested activities for each domain (Tichnor-Wagner & Manise, 2019). Third, this study could be replicated with more principals in additional states and countries, adding to the knowledge base about principal leadership practices focusing on international benchmarking and high school graduate global competency. This research could be used to inform educational policy and principal preparation programs.

### **Research Questions and Methodology**

The study aimed to explore principal practices through the lens of the Global Competencies for Educational Leaders Framework (Tichnor-Wagner & Manise, 2019) among Kentucky high schools that use PISA for School for international benchmarking

and have a graduate profile or portrait that emphasizes global competence. The research questions for this study are:

RQ1. In Kentucky schools that have declared a global focus in both mission and assessment, what documentary, assessment, and visual evidence supports the implementation of the global focus?

RQ2. In Kentucky schools that have declared a global focus in both mission and assessment, what principal practices support the implementation of the global focus as framed by the Global Competencies for Educational Leaders Framework?

To answer Research Question 1, a qualitative document analysis (Wood, Sebar, & Vecchio, 2020) method was used, and for Research Question 2, an exploratory qualitative method is appropriate to build descriptions of principal leadership practices among Kentucky high school leaders doing international benchmarking and having a global competency focus (McMillan & Schumacher, 2010; Merriam & Tisdell, 2016; Ochieng, 2009).

The study is separated into two parts. When the results are combined, the two parts will answer the research questions and accomplish the goals of the study. Potential study sites were considered based first on using PISA for Schools and secondly having a mission that focuses on global competency. Only one high school per school district is selected to participate in the study to avoid replicated results. In this case, participation is based on mission statements with a global competency focus. Once the participating high schools were identified, PISA for Schools results were analyzed, along with some other applicable metrics. Additionally, demographic data, including school communities' economic, racial, and educational aspects, are collected to describe the participation sites. These data are called background data throughout the study. After the site selection, Part One began with a document analysis of specifically selected artifacts associated with

each high school. Part Two is one-on-one semi-structured interviews with principals of the high schools selected for the study and a tour of the high schools, including an unstructured interview. The principal interview responses and documents are analyzed relative to the Global Competencies for Educational Leaders Framework (Tichnor-Wagner & Manise, 2019), including their level of immersion in global competence practices. These data analyses provide support for explaining the level of principals' immersion in the GCELF, levels of student achievement, and the relationship to the principals' leadership practices.

### **Sites and Participants**

Eight school districts and independent school districts in Kentucky are identified as administering PISA for Schools through the assessment provider. Since this identification, the company providing PISA for Schools has changed.<sup>1</sup> Next, the districts with a mission incorporating global competency were identified to narrow only to districts that both articulate a mission and assessment of global competence. The other districts were eliminated from the study. The high schools' mission statements, including global competence, are used to select one high school from districts with more than one high school for participation in the study. Four school districts and four high schools were identified using this process. One school district declined the invitation to participate in the study. Anonymity is preserved and protected throughout the study; thus, specific names of schools and principals, and locations are not divulged. The high schools are identified as East High School, North High School, and South High School. The directional names do not correspond to the high schools' actual locations in

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<sup>1</sup> NWEA provided Kentucky high schools using the PISA for Schools. As of January 2023, Janison, a software company, provides the PISA for Schools to Kentucky high schools.

Kentucky. The participants for the study are Kentucky high school principals from three high schools. The principals are selected for the study because they have administered PISA for Schools in the high schools they lead.

Some site descriptions are found in the PISA for Schools results over three administrations and metrics common to Kentucky high schools, like the Kentucky Summative Assessments and the ACT. The following section contains background data that informs the analysis of principal practices.

### **Analysis of PISA for Schools Reports for High Schools in Study**

An analysis of the last three PISA for Schools results for each of the three high schools in the study was completed along with other applicable statistics. The principals' leadership practices were compared to the school results to determine if any leadership practices appear to help produce higher achievement on PISA for Schools. Table 1.1 contains the mean scores for students from Kentucky high schools in the study who participated in PISA for Schools from 2016 to 2021. One high school principal sent two PISA for Schools reports instead of three. There are two Year 3 categories because one high school principal sent results from a year that the other two high schools did not. The proficiency levels were added under the mean scores in the table using the proficiency level values in Table 1.1. The level names were abbreviated to make the table easier to read. For example, L4 is the abbreviation for Level 4, L3 for Level 3, etc. This was done to show the proficiency level of each high school in addition to the mean score. The proficiency levels are in Table 1.2. Level 2 is considered the lower level of proficiency, and Level 6 is the highest. The standard error (SE) range for the mathematics assessment over the years and represented in Table 1.1, is 10.8 – 14.1 with the mode

being 11.0 and the mean being 11.9. The SE range for the reading assessment over

Table 1.1 PISA for Schools Analysis: Mean Scores of High Schools Participating in the Study

PISA for Schools									
	East High School			North High School			South High School		
	Math	Read	Science	Math	Read	Science	Math	Read	Science
Year 1 (2016-17)				500 L3	499 L3	525 L3	519 L3	507 L3	519 L3
Year 2 (2017-18)	546 L4	525 L3	519 L3	513 L3	515 L3	498 L3	519 L3	511 L3	507 L3
Year 3 (2018-19)	545 L4	537 L3	536 L3	497 L3	503 L3	513 L3			
Year 3 (2020-21)							501 L3	537 L3	528 L3

Source: PISA for Schools for each participating high school.

the years represented is 9.2 – 14.9, with the mode being 10.7 and the mean being 11.0.

The SE range for the science assessment over the years represented is 9.6 – 12.5, with the mode being 9.8 and the mean being 10.7. The standard error is the

Table 1.2 2015 PISA Cut Scores

	Reading	Mathematics	Science
Level 6	698+	669+	708+
Level 5	626 - 697	607 - 668	633-707
Level 4	553 - 625	545 - 606	559-632
Level 3	480 - 552	482 - 544	484-558
Level 2	407 - 479	420 - 481	409-483
Level 1a, 1, 1a	335 - 406	358 - 419	335-408
Level 1b, < 1, 1b	262 - 334	< 358	< 335
< Level 1b	< 262		

Source: Educational Research Centre, 2017; OECD, 2017.

expected variation of the sample mean from the true population mean (Levin & Fox, 2000). The standard error values were obtained from PISA for Schools reports. Students in the three Kentucky high schools in this study achieved scores similar to or higher than the mean scores achieved by other students in the United States across the same years as



well as mean scores among all students internationally. The scores fall in Level 3 for all three high schools except for the achievement in mathematics by students at East High School in mathematics; their scores decline in Level 4 (545) by one point (546) for one year and precisely on the cut score for the other year reported. Refer to Tables 1.1 and 1.2 to see the difference in East High School's mathematics performance compared to the cut scores. According to the levels established by PISA, all three high schools perform approximately the same. If the SE is considered and the scores are compared, students at East High School performed higher in mathematics for both administrations of PISA for Schools that were submitted to me compared to the other two high schools and higher on one of the reading administrations than that achieved by students at North High School. However, there is overlap in some scores among the high schools.

The PISA for Schools was administered to approximately 74 students at each individual high school in this study. Among the tenth graders (i.e., the grade level that contained most of the students taking PISA for Schools), the three participating high schools had enrollments of approximately 251 students at East High School and 365 at North High School, and 365 at South High School. The PISA for Schools was administered to students at East High School shortly after the current principal had arrived; hence, it is unclear what influence his leadership had on students' performance on PISA for Schools.

The tables below illustrate other assessment outcomes (e.g., ACT, KSA) by students at the three high schools during the same time period when they completed PISA for Schools. Table 1.3 contains some information about the high schools in the study. The student population at East High School has a substantially lower percentage of

economically disadvantaged youth than both North High School and South High School. Research has suggested that socioeconomic status can influence student achievement (Berger & Archer, 2016; Broer, Bai, & Fonseca, 2019; Xue, Xuan, Zhang, Li, Jiang, & Wang, 2020). Hence, this could affect East High School's students' higher assessment performances. In addition, advanced coursework completion and gifted and talented identification among students are higher at East High School than at the other two high schools in this study. Student ethnicity is relatively close among the three high schools in this study.

Table 1.3 Characteristics of Students at High Schools in the Study

	East High School	North High School	South High School
Economically Disadvantaged %	8.0	29.2	45.3
Ethnicity %	91.7 – White (non-Hispanic) 3.4 – Two or more races 2.5 Hispanic or Latino 2.4 - Other	86.7 – White (non-Hispanic) 4.0 – African American 4.0 – Two or more races 5.3 - Other	91.4 – White (non-Hispanic) 3.2 – Two or more races 2.5 – African American 2.9 - Other
Advanced Course Work Completed %	98.7	93.3	96.8
Gifted and Talented %	18.8	10.4	14.8

Source: Kentucky Department of Education website, School Report Card, [www.kyschoolreportcard.com](http://www.kyschoolreportcard.com)

Table 1.4 contains the ACT scores for the three high schools in the study, and Table 1.5 displays the Kentucky Summative Assessment (KSA), formerly referred to as the Kentucky Performance Rating for Educational Progress (KPREP). The tables present ACT scores and KSA scores among students at the three high schools over three school years. The 2019-20 school year was skipped due to testing complications created by the

COVID-19 pandemic. Overall, East High School students performed higher on the ACT and the KSA for reading, mathematics, and science. Only reading, mathematics, and

Table 1.4 Kentucky High Schools in the Study: ACT Composite Scores

ACT Composite Score			
	East High School	North High School	South High School
2017-18	24.1	20.9	20.7
2018-19	23.5	20.9	21.0
2020-21	22.2	19.3	19.2

Source: Kentucky Department of Education website, School Report Card, [www.kyschoolreportcard.com](http://www.kyschoolreportcard.com)

science are included in the KSA-tested subject areas in Table 1.5 because those are the academic subjects assessed on PISA for Schools. Note also that the only time that

Table 1.5 Kentucky High Schools in the Study: Kentucky Summative Assessment Results

		East High School	North High School	South High School
KSA Reading % P/D	2017-18	77.3	58.5	57.8
	2018-19	76.0	56.9	60.5
	2020-21	57.0	50.3	42.9
KSA Mathematics % P/D	2017-18	72.2	56.8	55.1
	2018-19	71.0	56.3	55.4
	2020-21	62.4	45.9	35.0
KSA Science % P/D	2017-18	62.4	43.8	40.0
	2018-19	48.6	20.9	49.3
	2020-21	44.7	31.0	35.3

Data Source: Kentucky Department of Education website, School Report Card, [www.kyschoolreportcard.com](http://www.kyschoolreportcard.com)

East High School students performed lower than the students at North High School and South High School during the 2018-19 school year and in science. The reasons for that lower performance are unknown. The comparison of the ACT scores and KSA scores was included in determining if the schools perform similarly to each other, as they did on PISA for Schools, on metrics other than PISA for Schools. East High School has higher

scores than the other two high schools in the study on both the ACT and KSA. This indicates that the assumption cannot be made that proficiency on PISA for Schools translates to a proficient or distinguished rating on the KSA or a higher ACT composite score.

### **Instrumentation**

The primary mode of data collection is through an interview with each principal in the study using a researcher-designed tool. The interview questions were developed using the GCELF, and the interview questions were reviewed by two university faculty members for input concerning question design and content. The interview tool was field tested with three school principals to determine the approximate time to complete the interview and adjust questions based on their feedback. The interviews were conducted in early Fall 2021 to collect the necessary data for the study. Simultaneously, PISA for Schools' assessment analyses for each of the high schools were completed and recorded in a table. The documents were identified and recorded on the Document ID Form found in the Appendix.

### **Data Analyses**

Once the interview data was collected and professionally transcribed, the analysis software Dedoose was used to organize and store the interview data. Dedoose is a web-based software program for qualitative data analysis. Creswell's (2007; 2014) analysis methods were used after organizing the data with Dedoose. The documents were organized and recorded. The codes used with the interviews were used with the documents also. Chapter Three discusses the documents' content analysis process in more detail. The PISA for Schools and other metrics results are incorporated into the study as

background data. These results were compared to the principals' responses to the interview questions to determine if the background data results are connected to their leadership practices.

### **Limitations**

One limitation of this study is that 13 high schools out of 255 (Kentucky Department of Education, 2022b) use PISA for Schools in Kentucky, and of those, only four meet the selections criteria, and one of the high school principals was not permitted to participate in the study by the superintendent designee that makes those decisions. Thus, this study is only exploratory and is not intended to be generalizable (Carminati, 2018). The recent pandemic presented challenges to the study's timeline through opportunities for in-person meetings and the availability of principals because they prioritized pandemic related deficits. In addition, one of the principals in the study was in his first year at the high school, limiting personal influence on the school. Another limitation is that the study is only being conducted in Kentucky. However, the study can be replicated in other USA states with the high schools using PISA for Schools and having the global competency focus.

### **Summary**

The introduction provides the foundational components: the purpose of public education, globalization, and assessment developments that give significance to the study. It also demonstrates the progression from national testing to international testing with the increase of globalization. Background data are included to inform the study. The literature review presents information about the formation of the OECD and the development of PISA and PISA for Schools. In addition, the OECD-defined principal

practices are compared to the Tichnor-Wagner and Manise (2019) global competency framework used in the study. What it means to be globally competent is explored. Chapter Three provides details of the study design. The findings of the principal interviews are presented and discussed in Chapter Four. Conclusions and implications are shared in Chapter Five.

The study aims to explore principal leadership practices that support high levels of student achievement in Kentucky high schools that use PISA for Schools for international benchmarking and global competency readiness relative to the Tichnor-Wagner and Manise (2019) framework. The history of the assessment use, schooling purposes, and current educational climate in the United States make this study important when responding to the political pressure for improved student achievement in the USA, to inform policymakers' decisions, and provide school leaders with strategies for improved student achievement toward global competency.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

This study aims to explore principal practices in Kentucky high schools that have a global competency focus in mission and administer PISA for Schools. The PISA for Schools assessment results is analyzed to determine if students are prepared for global economic competitiveness based on this metric. Other available metrics (i.e., KSA results, ACT, selected demographics) will be considered. These metrics provide contextual background information to support explanations about the global competence level demonstrated by the study's high schools. The study will identify dominant principal practices in schools achieving proficiency on PISA for Schools and if those practices align with the primary framework for the study, Globally Competent Educational Leadership: A Framework for Leading Schools in a Diverse, Interconnected World (GCELF) (Tichnor-Wagner & Manise, 2019). The primary framework is supported by the Hitt and Tucker (2016) Unified Model of Effective Leadership Practices, Professional Standards for Educational Leaders 2015 (National Policy Board for Educational Administration, 2015), and Organisation for Economic Cooperation and Development (OECD) identified school leader characteristics (Pont et al., 2008).

The following literature review is organized into three sections. The first is about the theoretical framework for the study encompassing instructional and transformational leadership theory that are foundational to the Hitt and Tucker (2016) Unified Model of Effective Leadership Practices. Substantiated by the Unified Model of Effective Leadership Practices, the Globally Competent Educational Leadership Framework (Tichnor-Wagner & Manise, 2019) is the theoretical model for the study. The second

section contains a description of global competency along with literature and studies about educational leadership for the global competency of high school graduates. The GCELF is also explained. The third section describes the OECD, PISA, PISA for Schools, and the USA involvement with each since PISA for Schools is the assessment tool used to identify principals to participate in this study and for international benchmarking. The framework for the study is presented at the end of this chapter.

### **Theoretical Framework**

The principal of a school performs many duties, including overseeing the instructional attributes. Instructional leadership is the term used to describe this duty of the principal and has been a school leadership focus for almost four decades (Marzano et al., 2005; Thompson, 2012). Transformational leadership emerged around the same time as instructional leadership (Hitt & Tucker, 2016), extending the leadership characteristics beyond overseeing curriculum and instruction development with teacher evaluation and feedback (Blasé & Blasé, 1999; Lashway, 1995; Leithwood, 1992) to goal-setting, vision identification, and modeling values (Green, 2010; Jantzi & Leithwood, 1996; Leithwood & Louis, 2010; Valentine & Prater, 2011). The Tichnor-Wagner and Manise (2019) framework combines instructional and transformational leadership practices with an emphasis on global competency. This integrated approach to leadership yields increased pedagogical quality and achievement (Hitt & Tucker, 2016). The OECD asserts that principal roles need redefining to include teacher support, teacher evaluation, teacher professional development, goal setting, accountability, assessment, human and financial resource management, and collaboration with other schools to improve student learning (Pont, Nusche, & Moorman, 2008). Although the OECD assertion is not a part of the



study, the OECD-defined principal roles align with principal practices identified by Tichnor-Wagner and Manise (2019) and Hitt and Tucker (2016).

### **Instructional Leadership**

Instructional leadership has been inadequately defined since its inception in the 1970s (Leithwood & Louis, 2012; Murphy, 1988). Even so, research supports improved student achievement with a consistent, knowledgeable instructional leader (Leithwood & Louis, 2012; Mendels, 2012; Neumerski, 2013; Valentine & Prater, 2011). Edmonds's (1979) writing sparked the concept that principals should be instructional leaders and that effective schools have strong leadership. Further research reveals that strong leadership influences student learning, second only to the teacher's influence (Hallinger & Heck, 1996; Zuckerman & O'Shea, 2021). Researchers describe instructional leadership as a blend of (a) evaluating and coaching teachers, (b) professional development opportunities based on teacher needs, (c) various types of data analysis to inform decisions, (d) instruction and curriculum development, (e) school climate focused on continuous improvement, and (f) vision and goal setting (Blasé & Blasé, 1999; Lashway, 1995; Leithwood, 1992; Mendels, 2012; Valentine & Prater, 2011). In the 1990s, it was recognized that instructional leadership could be improved by adding transformational leadership practices (Hitt & Tucker, 2016; Marzano et al., 2005).

### **Transformational Leadership**

Effective principals simultaneously utilize instructional and transformational leadership practices (Marks & Printy, 2003). Transformational leadership began through the work of Burns (1978). Transformational leadership ties principals and teachers together, seeking organizational improvement (Bass & Avolio, 1994; Hitt & Tucker,

2016) through (a) shared vision, (b) collaborative work, (c) intellectual stimulation and metacognition, (d) inspirational motivation, (e) individual consideration, and (f) the principal modeling expected behaviors and values (Bass, 1985; Jantzi & Leithwood, 1996; Marzano et al., 2005; Morris, 2017).

Research supports the principal's influence on student achievement. A study of high- and low-achieving urban high schools found that among high-achieving high schools, the principals of these schools perceive themselves as having effective influence over curricular issues. The low-achieving high school principals perceived themselves as influencing funding issues (Bloom & Owens, 2013). Another study found that one standard deviation of principal quality improvement on their value-added framework yielded higher student achievement in mathematics and reading (Dhuey & Smith, 2014). Further, Dhuey and Smith (2018) found that the match between the principal and the school yielded increased student achievement. Sebastian and Allensworth (2012) found multiple pathways to principal leadership producing higher student achievement, but the quality of professional development for teachers and the effectiveness of programs were most strongly associated with the principal's effectiveness on student achievement compared to the other variables tested. In addition, the researchers found that among the schools in the study, the factor that set principals' effectiveness apart from other principals in the study was the learning environment they fostered.

### **Unified Model of Effective Leadership Practices**

Hitt and Tucker (2016) identified three models of school leadership that influence student achievement through the synthesis of empirical research from 2000 to 2014: (a)

the Ontario Leadership Framework (Leithwood, 2012), (b) the Learning-Centered Leadership Framework (Murphy et al., 2006), and (c) the Essential Supports Framework (Sebring et al., 2006). These models encapsulate 28 school leadership practices (dimensions) within five domains having foundations in instructional and transformational leadership theory in the unified framework. See Table 2.1. The construction of the unified framework utilizes over 100 studies to substantiate identified leadership practices that influence student achievement (Hitt & Tucker, 2016).

**Establishing and conveying the vision.** Within this domain, there are six dimensions. (a) *Vision creation, articulation*, and (b) *implementation* require that the principal develop an outline and present this to all stakeholders (i.e., teachers, school councils, and community members) involved with the process. Using stakeholders' input, the vision is developed, increasing the likelihood of successful implementation and attainment of goals (Sebring et al., 2006). The principal also (c) *communicates the vision's meaning* and (d) *models applicable ethical behaviors* so that everyone understands it (Neal, Justice, & Barron, 2019). Regular review of the vision that is articulated to stakeholders keeps the vision in focus (Leithwood, 2012). The principal (e) *leads teachers in using various data sources* that inform decisions related to components that support the vision (Murphy et al., 2006). The principal (f) *addresses external school accountability*, like that obtained through standardized testing, by helping teachers interpret the information and use it to make positive adjustments and improvements.

**Building professional capacity.** Within this domain, there are seven dimensions. Building professional capacity results from the principal working with teachers to achieve goals in curriculum, instruction, and assessment. The principal enhances

Table 2.1 Unified Model of Effective Leadership Practices

Domain	Dimensions
Establishing and conveying the vision	Creating, articulating, and stewarding shared mission and vision Implementing vision by setting goals and performance expectations Modeling aspirational and ethical practices Communicating broadly the state of the vision Promoting the use of data for continual improvement Tending to external accountability
Building professional capacity	Selecting for the right fit Providing individualized consideration Building trusting relationships Providing opportunities to learn for whole faculty, including leader(s) Supporting, buffering, and recognizing staff Creating communities of practice Engendering responsibility for promoting learning
Creating a supportive organization for learning	Acquiring and allocating materials and resources for mission and vision Considering context to maximize organizational functioning Building collaborative processes for decision making Sharing and distributing leadership Tending to and building on diversity Strengthening and optimizing school culture Maintaining ambitious and high expectations and standards
Facilitating a high-quality learning experience for students	Maintaining safety and orderliness Personalizing the environment to reflect students' backgrounds Developing and monitoring curricular program Developing and monitoring instructional program Developing and monitoring assessment program
Connecting with external partners	Building productive relationships with families and community Engaging families and community in collaborative processes to strengthen student learning Anchoring schools in the community

Source: Hitt & Tucker, 2016

teachers' perceptions of the principal as an instructional leader with credibility and someone who demonstrates their legitimate knowledge and ability to help increase teacher effectiveness (Hitt & Tucker, 2016). Teachers are known to be the most significant influence on student achievement (Childress et al., 2009; Leithwood & Louis, 2012). "Simply put, teacher success equals student success" (Stronge, 2002, p. 65). The school faculty is the "single largest resource for maximizing student achievement" (Hitt & Tucker, 2016, p. 550). Therefore, (a) *selecting teachers that fit* with the school culture and are capable is an important leadership practice. The principal not only needs to consider the collective fit of the faculty, but also (b) the *individual strengths and needs* of teachers to provide effective mentoring and professional development for the faculty as a whole. (c) *Building trusting relationships* with teachers as individuals leads to trust upon which the school community builds ownership of the shared vision, goals, and accountability, yielding improved student outcomes (Menges et al., 2011). Further, school leaders must consider the growth needs of the faculty integrating the needs to (d) *develop faculty learning opportunities*. The school leader must (e) *protect teachers from distractions*, internal and external, that do not align with the school vision and provide recognition to teachers as appropriate. (f) *Communities of practice* must be developed to support faculty learning using regular meetings. The principal must (g) *promote personal responsibility for learning* using baseline data aligned with the vision and school goals.

**Creating a supportive organization for learning.** This domain combines transformational leadership, instructional leadership, and integration of leadership practices and contains seven dimensions. Most of a school's budget goes to human (a) *resources* (Hitt & Tucker, 2016), so hiring effective teachers is critical. The remaining

budget provides professional development and other necessary resources for student learning. School leaders (b) *consider the context* in which they are situated and optimize the strengths of the school while identifying growth needs and securing development opportunities in flexible, discrete ways. (c) *Developing collaborative decision-making processes* that allow faculty to see their input creates buy-in and helps ensure the success of the school's vision and goals. (d) *Shared and distributed leadership practices* help develop a sense of community. As a whole, the school stakeholders work together to create and implement strategies for student achievement (Gordon & Hart, 2022). The principal operates from knowledge, ability, and relationships rather than from title or position (Robinson, Lloyd, & Rowe, 2008). This practice also helps develop leaders within the school. School leaders perceive (e) *diversity* as a positive characteristic in the school and develop it to create an inclusive environment that values other cultures and ideas. Effective leaders shape values and norms to (f) *strengthen school culture* through professional learning communities, trust, efficacy, conflict resolution, and several other practices. (g) *High, ambitious performance expectations* are also a practice of effective leaders and are associated with increased student achievement (Kraft, Marinell, & Shen-Wei Yee, 2016). This practice is characterized by transparently sharing expectations, evaluating, and giving constructive feedback to teachers for improvement.

**Facilitating a high-quality learning experience for students.** This domain encompasses five leadership practices that address strong instructional leadership. Effective instructional leadership must be coupled with effective organizational management to optimize student achievement (Grissom & Loeb, 2011; Leithwood, 2012; Robinson et al., 2008). (a) *Maintaining a safe, orderly environment* is such a practice

(Kraft, Marinell, & Shen-Wei Yee, 2016). The principal must lead the creation of shared expectations for behavior that are enforced fairly and consistently. In addition, the school building and grounds need to be kept clean and orderly. The principal and teachers work collaboratively to make the (b) *environment reflective of students' backgrounds* yielding increased student engagement. The final three dimensions in this domain are *developing and monitoring the (c) curriculum program, (d) instructional program, and (e) assessment program*. Effective leaders regularly monitor and evaluate these programs for effectiveness and provide guidance for improvement (Day, Gu, & Sammons, 2016). Principals ensure teachers have time in the master schedule to address these programs vertically and horizontally. They protect instructional time by reducing interruptions and use assessment data to inform plans for curriculum, instruction, and assessments.

**Connecting with external partners.** This domain contains three dimensions. Increased student achievement is observed when leaders find ways to (a) *heighten family and community partnerships and build productive relationships* (Sebring et al., 2006). The principal must develop a welcoming environment and expect teachers to be sensitive to family needs and cultures because this relationship influences student success (Leithwood, 2012). Sebring et al. (2006) found in research with Chicago Public Schools that principals (b) *engaging families and the community* in meaningful school decisions (i.e., budgets, policy, school improvement plans) had increased school functioning. (c) *Anchoring schools in the community* is achieved by principals serving as liaisons to connect families and students with necessary community services improving overall student success (Leithwood, 2012).

## **OECD Identified Leadership Practices for Student Learning**

The OECD recognizes that school leaders can improve student achievement and identified four domains of leadership practices from research that support quantifiable improvements in student learning (Hallinger & Heck, 1998; Marzano et al., 2005; Robinson, 2007; Waters et al., 2003). The OECD identified leadership practices are included because the OECD created and maintained PISA for Schools that are used to identify principals for the study because of the international connection through the OECD. The OECD leadership practices that align with the Hitt and Tucker (2016) framework are located in Table 2.2. The OECD leadership practices for student learning are organized into four domains: (a) supporting, evaluating, and developing teacher quality; (b) goal-setting, assessment, and accountability; (c) strategic financial and human resource management; and (d) collaborating with other schools (Pont et al., 2008). The OECD practices and domains are organized less specifically than the Hitt and Tucker (2016) framework for effective leadership. Table 2.2 emphasizes the parallels between the Hitt and Tucker framework and the OECD-identified leadership practices for improved student achievement in italics and bold. These parallels are essential to explain because of the use of PISA for Schools, developed by the OECD, as a criterion for inclusion in this study and the most used assessment to measure preparation to compete globally.

### **Global Competency**

Before describing the framework used in the study, global competency needs to be discussed. As the world becomes more interconnected, the ability to interact appropriately with people of various cultures is important. However, universities have



Table 2.2 Unified Model of Effective Leadership Practices and OECD Leadership Practices

Domain	Dimensions
<i>Establishing and conveying the vision</i>	<p><b><i>Creating, articulating, and stewarding shared mission and vision</i></b></p> <p><b><i>Implementing vision by setting goals and performance expectations</i></b></p> <p>Modeling aspirational and ethical practices</p> <p>Communicating broadly the state of the vision</p> <p><b><i>Promoting the use of data for continual improvement</i></b></p> <p><b><i>Tending to external accountability</i></b></p>
<i>Building professional capacity</i>	<p><b><i>Selecting for the right fit</i></b></p> <p>Providing individualized consideration</p> <p>Building trusting relationships</p> <p><b><i>Providing opportunities to learn for whole faculty, including leader(s)</i></b></p> <p>Supporting, buffering, and recognizing staff</p> <p>Creating communities of practice</p> <p>Engendering responsibility for promoting learning</p>
<i>Creating a supportive organization for learning</i>	<p><b><i>Acquiring and allocating materials and resources for mission and vision</i></b></p> <p>Considering context to maximize organizational functioning</p> <p>Building collaborative processes for decision making</p> <p>Sharing and distributing leadership</p> <p>Tending to and building on diversity</p> <p>Strengthening and optimizing school culture</p> <p>Maintaining ambitious and high expectations and standards</p>
<i>Facilitating a high-quality learning experience for students</i>	<p>Maintaining safety and orderliness</p> <p>Personalizing the environment to reflect students' backgrounds</p> <p>Developing and monitoring curricular program</p> <p>Developing and monitoring instructional program</p> <p><b><i>Developing and monitoring assessment program</i></b></p>
<i>Connecting with external partners</i>	<p><b><i>Building productive relationships with families and community</i></b></p> <p>Engaging families and community in collaborative processes to strengthen student learning</p> <p>Anchoring schools in the community</p>

Source: Pont et al., 2008; Hitt & Tucker, 2016

largely neglected the global competency development of students (Hunter, White, & Godbey, 2006; Lohmann, Rollins, & Joseph Hoey, 2006; Reimers, 2009), including a definition of global competency (Li, 2013). A step toward developing globally competent graduates is to define the term. Defining global competency is a complex task because a specific definition of global competency depends on the users (i.e., governments, businesses, and educational organizations) of the term and their purpose (Hunter, White, & Godbey, 2006). Hunter (2004) sought to develop a definition using qualitative and quantitative methods, employing a survey developed from literature called “Determining Global Competence” and assembling a panel of experts to come to a consensus about the definition using the Delphi technique. From this process, the Delphi panel defined global competence as “having an open mind while actively seeking to understand cultural norms and expectations of others, leveraging this gained knowledge to interact, communicate and work effectively outside one’s environment” (p. 81).

Several organizations and individuals have sought to define global competence. The following are some of those definitions. The National Education Association (2010) described global competence as,

The acquisition of in-depth knowledge and understanding of international issues, an appreciation of and ability to learn and work with people from diverse linguistic and cultural backgrounds, proficiency in a second language, and skills to function productively in an interdependent world community. (p. 1)

Li (2013) describes global competence as “one’s ability to transcend domain or discipline and properly comprehend cultural norms and global events so that one can interact,

communicate, and work effectively outside one's environment" (p. 127). Reimers (2009) describes global competency as:

Global competency comprises the knowledge and skills that help people understand the flat world in which they live, the skills to integrate across disciplinary domains to comprehend global affairs and events, and the intellect to create possibilities to address them. Global competency also includes fostering an attitude that makes it possible to interact peacefully, respectfully, and productively with fellow human beings from diverse geographies. (p. 25)

According to the Asia Society (2022a), globally competent students investigate the world, recognize that people worldwide have different perspectives, communicate ideas effectively, and act using skill and knowledge to impact the world. The OECD (2018c) describes global competency as a multidimensional construct stating, "Globally competent individuals can examine local, global and intercultural issues, understand and appreciate different perspectives and world views, interact successfully and respectfully with others, and take responsible action toward sustainability and collective well-being" (p. 4). Tichnor-Wagner and Manise (2019) define global competence as "The set of knowledge, skills, and dispositions needed to thrive in a diverse, interconnected world" (p.2). The U.S. Department of Education asserts that global competency is comprised of the "knowledge and skills individuals need to be successful in today's interconnected world and to fully engage in and act on issues of global significance" (U.S. Department of Education, 2022). The U.S. Department of Education identifies four attributes as globally competent: language skills, communication, critical thinking, and

socioemotional skills. Bringing this discussion to the state level, the Kentucky Department of Education defines global competency using the U.S. Department of Education definition (Kentucky Department of Education, 2022a).

The above descriptions of global competency are similar, focusing on knowledge and skills to interact and work with people from various cultures in a productive, peaceful manner. The definitions are general and broad, but a closer look at the people or organizations reveals a more specific focus on global competency. The Asia Society (2022b) states their mission is to bridge the gap between Eastern and Western cultures with global competency education. All other individuals and organizations above have a Western position on global competency, including economic, civic, and environmental aspects. Because the framework used in the study is from Tichnor-Wagner and Manise, this is the definition used for the study. Their “why” for a global focus is career readiness, digital connectivity, demographic diversity, and cross-border challenges (Tichnor-Wagner & Manise, 2019). The authors state that future jobs will need cross-cultural skills, problem-solving, and critical thinking skills. Digital connectivity allows people to communicate across cultural boundaries and geographic locations, necessitating digital and cultural understanding. Due to migration, demographic diversity in the United States is greater than ever in our history. Cross-border challenges the authors include are “pandemic disease, climate change, political unrest, war, famine, economic inequality, bigotry, (and) violent extremism” (p. 3). Issues of humanity require solutions from our current and future leaders and citizens, making global competency foci immensely important in the education of students in the United States and, actually, worldwide. The

next section presents a brief history of the development of global competence in education.

### **Educational Leadership for Global Competency of High School Graduates**

In 1979, foreign language was the focus of global competence education in U. S. schools, with the United States Department of Education enacting additional per-pupil funding for each student enrolled in foreign language classes (Perkins, 1979). Also, in 1979, social studies curriculum recommendations included global awareness and issues (Kniep, 1989). The 1980s brought an increased focus on cultural sensitivity and awareness (Pellicano, 1982). Beginning in the 1990s and continuing into the 21<sup>st</sup> century, teacher education programs started incorporating global competence education (Bruce, 1991; Gilliom & Farley, 1990; Schukar, 1993; Young, 1998). As mentioned previously, school principals do impact student achievement through their leadership of teachers and developing of the processes and systems that lead to increased student achievement. Jacobson (2011) reports that the International Successful School Principalship Project (ISSPP) findings corroborate “the existence of essential core leadership practices of direction setting, developing people and redesigning the organization as necessary for improved student achievement but more importantly they reveal that these practices are best realized in ways that are culturally sensitive” (p. 41). In addition, school principals are responsible for monitoring what teachers are teaching; therefore, principals must intentionally support incorporating global competence topics in the classroom (Felch, 2016; Gilliom & Farley, 1990). The progression toward developing globally competent graduates is evident, but research about the topic is scarce.

The Kentucky Board of Education (KBE) (2014) recognized the importance of global competency for high school graduates with their *Resolution Supporting Global Readiness for Kentucky Students* noting the educational challenges to prepare graduates for adulthood in the world, workforce, citizenship, and ability to engage in global matters. In 2013, 21% of jobs in the state were connected to international trade in 198 countries, and Kentucky's exports experienced the second-highest growth rate in the country. Additionally, translation services and interpreters were hired for government offices, businesses, education agencies, and private organizations. With this evidence of the increase in global impacts, the KBE (2014) declared:

...its commitment to making global readiness an explicit part of the existing college- and career-ready agenda, ensuring that all Kentucky students are globally-prepared and ready to support communities and companies with citizens and workers who understand how to cooperate and compete in an increasingly global economy (p. 1).

The Kentucky Department of Education (2014) outlined the goals to accomplish the KBE commitment to global readiness for Kentucky graduates in their position statement, *Every Child Globally Prepared for Success: Kentucky's Global Education Position Statement*.

The KDE developed five objectives to achieve the "goal of having the most globally prepared students in the country" within five years (p. 4). The objectives are listed below:

- Ensure that Kentucky's K-12 educators have robust, integrated, and innovative professional development and support for global education.
- Provide cutting-edge language learning.

- Transform schools through innovative models of international education that supports students in developing the attitudes, skills, and knowledge needed to succeed in a global economy.
- Provide pathways for district, school, teacher, and student globally competent designations.
- Partner with local businesses, governments, and communities to advocate for and support for global education (KDE, 2014, p.4)

This KBE resolution and KDE position statement make it evident that Kentucky had ambitious plans to implement globally competent education in 2014. This study should give some indication of the progress made toward the goals. In the next section, the leadership framework for the study is described.

### **Globally Competent Educational Leadership Framework**

The Globally Competent Educational Leadership Framework (Tichnor-Wagner & Manise, 2019) is the foundation for this study. The creators of the framework developed it in four phases. The first phase involved a literature review of pertinent leadership and global competency information. Interviews were conducted with elementary and secondary school leaders who were implementing global competency strategies. Initial tenets were developed from these interviews and mapped onto the Professional Standards for Educational Leaders 2015. The framework is comprised of four domains and seven tenets of global competency leadership, illustrated in Table 2.3.

**Vision setting.** This domain contains one tenet addressing the shared mission and vision for the school. Educational administrators lead the development of a shared mission and vision that supports preparing students to be productive members of a global

Table 2.3 Globally Competent Educational Leadership Framework: Domains and Tenets

Domain	Tenets
Vision Setting	Vision and mission
Pedagogy and Practice	Curriculum, instruction, and assessment Collaborative professional community
Situated Action	Global connections and collaboration Advocacy and community engagement
Systems and Structures	Equity and inclusivity Operations and management

Source: Tichnor-Wagoner & Manise, 2019

society. The school leader solicits the contributions of various stakeholders (teachers, students, families, and community members) to the development of the mission and vision that seeks to connect global competency and local interests toward removing barriers for all students of various cultures. In addition, the school leader and stakeholders determine how to measure student progression toward global competency. The schools in this study use PISA for Schools as a metric.

**Pedagogy and practice.** Two tenets are contained in this domain, addressing curriculum, instruction, and assessment and a collaborative professional community. The school leader supports curriculum, instruction, and assessment by providing resources and professional development for global competency. Examples of resources that encourage embedded global competency are books, visuals, language courses, events, projects, and so on that reflect a culturally diverse population. Formative and summative assessments that measure global competence development are provided or developed. The PISA for Schools is an example of a summative assessment that includes a portion of the test that evaluates the students' global competency. In addition, digital portfolios and various student products can be used.



The second tenet of this domain is for professional communities. The leader should provide teachers with opportunities to develop their own global competencies and methods to use in the classroom. The leader builds in time for teachers to collaborate with each other and share ideas and experiences related to teaching global competency.

**Situated action.** Local and global connections for the global competence of students is the focus of the situated action domain having two tenets. One of the tenets addresses global collaborations and connections. The leader fosters an environment that supports cultural exchanges and learning from local to international levels. The connections can be formed in person through exchange programs or virtually using technological applications. This process takes time to establish but self-perpetuates once developed. The leader should orchestrate these connections and collaborations for teachers and students to embed global competency learning and efficacy.

In addition, school leaders foster student success toward developing global competency through the second tenet, advocacy, and community engagement, including students, families, businesses, school district leaders, and policymakers. Leaders acquire the input of these groups concerning global initiatives for students. The leader also garners support in various ways for global competency learning. Examples include professional development opportunities; family nights at school or streamed virtually; and building relationships with policymakers to build support for programs that increase global competency among students, teachers, and school administrators.

**Systems and structures.** School leaders intentionally develop systems and structures that promote global emphases to support cultural diversity in staff, students, and environments. The two tenets in this domain are equity and inclusivity *and*

operations and management. These tenets permeate through all aspects of the school community using various strategies. Among the indicators under equity and inclusivity are hiring diverse staff members, providing access to high-quality global education for all students, and using the diverse attributes of the school population and community to enhance global education.

Finally, the operations and management tenet requires that the school leader direct necessary resources to global education. This includes financial resources to support professional development, teaching materials, and travel. Also, the resource of time allocated to the discussion about global education within the school and community, time built into the school day for teacher collaboration, and recognizing the need for time to develop a quality global education environment. In addition, the school leader facilitates policy development to support global education.

Revisiting the alignment between the Hitt and Tucker (2016) framework and the OECD Leadership Practices (Pont et al., 2008), the Globally Competent Educational Leadership framework (Tichnor-Wagoner & Manise, 2019) is added in Table 2.4 to illustrate the alignment with the Hitt and Tucker framework and the OECD Leadership Practices. The aligned dimensions of the Globally Competent Educational Leadership framework (GCELF) are underlined.

In addition to these alignments that increase the dependability of the GCELF framework, Tichnor-Wagner and Manise (2019) also show the alignment between the GCELF Framework and the Professional Standards for Educational Leaders 2015 (National Policy Board for Educational Administration, 2015). The Tichnor-Wagner and Manise table for this alignment is located in Table 2.5.

Table 2.4 Unified Model of Effective Leadership Practices, OECD Leadership Practices, and Globally Competent Educational Leadership Framework

Hitt and Tucker Domain	Dimensions	GCELF Domain
<i>Establishing and conveying the vision</i>	<p><b><u>Creating, articulating, and stewarding shared mission and vision</u></b>  <b><u>Implementing vision by setting goals and performance expectations</u></b>  <u>Modeling aspirational and ethical practices</u>            Communicating broadly the state of the vision  <b><u>Promoting the use of data for continual improvement</u></b>  <b><u>Tending to external accountability</u></b></p>	<i>Vision</i>
<i>Building professional capacity</i>	<p><b><u>Selecting for the right fit</u></b>  <u>Providing individualized consideration</u>  <u>Building trusting relationships</u>  <b><u>Providing opportunities to learn for whole faculty, including leader(s)</u></b>  <u>Supporting, buffering, and recognizing staff</u>  <u>Creating communities of practice</u>  <u>Engendering responsibility for promoting learning</u></p>	<i>Pedagogy and Practice</i>
<i>Creating a supportive organization for learning</i>	<p><b><u>Acquiring and allocating materials and resources for mission and vision</u></b>  <u>Considering context to maximize organizational functioning</u>  <u>Building collaborative processes for decision making</u>  <u>Sharing and distributing leadership</u>  <u>Tending to and building on diversity</u>  <u>Strengthening and optimizing school culture</u></p>	<i>Systems and Structures</i>
<i>Facilitating a high-quality learning experience for students</i>	<p><u>Maintaining safety and orderliness</u>  <u>Personalizing the environment to reflect students' backgrounds</u>  <u>Developing and monitoring curricular program</u>  <u>Developing and monitoring instructional program</u></p>	<i>Pedagogy and Practice</i>

Table 2.4 (continued).

Hitt and Tucker Domain	Dimensions	GCELF Domain
	<b><u>Developing and monitoring assessment program</u></b>	
<i>Connecting with external partners</i>	<b><u>Building productive relationships with families and community</u></b> <u>Engaging families and community in collaborative processes to strengthen student learning</u> <u>Anchoring schools in the community</u>	<i>Situated Action</i>

Source: Hitt & Tucker, 2016; Pont et al., 2008; Tichnor-Wagoner & Manise, 2019

Three common themes are embodied in the GCELF framework: (a) care for individuals and the planet, (b) connection of the local level of society and the global level, and (c) continuous improvement toward global competency through the use of applicable data. The pandemic has illuminated how globally connected we are to each other. It is critically important to develop an understanding of and appreciation for all of humanity in students. Thus, the importance of school leadership toward developing global competency in students. In the following sections, the OECD is described, including aspects of PISA and concerns related to the use of PISA.

### **Organisation for Economic and Co-operative Development**

The slogan for the OECD is “Better Policies for Better Lives,” which encapsulates the organization’s purpose (OECD, 2019a). Global education is only one component of concern to the OECD, which also focuses on environmental issues, social welfare, innovation, trade, employment, and development, along with several other global concerns listed on the OECD website. The OECD is currently comprised of 38 countries, including the United States (OECD, 2022). The OECD Council oversees and directs the organization and has representatives from member countries and the European

Table 2.5 Alignment Between the Global Competency Leadership Tenets and the Professional Standards for Educational Leaders

Tenet	Global Competence Leadership Tenet	Professional Standards for Educational Leaders
Shared Mission and Vision	Tenet 1. Educational leaders facilitate, advocate, and enact a shared mission and vision of high-quality education that includes preparing students for life, work, and citizenship in a global society	Standard 1. Effective educational leaders develop, advocate, and enact a shared mission, vision, and core values of high-quality education and the academic success and well-being of <i>each</i> student.
Curriculum, Instruction, and Assessment	Tenet 2. Educational leaders implement and support curriculum, instruction, and assessment that incorporate and promote the development of each student's global competence.	Standard 4. Effective educational leaders develop and support intellectually rigorous and coherent systems of curriculum, instruction, and assessment to promote <i>each</i> student's academic success and well-being. Standard 7. Effective educational leaders foster a professional community of teachers and other professional staff to promote <i>each</i> student's academic success and well-being.
Collaborative Professional Community	Tenet 3. Educational leaders foster a professional community where school personnel work together to build capacity around developing global competence for each student and staff member.	Standard 6. Effective educational leaders develop the professional capacity and practice of school personnel to promote <i>each</i> student's academic success and well-being.

Table 2.5 (continued).

Tenet	Global Competence Leadership Tenet	Professional Standards for Educational Leaders
Advocacy and Community Engagement	Tenet 5. Educational leaders promote student success by advocating for global competence and engaging families, community members, and policymakers for support.	Standard 8. Effective educational leaders engage families and the community in meaningful, reciprocal, and mutually beneficial ways to promote <i>each</i> student's academic success and well-being.
Equity and Inclusivity	Tenet 6. Educational leaders strive for equity of access to high-quality global learning opportunities for each student and cultivate an inclusive, caring, and supportive school community that values the The cultural and linguistic diversity of each student.	Standard 3. Effective educational leaders strive for equity of educational opportunity and culturally responsive practices to promote <i>each</i> student's academic success and well-being.  Standard 5. Effective educational leaders cultivate an inclusive, caring, and supportive school community that promotes the academic success and well-being of <i>each</i> student.
Operations and Management	Tenet 7. Educational leaders manage school operations and resources to support staff and student global competence development.	Standard 9. Effective educational leaders manage school operations and resources to promote <i>each</i> student's academic success and well-being.

*Note.* Adapted from “Globally Competent Educational Leadership: A Framework for Leading Schools in a Diverse, Interconnected World,” by A. Tichnor-Wagner and J. Manise. Copyright 2019 by ASCD and the Longview Foundation.

Commission. Committees composed of representatives from member countries and observer countries within the OECD discuss and implement strategies for specific issues with the OECD Secretariat. The Secretariat manages analysis and proposals including the

Secretariat-General, the Deputy Secretariat-General, and the Directorates. The OECD was established in 1961 and formed from the Organization for European Economic Cooperation (OEEC), which began in 1948 to implement the Marshall Plan, which the United States financed to rebuild European countries devastated during World War II. The offices of the OECD are located in Paris, France. In 1961, the OECD had 20 member countries including the United States, and at present has 38 countries in membership, which collectively fund the OECD and are determined by the economy of the member country. The United States contributes the greatest amount at approximately 22% of the budget, and Japan contributes the second highest percentage at almost 13% (OECD, 2013b). The OECD publishes materials about public issues and economics and maintains 40 statistical databases.

### **Programme for International Student Assessment Development and USA**

#### **Involvement**

The mission of the OECD is to “promote policies that will improve the economic and social well-being of people around the world” (OECD, 2013a, p. 1). The PISA supports that mission because data generated from the administration of these international assessments of student learning are intended to inform policy construction (OECD, 2017a). In addition, the OECD approaches education from an economic and social standpoint, evidenced by connections made by the OECD between performing well on PISA and a country’s gross domestic product (GDP). The publication, *The High Cost of Low Educational Performance: The Long-Run Economic Impact of Improving PISA* (OECD, 2010a), claims that countries that can increase their PISA scores by 25 points over 20 years can increase their OECD gross domestic product by \$115 trillion UDS.

These values are determined by relating cognitive skills to economic growth through an economic model. The relationship illustrates that minor improvements in laborer skills can substantially improve future well-being.

One reason the United States is participating in PISA is the above-mentioned membership in the OECD. Another reason stems from a culture in the United States that shifted from education for civic socialization and cultural perpetuation to workforce preparation after the Soviet Union launched Sputnik in 1957 (NASA, 2017). Americans were shocked by this event because they perceived the United States was the most technologically advanced country in the world (Dobbins & Martens, 2010). After the launch of Sputnik, the purpose of education switched to military strengthening and economic development. More mathematicians, scientists, and engineers were needed to develop defense weapons, explore technological developments, and achieve dominance over other countries (Becker & Perl, 2003; Keitel & Vithal, 2008; Lappan & Wanko, 2003). Education became an investment in human capital (Meyer & Benavot, 2013). The National Defense Education Act (NDEA) was passed in 1958 under President Dwight D. Eisenhower, who declared the need for improved education of USA students for the nation's security (Ferrini-Mundy & Graham, 2003; Lappan & Wanko, 2003; Long, 2003). During this era of public education in the USA, mathematics, science, and foreign languages became priority curricula (85<sup>th</sup> United States Congress, 1958, Sec. 101). Although the states and their local governments retain control of education systems under the U. S. Constitution, the federal government aided education systems in order to ensure a robust and well-educated military (85<sup>th</sup> United States Congress, 1958, Sec. 101).



Shortly after the passage of NDEA in 1958, the Education Committee of the National Academy of Sciences invited a group of scholars and scientists to attend the Woods Hole Conference in 1959. Jerome Bruner, a psychologist who contributed to education through his cognitive learning theory, led the conference (Smith, 2002). The experts participating in the conference purported that education goals can be exact processes of human function without connection to cultural influences, which became the foundational ideology of PISA (Meyer & Benavot, 2013). Local and state governments maintained control of their education systems but were influenced to change the K-12 curriculum because of federal funding. To ensure states conformed to federal expectations, in 1964, the National Assessment of Educational Progress (NAEP) was developed to conduct comparative testing (Kifer, 2001; McLean, 1996) and provide student-achievement data to assess the effectiveness of school programs (Williams & Bank, 1981). Comparative testing characteristics are similarly used on the international level with PISA. The first administration of the NAEP was in 1969 and was voluntary. Under the No Child Left Behind Act of 2001, the NAEP administration was required to do this at least once every two years. Eligibility for federal Title I funds was linked to state agreement to participate in the NAEP mathematics and reading assessments (Williams & Bank, 1981), while participation in all other subject assessments was and remain voluntary (Institute for Education Sciences, 2012a). NAEP participation is still required under the Every Student Succeeds Act (USDE, 2016).

Unlike the goal of the United States concerning educational reform for military strength in the 1950s, the goal of the OECD was educational reform for economic growth leading to social development (Meyer & Benavot, 2013). However, when the United

States shifted attention from student-centered testing to large-scale school system assessments for policy decisions and funding of educational programs (Dobbins & Martens, 2010; Kifer, 2001; McLean, 1996; Williams & Bank, 1981) after the publication of *A Nation at Risk* (National Commission on Excellence in Education, 1983), the United States members of the OECD began to advocate for international testing. The other members were not in favor, questioning the usefulness and feasibility of such an assessment. When the United States members threatened to withdraw financial support for the CERI, which is connected to the OECD, the members of the OECD relented under pressure from the United States members, and the pathway was created to ultimately lead to the development of PISA. In 1992, the OECD began annually publishing *Education at a Glance*, which addresses educational indicators, including educational expenditures, education participation, decision-making characteristics, human resources, demographics, social and economic context, student outcomes, educational system outcomes, and labor market outcomes (Meyer & Benavot, 2013). This process of indicator analysis was the precursor to PISA. In the following section, PISA is explained.

### **Programme for International Student Assessment**

Development of PISA began in the mid-1990s, was completed in 1997, and was first administered in 2000 (OECD, 2013b). It is an assessment *of* learning because it measures how well education systems prepare their students. The PISA Governing Board determines policies and priorities related to the assessment, ensures participating countries adhere to the policies, and reports results of student outcomes. Thus, everything related to PISA (e.g., test development, administration, scoring) is dictated by the OECD but conducted by each country. Experts from participating countries serve to link PISA

policy objectives to assessment domains. Because of the inclusion of experts from member countries, the OECD claims the assessment is internationally valid since it utilizes the educational and cultural characteristics of the participating countries.

The PISA is given to randomly selected 15-year-old students to assess their preparedness for life through reading, mathematics, and science literacy and was designed to allow for comparisons between countries. Implementation of the assessment process is controlled at the national level on a three-year cycle alternating emphasis on the subject area within each test (i.e., reading, mathematics, or science). Mathematics was emphasized in 2003 and 2012; thus, two-thirds of the assessment time was allocated to mathematics (OECD, 2009). The PISA also includes questionnaires for students and principals about school characteristics, and the results are used to make connections between school characteristics and student performance. Trend data are available addressing changes in student attitudes, socioeconomics, and student knowledge about mathematics, science, and reading.

Another purpose of PISA is to inform policymakers, researchers, and the general public about the knowledge of 15-year-olds in their respective countries. The OECD asserts that a link has been established between the knowledge and skills of tested 15-year-olds and their countries' social and economic well-being (OECD, 2012). The OECD claims that results from PISA can be used to identify the educational strengths of high-performing countries with strong economies and share those with other countries to improve educational practices and their economy.

The assessment design and development process is a thorough one that includes meetings about adjustments between test administrations, field-testing, and validation.

For the 2009 assessment, the design and development process began in 2006 (OECD, 2012). Every step of the process has a detailed, written description to follow. The selection of the sample group is the responsibility of the National Program Manager (NPM), which creates the sampling framework within the guidelines established by the OECD (OECD, 2012). In the United States, the sample represents 15-year-old students in public and private schools created through a stratified sample that must have a minimum of 4,500 students from no less than 150 schools (Institute for Education Sciences, 2012b). The number of students assessed ranges from 4,500 to 10,000 per participating country or economy. Stratification is based on the region and type of school (public or private). In addition, categories of race and type of location (i.e., urban, suburban, rural) are considered. Among the 6,677 potential students in the original sample for the United States, 5,233 students actually participated in the 2009 assessment (Fleischman et al., 2010). Since test administration began, students in over 72 countries and economies have been assessed.

Through 2009, the assessment focused on reading, mathematics, and science literacy rather than a specific curriculum. The 2012 administration of the PISA included problem-solving and financial literacy in addition to the other core areas (OECD, 2017a); however, the 2015 PISA excluded the problem-solving portion. Each domain is assessed in depth on a cycle beginning with reading literacy (2000), mathematics literacy (2003), science literacy (2006), on so on. More assessment time is dedicated to the focus domain than the other topics. In 2018, the OECD added a section to PISA to compare the global competency of 15-year-old students (Auld & Morris, 2019; OECD, 2018b). The PISA assesses global competence through knowledge, cognitive skills, social skills and

attitudes. The cognitive test portion assesses knowledge and cognitive skills, and the student questionnaire assesses the knowledge, cognitive skills, social skills and attitudes.

The PISA is designed to assess students' abilities to solve real-life problems. The assessment was administered mainly using paper and pencil until the 2015 PISA administration when the test became predominately computer-based (OECD, 2016b). The questions combine multiple-choice and open-response options grouped under a proposed real-life situation. The desired outcome of the assessment is to provide participating countries with information about the level of knowledge and skills possessed by 15-year-old students nearing the end of their compulsory education, contextual indicators about school and student characteristics (e.g., social, economic, educational, demographic) that can be tracked over time providing trend data, and provide data to inform educational policy, reform, and research (OECD, 2009). The results are not intended to yield information about individual students; instead, the results are analyzed for information at the national level, thus indicating how countries compare to each other and the effectiveness of each country's education system. A goal is to determine characteristics of highly successful education systems as evidenced by PISA and share these characteristics globally so that all participating countries can improve their education systems (OECD, 2017a).

### **USA Results**

USA student performance in mathematics on PISA since the first administration of the assessment in 2000 has been below several other countries and economies. The tables containing results for the mean score in mathematics of participating countries can be found on the OECD website. The mean score ranking for 2015 is 31 out of 35

(OECD, 2017d). *USA Today* (The Associated Press, 2010) they were reported that USA students ranked 25 out of 34 countries on the 2009 mathematics portion of PISA. Notice that the numbers are slightly different from the OECD report. It is possible to report two different rankings because some reports have been done with OECD member countries only and others with all participating countries, thus generating differing reports. Figure 2.1 illustrates how close USA student performance on the mathematics portion of PISA is to the OECD mean score.

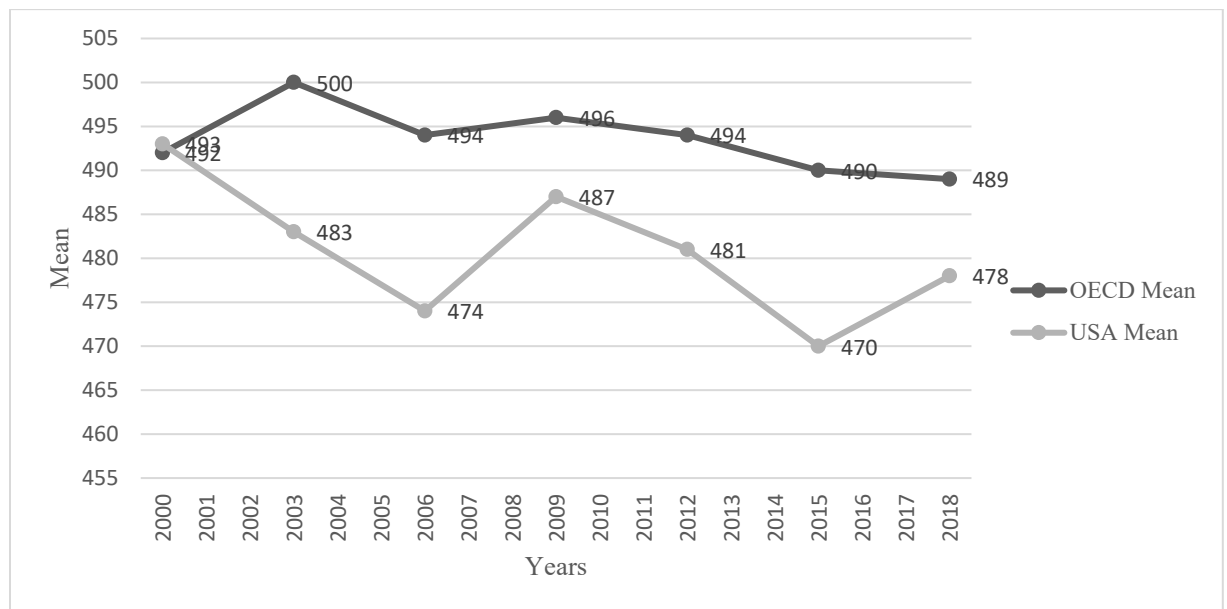


Figure 2.1. Comparison of USA and OECD Mathematics Mean PISA Scores  
This line graph illustrates that the USA mean PISA scores are consistently below the OECD mean in mathematics for 15 years of the administration of the test and was created using data from the “Program for International Student Assessment (PISA), 2000, 2003, 2006, 2009, 2012, 2015, 2018” by the OECD, 2017b, OECD 2019b.

The OECD mean is calculated using the sum of the participating countries’ and economies’ means divided by the total number of participating countries and economies as follows (OECD, 2005):

$$\hat{\mu} = \frac{\sum_{i=1}^c \hat{\mu}_i}{C}$$

In 2000, the USA's mean mathematics score of 493 was one point above the OECD mean score of 492. The USA mean mathematics score was consistently below the OECD mean score in 2003, 2006, 2009, 2012, 2015, and 2018. In reading and science, the USA consistently scores near the OECD average. See Table 2.6 for the last four PISA results comparing the OECD mean and USA results for reading and science. The PISA results for the test administrations from 2000 to 2006 reveal this trend (OECD, 2017c).

Multiple types of statistical analyses may be done with PISA results controlling for things like socioeconomic differences or gender, but sample groups are complex with multiple variables to consider simultaneously, and thus, interpretation of the data should be made with caution (OECD, 2005). The following section discusses the value of the OECD study of education systems.

Table 2.6 PISA Results 2009 – 2018 for Reading and Science OECD Mean vs. USA Mean

	Reading		Science	
	OECD	USA	OECD	USA
2018	487	505	489	502
2015	493	497	493	496
2012	496	496	501	497
2009	493	500	501	502

Source: OECD website.

### **Value of the OECD Study of Education Systems**

The OECD process of studying education systems using PISA is valuable because it is used to give feedback for the improvement of the systems through policy and reforms. At the beginning of their book, Kirst and Wirt (2009) present a quote attributed to Aristotle that is applicable to this section:

It is impossible to talk about education apart from a concept of the good life; people will inevitably differ in their concepts of the good life, and hence they will inevitably differ on matters of education; therefore, the discussion of education falls squarely within the domain of politics. (p. v)

It is undeniable that politics has an educational component because educational issues have been prominent in politics and policy for decades (Earl, 2007). Some educational-related arguments were political ideals linking educational issues and politics (Bruner, 1960). Schools are like miniature political systems because of how decisions must be made about maximizing available resources (Kirst & Wirt, 2009). Decisions must be made about the allocation of funds, resources, people within the organization, and what to ignore in schools similar to larger political systems. Specifically, national and international assessment results are used to construct K-12 education policy (Dossey, 2003; Keitel & Vithal, 2008). According to Broadfoot (1996), “Assessment is arguably the most powerful policy tool in education” (p. 21). One reason is that assessments yield evaluation results to inform decisions about what is working well or not in a school system.

Education system accountability is another value of the OECD study of education systems. Accountability is characterized by consistently using strategies to determine how the organization is performing and involves analyzing evidence and assigning responsibility (Guskey, 2007). Assessments are one piece of evidence to analyze. The PISA gives the U.S. Department of Education international data to analyze through its National Center for Education Statistics [NCES] (NCES, 2023). Certainly, comparisons with other countries and economies should be made with caution because of the multiple



factors that influence results globally, but the educational quality is increasingly a determinant of potential economic strength and sustainability (Bishop, 2008; Friedman & Mandelbaum, 2012; Keitel & Vithal, 2008; Tucker, 2015; West, 2012).

### **Concerns Related to PISA**

The perspectives of authors' concerns related to assessment use, specifically PISA results, are presented in this section, so the impression is not given that PISA is accepted without caution. The 2011 Global Entrepreneurship Monitor survey that shows a correlation between high scores on the mathematics portion of PISA and the entrepreneurial capability of participating countries and economies suggests that countries and economies that perform well on the mathematics portion of PISA tend to produce fewer entrepreneurs and innovators than the United States that has consistently ranked below the high performing countries and economies in mathematics (Zhao, 2009). The study does not indicate causation, simply a relationship between the two factors. Zhao (2009) asserts that the United States supports creativity development among students by the nature of the education system that focuses on a liberal education, while China has focused on doing well on an assessment with a narrow focus on educational topics. Zhao argues that success on standardized assessments is not a complete evaluation of the success of a school or educational system. Zhao encourages policymakers and educators to focus on skills that prepare students for a global society with the appropriate use of technology.

In addition, performance is supposed to relate to students' preparedness to be economically productive citizens. GDP is defined as the dollar value of services and goods produced during a specified timeframe and indicates a country's economic health

(Investopedia, 2016). The United States has the largest GDP value based on the U.S. dollar (The World Bank, 2019), yet students are not scoring as high on PISA as several other countries and economies in the OECD. Even though there does not appear to be a direct influence on the U.S. economy based on PISA student performance, the relationship exists between a well-educated population and the GDP (West, 2012). Further, PISA results have not identified effective educational practices worldwide (Leung, 2008). Each country that demonstrates high levels of student achievement, as evidenced by PISA, has employed various strategies. Often the strategies are culture-specific, thus making any specific effective strategy challenging to identify and apply globally to school systems (Tucker, 2015; Williams, 2016). However, it is not the intention of the OECD for their recommendations to be culturally specific.

In a climate of educational reform, the focus is often on the connection between educational success and the nation's economic well-being, the premise upon which the OECD comparison of student assessments is based. Paris (1994) questioned this practice, who claimed that it is difficult to directly connect a nation's economy and its education system. In addition, Paris asserts that the *crisis* created by educational weakness is a claim made in a rhetorical context. Appropriate educational policy development is compromised because the relationship between education and the country's economic progress has limited information available.

In a climate of whole-system reform, wrong drivers must be avoided (Fullan, 2011). An example of focus on inappropriate drivers is the media coverage after the December 2010 release of the 2009 PISA performance results by students in the United States. Fullan states that policymakers were desperate for a way to improve P-12

education. Yet, they focused on the wrong drivers: (a) accountability based on rewards and punishments, (b) classroom practices of individual teachers, (c) technology usage in the classroom as the answer, and (d) fragmented strategies that do not address systemic issues. The most effective drivers for creating and sustaining educational renewal are (a) capacity building, (b) group solutions, (c) appropriate classroom instruction, and (d) systemic or integrated strategies. He asserts that these drivers are appropriate and have the potential to produce whole system change because they focus on changing the culture within schools and among educators. Intrinsic motivation is important for whole system change and is not likely to occur with the wrong drivers (Fullan, 2011).

An accurate assessment of teacher and student achievement cannot be obtained through the results of a single type of test, specifically standardized tests. Accountability will not be eliminated from public-education discourse or action; thus, using appropriate assessment is critically important (Reeves, 2004). Further, Bracey (2009) warns that no crisis is indicated by standardized assessments, as claimed by some politicians.

Unfortunately, the media in the United States has played a critical role in the dissemination of sensational information about schools that neglects accounts of success in schools (Bracey, 2009).

Policymakers should be careful about creating educational policies based on a single test (Carnoy & Rothstein, 2013). The results from the 2009 PISA administration were met with calls for reform from Secretary Arne Duncan and President Obama. According to Carnoy and Rothstein, drastic reform statements based on only average national scores without considering other sample characteristics yield oversimplified, regularly exaggerated, and misleading results. They analyzed the 2009 PISA results

against six other countries with similar characteristics to the United States. When other factors were disaggregated, like disadvantaged students, it was discovered that for this group of schools, the USA had the highest percentage of disadvantaged students taking the test. In light of details like this, the authors adjusted the results with these characteristics considered. They found that USA results increased in amounts that made the ranking higher than based on the overall averages alone. In conclusion, policymakers must make policy reforms using appropriate, thoroughly analyzed data.

Passage of the No Child Left Behind (NCLB) Act of 2001 required public school students in Grades 3-8 to be assessed in mathematics and English annually, which launched a student-accountability era based on heuristics and shortcuts (Dodge, 2009). Dodge (2009) asserted that politicians, the media, and business executives traded complex measures of student learning for simplistic standardized tests. Teachers were pressured to help students achieve high scores on standardized tests, sacrificing instruction for depth of knowledge and ability to apply skills to solving real-world problems. The educators' voices were silenced by the call for improving results on standardized tests. Dodge proclaims that high-stakes testing will never serve as a precise accountability tool.

The perspective of teaching to the test and neglecting appropriate standards and non-tested curricular areas diminishes teacher creativity in the classroom. Because both PISA and NCLB focus student-learning assessment on mathematics, science, and reading, more time has been allocated to mathematics, science, and reading for almost two decades than other subjects like history and civics, foreign languages, art and music, and physical education and recess. Further, teachers of the assessed curricula spend time

on testing strategies rather than creative problem-solving or alternative assessment opportunities (Phelps, 2011). In 2011, claims of educators cheating on state assessments emerged from Pennsylvania, Washington DC, and Atlanta. One way to eliminate issues like this is to remove the assessment requirement or diminish the high-stakes nature of the assessment results. Phelps believes implementing the Common Core Standards is a move in the right direction—provided the assessments align with the adopted curricular standards.

A secondary impact of standardized testing is that student performance on those tests is used as the main indicator of teacher success in the classroom, according to Popham (1999). Popham asserts that using standardized test results is an inappropriate measurement of teacher performance. Standardized tests can be used for comparing student achievement nationally by making norm-referenced interpretations, but they should not be used to evaluate individual school or teacher quality (Popham, 1999). He compares the use of standardized tests to measure school quality to "measuring temperature with a tablespoon" (p. 10) because school quality and student performance on standardized assessments are only weakly related. Popham (1999) cautions that in standardized test construction, items that many students get correct are often removed from the test to obtain score variance. Thus, the concepts that teachers reinforce with students may be removed. Popham promotes not using standardized test scores to evaluate school quality due to three factors that can impact test score dependability: (a) content taught in schools, (b) things learned outside of school, and (c) students' intellectual ability.

Policymakers must understand that one test is not a comprehensive assessment of a school and will not produce positive school improvement alone (Volante, 2004). According to Wagner (2012), schools are inherently conservative and suggest that using student standardized test scores to evaluate teachers is not as effective as observing student work, revealing what they can do with the content they have learned. Despite the challenges related to accountability testing, Wagner (2012) believes the use of standardized tests in this manner will persist.

Finally, a concern with PISA is that results have been largely ignored by USA education policymakers, even though it was OECD members from the United States that insisted on developing an international assessment (Dobbins & Martens, 2010). What is the point of using PISA if the results are largely ignored and not impacting education systems in the United States? This is a question of balance and using standardized assessment appropriately.

### **PISA for Schools**

This section contains a description of the PISA for Schools used in this study. The entire description of PISA is relevant because PISA for Schools is directly comparable to PISA and describes the creation and development of PISA and eventually PISA for Schools. The PISA for Schools is based on the same framework as the PISA. The development of PISA for Schools occurred because school leaders were inquiring about the results of their schools (OECD, 2023). The PISA for Schools is an extension of the PISA and provides school-level reports, which PISA does not. In addition, school leaders can make international comparisons, obtain measures of students' ability to apply knowledge, and collect student feedback about their perceptions of their learning

experience (OECD, 2018b). The PISA for Schools is administered to 15-year-old students (as is PISA), comprised of 141 test items including mathematics, reading, and science topics. It takes approximately two hours to complete plus 30 minutes for the student background and learning environment survey (OECD, 2018a).

The school-level report describes the performance of students overall (not individually) taking the test in reading, mathematics, and science. A minimum of 35 students are required to take the test (OECD, 2023). The mean score of the student sample or population is reported for the subject areas and described based on a national and international comparison relative to PISA using PISA proficiency levels (OECD, 2017f).

Table 2.7 2015 PISA Cut Scores

	Reading	Mathematics	Science
Level 6	698+	669+	708+
Level 5	626 - 697	607 - 668	633-707
Level 4	553 - 625	545 - 606	559-632
Level 3	480 - 552	482 - 544	484-558
Level 2	407 - 479	420 - 481	409-483
Level 1a, 1, 1a	335 - 406	358 - 419	335-408
Level 1b, < 1, 1b	262 - 334	< 358	< 335
< Level 1b	< 262		

Source: Educational Research Centre, 2017; OECD, 2017e.

Table 2.7 lists PISA Cut Scores with Levels 5 and 6 indicating preparation to be knowledge workers and intermediate Levels 2, 3, and 4 indicating preparation to use skills and knowledge to further their education and be successful in the labor market (OECD, 2017f). Level 2 is the baseline proficiency for successfully participating in global society (Educational Research Centre, 2017). The following excerpt from the sample PISA for Schools report, available on the OECD website, illustrates how

mathematics results are described. Reading and science descriptions follow the same pattern:

The mathematics part of the assessment measures students' capacity to formulate, employ and interpret mathematics in various contexts. Students who reach Levels 5 and 6 in mathematics can develop and work with models in complex situations, identifying constraints and specifying assumptions. At your school, 39% of students are proficient at these highest levels of mathematics. In comparison, 6% of students across schools in the United States in PISA 2015 and 35% of students in Singapore in PISA 2015 reached these levels.

Students who perform at the baseline level of mathematics proficiency (Level 2) can employ basic algorithms, formulae, procedures, or conventions, and they can interpret and recognize situations that require no more than direct inference. At your school, 9% of students do not reach the baseline level in mathematics, compared with 29% of students in the United States in PISA 2015 and 7% of students in Macao (China) in PISA 2015. (OECD, 2017f, p. 18)

In addition to reading, mathematics, and science results, socio-economic and school climate factors are reported based on student responses to included surveys. The 2018 PISA assessment also included a section on global competency for the first time (OECD, 2018b). The results were released in October 2020 and reveal that the education systems that were most successful at producing globally competent students did the following five things:



1. base curricula on valuing openness to the world,
2. provide a positive and inclusive learning environment,
3. offer opportunities to relate to people from other cultures in- and outside the classroom-including through international exchanges and virtual programs,
4. incorporate participatory learning activities based on real-world happenings,
5. hire teachers who are prepared to facilitate global competence and reflect an appreciation for others in their daily interactions with students (Miladinovic, 2020).

All of the components were presented to support each other, yielding confidence in the accuracy of the Globally Competent Educational Leadership Framework.

### **Research Procedure Map**

The Globally Competent Educational Leadership framework for this study has its foundation in effective leadership practices for improved student achievement toward global competence (Tichnor-Wagner & Manise, 2019). Figure 2.2 illustrates the framework for this study. Using the GCELF framework, the study will determine if the selected school leaders' practices support developing globally competent graduates and to which level of immersion.

### **Summary**

This chapter presents the applicable leadership theory and practice that are foundational for the study of effective leadership practices of principals at schools administering PISA for Schools, focusing on developing global competence in graduates. The study uses PISA for Schools for international comparison and preparedness for

global competition for work and the economy. Chapter Three presents the methodology for the study.

Figure 2.2. Research Procedure Map for the Study

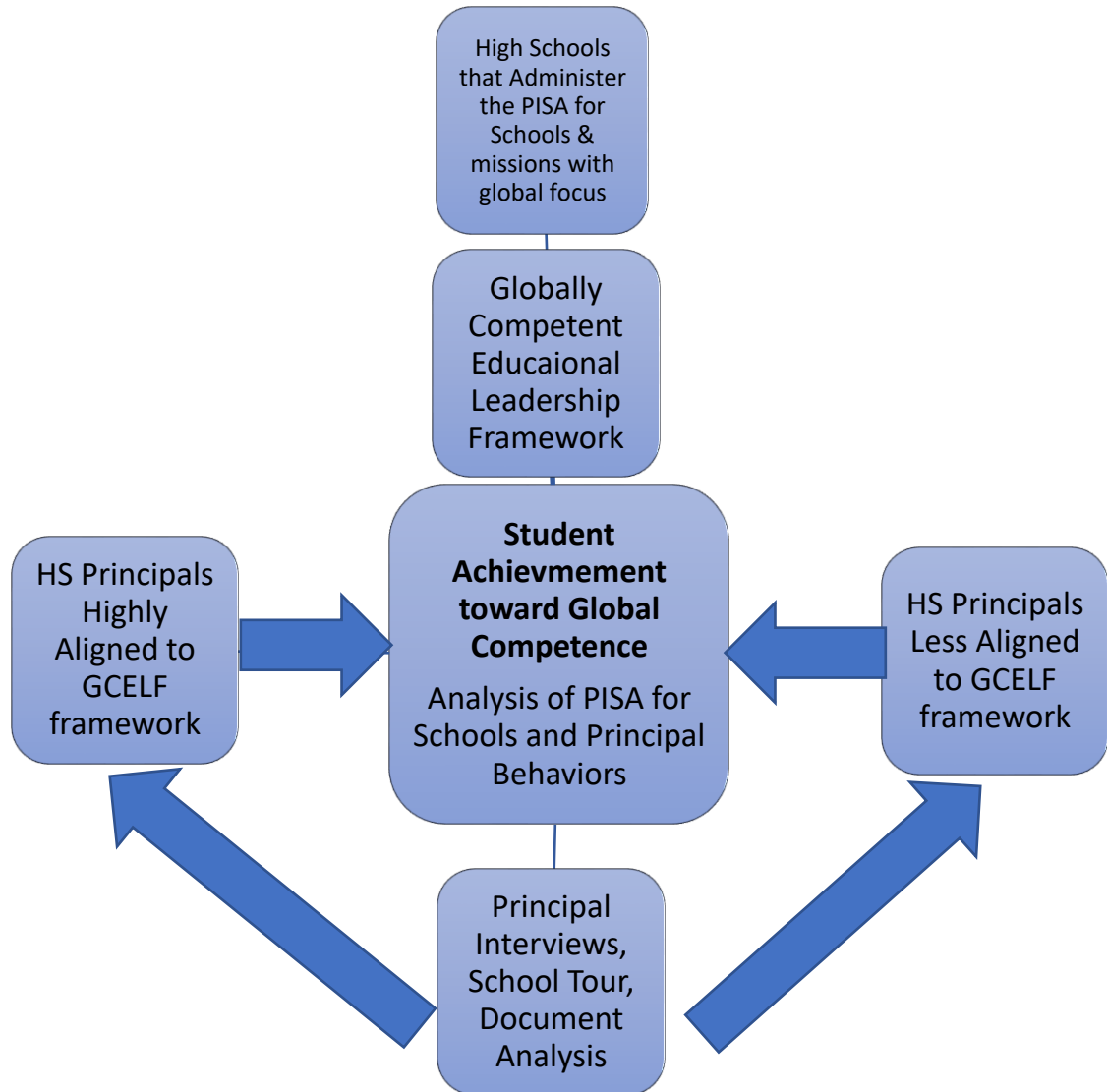


Diagram of the research procedures for the study using assessment analyses, researcher-created principal interview questions, document analysis, and high school vision.

## **CHAPTER THREE**

### **METHODS**

The purpose of this qualitative study was to explore the practices of leaders in three Kentucky high schools preparing high school graduates for global competence, including the economic competitiveness attribute espoused by the 2020 OECD and the principals' experiences that led to a global competency path for graduates. The leadership practices were studied utilizing the Global Competencies for Educational Leaders Framework developed by Tichnor-Wagner and Manise (2019). This particular framework was selected because the seven tenets include social-emotional, behavioral, and cognitive attributes comprised from other global competency frameworks making this framework comprehensive and applicable to the study (Tichnor-Wagner & Manise, 2019).

A two-part research design used a document analysis and qualitative case study (Creswell, 2007; Ritchie & Lewis, 2003), with semi-structured principal interviews as the primary source of new qualitative data. An unstructured interview was done unstructured during the school tour. In addition, several sources of data, including documents, were analyzed.

Among the five types of qualitative studies defined by Creswell (2007), a case study is appropriate to answer the research questions because correspondence between categories is sought (Stake, 2010) to determine what led to a global competency focus in the three high schools, what process occurred, and the principals' leadership practices. A case study is "a contextualized contemporary phenomenon within specified boundaries" (Hatch, 2022, p. 30). A document analysis was the secondary source of information to answer the research question (Bickman & Rog, 2009; McMillan & Schumacher, 2010). I

intended to understand the principals' perspectives and experiences related to the global competency focus and their leadership practices.

This chapter presents the methods used in the study. The sections include a presentation of the research questions, study design, descriptions of the two parts of the study, dependability, role of the researcher, potential researcher bias and limitations, and the summary. The study design section includes the study approach, a description of Kentucky, a description of the participating high schools, participants, and the rights of participants. Part One was a document and data source analysis including PISA for Schools reports, course catalogs with school descriptions, the school report card housed on the Kentucky Department of Education (KDE) website, portraits of a graduate, mission, and vision statements, student handbooks, and school websites. Part Two involved individual interviews with the three principals participating in the study and a tour of the high schools, continuing the interview in an unstructured manner. During the analysis of evidence, principal interview responses were compared to the Global Competencies for Educational Leaders Framework to identify global competency indicators. If the evidence supports that the principals are leading toward developing globally competent graduates, the level of immersion was identified using the GCELF exemplars during the analysis of the evidence collected.

### **Research Questions**

Three goals for this study that make it significant are (a) producing research about leadership practices toward global competence in Kentucky schools administering the PISA for Schools using the Global Competencies for Educational Leaders Framework (Tichnor-Wagner & Manise, 2019); (b) identifying dominant leadership practices in

schools demonstrating success on PISA for Schools based on the baseline proficiency and above indicating preparedness for global competitiveness; and (c) potential additional research in this area to increase the knowledge base and inform leadership practice and policy. A two-part study was used to achieve the study's goals and answer the two research questions identified and listed below.

RQ1. In Kentucky schools that have declared a global focus in both mission and assessment, what documentary, assessment, and visual evidence supports the implementation of the global focus? (Part One)

RQ2. In Kentucky schools that have declared a global focus in both mission and assessment, what principal practices support the implementation of the global focus as framed by the Global Competencies for Educational Leaders Framework? (Parts One, Two and background data)

### **Study Design**

This qualitative case study was comprised of two parts. A collection of background data involved an analysis of PISA for Schools results compared with the leadership practices of principals looking for similarities and differences in their leadership practices relative to their level of proficiency on PISA for Schools. The use of PISA for Schools was applicable in this study because it is an internationally utilized assessment for determining preparedness for a successful transition to work life. In addition, other applicable metrics were analyzed, and demographic data were incorporated. Part One was a document analysis. Part Two was a two-part interview with each of the three principals to determine what led them to a global competency focus and their leadership practices. The second part of Part Two included a tour of the school, noting characteristics of the outside, main office, hallways, cafeteria, classroom, and media center while conducting an unstructured interview taking copious hand-written notes, pictures, and recording the researcher's reflection after the tour. Evidence from

Parts One and Two were compared to the Global Competencies for Educational Leaders Framework (Tichnor-Wagner & Manise, 2019), in which I sought to identify alignments between the two. The level of immersion was identified for each principal using document analyses and interviews. The goals for the study are addressed, and the research questions are answered using information gathered from these sources.

### **Research Setting**

In this section, the communities in which the Kentucky high schools are located are described. Table 3.1 includes various descriptive data. Economic opportunities located in the areas of the three high schools are not explicitly identified to protect the anonymity of the schools and principals. However, a combined description for all three high schools is provided in the table. Multiple businesses operating throughout Kentucky and the United States have their headquarters in or near the high schools in this study, providing diverse and plentiful job opportunities. Also, many of these businesses operate on a global scale allowing high schools to have opportunities for their students to shadow and have internships in businesses with a global reach. These businesses allow students practical and convenient opportunities for job experiences with global characteristics.

The population of each area where the high schools are located varies significantly, with the East High School community being the largest and the North High School community being the smallest. Interestingly, North High School and South High School have similar enrollment numbers ranging from 1350 to 1400, compared to East High School, with the highest population and has an enrollment of 1000 to 1050 (see Table 3.2). The races that comprise the populations are overwhelmingly White, with each community having 92.10% and higher White people. The next most represented races

Table 3.1 Descriptors of Selected Kentucky High Schools Communities

	East High School	North High School	South High School
Population (2019 approximate)	16,300	5,900	9,400
Population by Race (%)			
White	93.18	92.10	96.90
Two or more races	3.05	3.11	1.42
Black or African American	1.89	0.00	0.00
Asian	1.38	4.79	1.47
Other race	0.26	0.00	0.00
Native American	0.23	0.00	0.00
Native Hawaiian or Pacific Islander	0.00	0.00	0.22
Own vs. Rent Home (%)	71.3/28.7	92.3/7.7	86.9/13.1
Education Attainment over 25 years old (%)			
High School Graduate	16.95	23.49	31.73
Bachelor's Degree	34.45	34.06	22.76
Graduate Degree	19.39	17.36	8.51
Average Earnings (2019 approximate)	\$78,900	\$125,051	\$81,100
Poverty Rate (2019, %)	5.21	0.91	7.27
Median Property Value (2019)	\$227,600	\$263,200	\$179,700
Employment Options	Professional Occupations: Computer and Information Technologies, Media, Public Relations, Media Design, Human Resources, Accounting and Finance, Purchasing and Procurement, Education, Health Care Key Industries: Life Sciences and Logistics Technology, Automotive and Aerospace Manufacturing, Aviation, Financial Services, Food, and Flavor		

Sources: The Lane Report, (February 21, 2020); Data USA, (2022); The World Population Review, (2022)

Note: Employment Options are not categorized with specific high schools to protect their anonymity.



are Asian (4.79%) and Two or More Races (3.11%). More than 70% of families in all three communities own their homes, compared to renting, with the community where North High School is located having the highest percentage of home ownership at 92.3%. The highest percentage of renters are in the community where East High School is located at 28.7%. The communities of East High School and North High School have similar percentages of people, with their highest level of education attainment being a bachelor's degree (34.45%/34.06% respectively) or other graduate degree (19.39%/17.36% respectively). South High School's community has the greatest percentage of their population with a high school diploma (31.73%) has their highest level of educational attainment. The North High School community has the highest average household income (\$125,051), the highest median property values (\$263,200), and the lowest poverty rate (0.91%). These statistics reinforce each other and are logical to present as they did. However, some discrepancy does exist between the percentage of students identified as economically disadvantaged (see Table 1.3) and the poverty rate of the county where the high schools are located. North High School has the lowest poverty rate at 0.91%, but 29.2% economically disadvantaged students. Moreover, East High School's County has a poverty rate of 5.21% and 8.0% economically disadvantaged students in the school. The discrepancy can be explained by the characteristics of students districted to different high schools in the county. Also, the small population of the North High School community may impact the low poverty rate.

### **Descriptions of the High Schools in the Study**

Three Kentucky public and independent high schools in this study were selected because (a) they have been identified as schools that use PISA for Schools and (b) they

have a mission state that contains a global competency component. Thirteen high schools throughout Kentucky used PISA for Schools at the time of the study, and several high schools have some version of a graduate profile. However, the three high schools selected as study sites have both characteristics (i.e., use of PISA for Schools assessment and results and a graduate profile emphasizing a global competency focus). The PISA for Schools was one criterion for the selection of potential high schools as study sites because the assessment is an international examination with a global focus. Using a graduate profile by potential high school sites was a secondary selection criterion. In this study, the high schools are called by the pseudonyms East High School, North High School, and South High School; the directional names do not indicate the location of the high schools within Kentucky. This selection process narrowed the number of high schools to

Table 3.2 Kentucky High Schools Participating in the Study

	Enrollment	Star Rating Out of 5 Stars
East HS	1000 - 1050	4 (reduced due to achievement gap)
North HS	1350 - 1400	3 (reduced due to achievement gap)
South HS	1350 - 1400	3 (reduced due to achievement gap)

Adapted from School Report Card, 2018-19, by the Kentucky Department of Education (2020).

one from each of the three potential school districts.

Table 3.2 shows each high school's approximate enrollment and Kentucky's star rating. To protect their anonymity, enrollment is reported as a range. The three high schools had their state achievement star rating reduced by one star due to a disparity in performance between the overall population and at least one gap group. When this study

was conducted, only eight school systems in Kentucky were administering PISA for Schools.

Table 3.3 contains the dropout rate, retention rate, attendance rate, graduation rate, and successful transition to adult life within six months of graduation for the high schools participating in the study. Dropout and retention rates in Kentucky are reported for Grades 4-12, whereas rates for attendance, graduation, and successful transition to adult life are reported for Grades 9-12. Successful transition to adult life includes enrollment in postsecondary education or technical training, military or other work employment, and work-school combination (Kentucky Department of Education, 2020). The dropout rates for the three selected high schools were approximately half that of the state. That is, the retention rate for North High School was 1% higher than the state's rate, whereas South High School's was 0%. East High School had about the same percentage for retaining students as the rest of the high schools in the Commonwealth. The attendance rates for all three high schools were 2-3% above the state attendance rate at all other high schools. Graduation rates for all three high schools are about 4-5% higher than the state average of 91.1%. Successful transition to adult life rates for all

Table 3.3 Kentucky High Schools in the Study: Selected Characteristics

High School	Dropout %	Retention %	Attendance %	Graduation %	Successful Transition %
East HS	0.9	1.0	96.5	98.4	99.6
North HS	0.4	2.3	95.2	97.7	98.0
South HS	0.3	0	95.0	97.9	99.5

Adapted from School Report Card, 2018-19, by the Kentucky Department of Education (2020).

three high schools was about 10% higher than the state average, which at that time was 88.8%. Table 1.1 contains PISA for Schools results for each of the high schools in the study. All three high schools score in Level 3 proficiency except East High School, which scores Level 4 in mathematics. Chapter One contains these background data and a detailed description of the results. A statistic of note is the economically disadvantaged percentage from Table 1.3. South High School has the highest percentage of economically disadvantaged students at 45.3%, followed by North High School at 29.2% and East High School at 8.0%. This statistic may be attributed to differences in proficiency on various metrics influencing the level of global competency based on economic disadvantages contributing to fewer available resources. ACT Composite scores (Table 1.4) over three years show East High School with the lowest economically disadvantaged percentage of students scoring the highest on the ACT. East High School also outperforms the other two high schools on the KSA (Table 1.5). The locations of the high schools were not divulged to protect anonymity. However, each high school is situated in close proximity to businesses with global connections allowing opportunities for the principals to foster collaborations with local businesses to increase the global competency of graduates.

## **Participants**

The principals were selected based on their school's administration of PISA for Schools, which the OECD claims are an indication of graduating seniors' preparedness for employment within a global economy (OECD, 2010b). In 2018, the OECD added a section to PISA that specifically evaluates global competence within their defined parameters (OECD, 2020). The high schools participating in this study were also selected

based on having a profile or portrait of a graduate and a mission statement that includes the word *global* in the context of *global competency* if more than one high school in a district qualified for the study. The OECD asserts that graduate profiles seamlessly align with the global competency focus. They were thus used as additional evidence to support the selection of the three high schools in this study. That is, the principals and faculty members prioritize in assuring their students gain skills that lend themselves to any employment path following high school graduation. Communication, empathy, problem-solving, creativity, and resilience are examples of what is included in a graduate profile.

To identify Kentucky high schools using PISA for Schools, the association that was the national provider of PISA for Schools until 2019 was contacted. In 2020, the PISA for Schools had a new national provider; an administrator of that organization indicated that the identity of school participants is confidential. Thus, identifying high schools administering PISA for Schools in the future would require a probe of all high schools of interest for the study. Fortunately, the high schools for this study were already identified before the switch to the new PISA for Schools providers. The use of PISA for Schools results for high schools selected for the study was confirmed by emailing the principal and assessment coordinator. Each high school selected has administered PISA for Schools and plans to continue the practice.

Mission statements were viewed on the high school websites looking for the term *global* in the context of global competency to select a high school for participation in the study. If more than one high school in a district qualified for the study, a specific global focus was sought in the mission statement. This was done to reduce the participating high schools to one per school district and to determine the high school with the most specific

global focus. Once this set of high schools was identified, the use of PISA for Schools was confirmed with the district assessment director or the school's principal through electronic mail communication. Four principals were invited to participate in the study; however, one was not permitted to participate by a district-level administrator.

### **Rights of the Participants**

Informed consent is essential for ethical research codes involving human subjects (Pedroni & Pimple, 2001). The template used for the informed consent letter was downloaded from the University of Kentucky Office of Research Integrity (2017) website. In the informed consent letter, participants were told they were being asked to participate in the study because the study was specific to high school principals whose schools use PISA for Schools and have a graduate profile. They were told who was conducting the study and the purpose of the study. The informed consent form also explained that there was no reason to decline to participate in the study for several reasons: No adverse risks were associated with the study, participation was voluntary, participants would not receive any compensation, and the participants' identities would remain anonymous. Directions were provided about whom to contact if participants had questions.

### **Instruments and Procedures**

The primary data source for this study was an interview with each of the three principals at their school. The interview instrument comprised 23 researcher-created questions based on the educational leader practices in the Globally Competent Educational Leadership Framework (Tichnor-Wagner & Manise, 2019). Table 3.4

illustrates the connections between the research questions, interview questions, and parts of the study. The semi-structured interviews lasted approximately 30 minutes. The

**Table 3.4 Linkage of Research Questions, Interview Questions, and Phase of Study**

Research Question	Data Source	Part of Study
1	Documents	1
2	Interview Question Responses, PISA Results, Walk-Through Tour with unstructured interview responses, & GCELF Framework	1, 2, and background data

unstructured interview portion and the tour lasted no more than an hour with each principal. Fortunately, I was able to interview all three principals in person at their high schools. Table 3.4 displays sources of data and the parts of the study that answer the two research questions.

### **Part One**

A document analysis was completed for Part One. Bowen (2009) defines document analysis as “a systematic procedure for reviewing or evaluating documents—both printed and electronic” (p. 27). The data derived from document analyses must be “examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge” (Bowen, 2009, p. 27). The included sources were mission statements, vision statements, course catalogs, principal’s messages, Portrait of a Graduate, and PISA for Schools reports.

The document analysis allows for another source of information about the high schools and principals in the study with the advantages of being inexpensive to conduct, an unobtrusive type of research, accessible as a public record for many documents, and ease of access to information that may be time-consuming to collect otherwise (Merriam & Tisdell, 2016; Morgan, 2022). However, I remained cognizant of the potential bias of

the documents by the creators and my own selection of documents to review (Morgan, 2022). Triangulation (Part One, Part Two, and Background Data findings) was a goal of using a document analysis as another research method for the study, allowing me to check for a confluence of evidence that increases the dependability and credibility of the study findings (Eisner, 1991).

## **Part Two**

Part Two comprised 1-1 interviews with each of the three principals intended to gain a deep, rich understanding of their principal leadership practices (Creswell, 2007; Pickard, Childs, Lomas, McLeod, and Shenton, 2013; Rubin & Rubin, 2012). These interviews were conducted in the principal's office. Following the interview, each principal provided me with an unstructured interview and guided tour of the high school, during which I used the same observation protocol to gather data about evidence of a global focus. The interview protocol contained 17 questions addressing leadership practices identified by Tichnor-Wagner and Manise (2019) and six questions about the use of PISA for Schools. Table 3.5 links the interview questions to effective leadership practices, according to Tichnor-Wagner and Manise (2019). Two university faculty members reviewed the interview questions for their input concerning question construction and content. The interview questions were field tested with three school principals not participating in the study to ensure the questions were clear and understandable (Castillo-Montoya, 2016; Hurst, Arulogun, Owolabi, Akinyemi, Uvere, Warth, & Ovbiagele, 2015; McMillan & Schumacher, 2010; Willis, 2004). Revisions were made based on responses from the university faculty member review and the field test.



Table 3.5 Globally Competent Educational Leadership Framework

Domain	Tenet	Practice
Vision Setting	Shared Mission and Vision <i>Interview Questions 1- 4</i>	Educational leaders facilitate, advocate, and enact a shared mission and vision of high-quality education that includes preparing students for life, work, and citizenship in a global society.
Pedagogy and Practice	Curriculum, Instruction, and Assessment <i>Interview Questions 5-6</i>	Educational leaders implement and support curriculum, instruction, and assessment that incorporate and promote the development of each student’s global competence.
	Collaborative Professional Community <i>Interview Questions 7-9</i>	Educational leaders foster a professional community where school personnel works together to build capacity in developing global competence for each student and staff member.
Situated Action	Global Connections and Collaboration <i>Interview Questions 10-11</i>	Educational leaders connect and collaborate globally to promote and support each student’s academic success, well-being, and global competence development.
	Advocacy and Community Engagement <i>Interview Questions 12-13</i>	Educational leaders promote student success by advocating for global competence and engaging families, community members, and policymakers for support.
Systems and Structures	Equity and Inclusivity <i>Interview Questions 14-16</i>	Educational leaders strive for equity of access to high-quality global learning opportunities for each student and cultivate an inclusive, caring, and supportive school community that values each student’s cultural and linguistic diversity.
	Operations and Management <i>Interview Question 17</i>	Educational leaders manage school operations and resources to support staff and student global competence development.

Adapted from “Globally Competent Educational Leadership: A Framework for Leading Schools in a Diverse, Interconnected World,” by A. Tichnor-Wagner and J. Manise. Copyright 2019 by ASCD and the Longview Foundation.

The Walk-Through Instrument, unstructured interview, and researcher reflection were used in this study to collect information about these tenets. The organization and management tenet requires the principal to acquire and use resources that develop global competency among teachers and students through professional development, new curriculum resources, and financial support for staff to participate in global learning opportunities. The principal must also lead the development of policies and procedures that support global competency learning.

### Background Data

The PISA for Schools results were analyzed to identify the level achieved by the high schools in the study. This analysis was used as background information for the

Table 3.6 2015 PISA Cut Scores

	Reading	Mathematics	Science
Level 6	698+	669+	708+
Level 5	626 - 697	607 - 668	633-707
Level 4	553 - 625	545 - 606	559-632
Level 3	480 - 552	482 - 544	484-558
Level 2	407 - 479	420 - 481	409-483
Level 1a, 1, 1a	335 - 406	358 - 419	335-408
Level 1b, < 1, 1b	262 - 334	< 358	< 335
< Level 1b	< 262		

Source: Educational Research Centre, 2017; OECD, 2017.

study. Further, principal practices were considered in relation to PISA for Schools results to determine if any connection exists between the two variables. The PISA for Schools scores are on the same scale as PISA scores. The cut scores in Table 3.6 are reported from PISA information. Level 2 is the baseline proficiency for successfully participating in the global society (Educational Research Centre, 2017). In addition, other applicable metrics were analyzed and presented in Chapter One, including Kentucky Summative Assessments, ACT, and various types of demographic and economic data.

## **Data Collection**

In order to recruit participants before data collection, superintendents of identified school districts were contacted through electronic mail to gain permission to conduct this study. Upon receiving their permission, I informed the principals of their expectations as study participants.

Upon their agreeing to participate in the study, I contacted each principal to schedule an individual interview with me at their school to begin data collection for Parts One and Two of the study. For Part One, document analysis was completed using specifically selected artifacts that pertain to each school and principal in the study. The qualitative document analysis is commonly used with a case study (Wood, Sebar, and Vecchio, 2020), making it an appropriate research method to use for a deeper understanding of the level of immersion of the principals in global competency leadership practices. The principals of the high schools in the study emailed PISA for Schools reports. The remaining selected documents were acquired from the internet and school websites. These documents are mission and vision statements, course catalogs, principal's messages, and portrait of a graduate.

During Part Two, all three interviews lasted approximately one hour. The interview included 23 questions, which all three principals answered. See Appendix Three for the interview protocol. The interviews were conducted in each principal's office. Observations were collected and recorded in hand-written notes from the school tour about the outside of the school, front office, hallways, cafeteria, classrooms, and media center. Unstructured interview questions were asked while touring for clarification of principal statements. This portion of the data collection took 30 minutes to an hour.

The researcher recorded reflections of the semi-structured and unstructured interview and tour after concluding the data collection with the principal. The reflections were audio recorded privately before leaving the school property. Principals submitted PISA for Schools results from the last three administrations.

### **Data Analysis**

For Part One, the qualitative content analysis method was used to analyze the documents collected for this study systematically and derive meaning relative to the global competency leadership practices of principals in the study (Grant, 2019; Schreier, 2014). The first step of this process is to compile the corpus and the selected documents to analyze. The purposefully selected documents were those that would most likely contain connections to global competency, documents that are authentic, credible, representative of typical documents (Morgan, 2022), and provide meaning to the study. The goal is to collect documents that provide quality over quantity (Wood, Sebar, & Vecchio, 2020).

Document analysis methods considered were (a) framework analysis as described by Ritchie and Spencer (2002), (b) thematic analysis as described by Bowen (2009) and Morgan (2022), (c) qualitative document analysis as described by Wood, Sebar, and Vecchio (2020), and (d) content analysis as described by Grant (2019) and Schreier (2014). The content analysis method can be quantitative, according to Weber (1990), or qualitative, according to Schreier (2014). The qualitative content analysis method was selected because the method aligns with the purpose of using the document analysis with a case study, adds dependability to the findings, and increases the depth of findings for the study. Content analysis requires that a coding framework be defined and implemented

systematically (Grant, 2019). Once the documents were collected, the coding was completed using the same codes used with the transcribed interviews (Bowen, 2009). The content analysis procedure is adapted from Schreier (2014) and is listed below.

1. Develop a coding framework.
2. Refine the coding framework.
3. Undertake the analysis proper (do not add any new codes).
4. Consider the latent and symbolic meanings within data.
5. Interpret and present findings.

The first two steps of the procedure were completed during coding for the principal interviews.

For Part Two, the principal interviews were audio recorded and sent to a professional transcriptionist. Once I received the transcribed interview responses, I sent each principal an electronic copy of his and asked him to review written comments to ensure the content was accurately reported. Upon receiving confirmation that the transcripts accurately reflected the principals' comments, I uploaded the transcripts into Dedoose, which is a web-based application that secures. The program is designed to allow coding and identifying patterns in the data in a secure place while a researcher analyzes it. However, I did manual coding using the GCELF framework to identify codes. I compared their responses to practices presented in the Globally Competent Educational Leadership Framework. Table 3.5 lists the *domains*, *tenets*, and *practices* that were examined. Activities that align with the practices are included in the complete GCELF framework.

Data gathered through the principal interviews (semi-structured and unstructured) were compared to the domains, tenets, practices, and activities to determine the level of alignment with the Globally Competent Educational Leadership Framework. Although the domains, tenets, and practices are inflexible and must be met for alignment, the activities are intended to be examples. Principal leadership practices similar to those listed in the framework are applicable for global competency alignment and immersion level.

Two analysis models were used to guide data analysis; Creswell's data analysis and representation, by research approaches (2007, pp. 156-157) (See Table 3.7) and steps in analyzing qualitative data (McMillan & Schumacher, 2010, p. 369) (See Figure 3.1).

Table 3.7 Data Analysis and Representation by Research Approaches

Data Analysis and Representation	Case Study
Data managing	Create and organize files for data
Reading, memoing	Read through text, make margin notes, form initial codes
Describing	Describe the case and its context
Classifying	Use categorical aggregation to establish themes or patterns
Interpreting	Use direct interpretation
	Develop naturalistic generalizations
Representing, visualizing	Present in-depth picture of the case (or cases) using narrative, tables, and figures

Adapted from Creswell, 2007, pp. 156-157.

I looked for themes and patterns in the principals' interview responses and used the GCELF domains and interview questions to manually create codes, as Wagner, Kawulich, and Garner (2012) described. Eighteen codes were identified after three readings of the transcribed interviews, revising and refining the codes and descriptions with each cycle. The interview responses were attached to each code within the Dedoose

program for comparison to identify patterns and themes and then exported as Excel files stored on the researcher's computer, which is password protected.

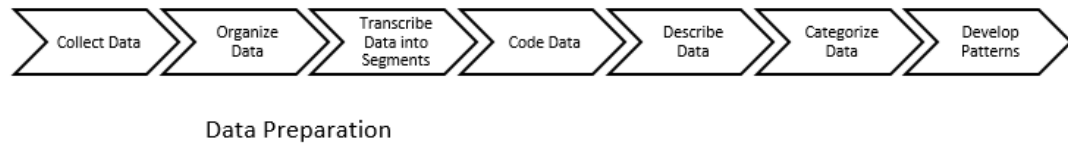


Figure 3.1 Steps in Analyzing Qualitative Data. Source: McMillan & Schumacher, 2010, p. 369

The PISA for Schools scores were downloaded into a secure location and organized in a data table for comparison. Using exemplars from the GCELF, the level of immersion in global competency practices was analyzed, identifying the frequency of practices at each immersion level observed from interview responses, tour observations and researcher reflections, background data, and document analyses. Findings for the two parts of this study are presented in Chapter Four. All the collected data will inform the immersion level determination for the high schools in the study.

### **Dependability**

Dependability for the study is addressed by attention to researcher bias and reactivity (Maxwell, 2013; Wagner, Kawulich, & Garner, 2012). Researcher bias refers to the ideas, beliefs, and personal lens through which the people and environments in the study are perceived. To avoid potential researcher bias, I remained cognizant of my personal views to ensure they did not influence the integrity of study findings because of reactivity, which is the potential influence a researcher may have concerning study findings. For example, when a school administrator observes a classroom, the administrator must be cognizant that daily dynamics may change. Students may behave

better or be more attentive to one lesson but not the next. The teacher may be more ridged and stay truer to the planned lesson phases than when the administrator is present and more relaxed when not being observed. The same types of changes can occur when a researcher is conducting a study. To address reactivity, I understood that my role as a researcher was to remain aware of the potential influence I had on the environment while gathering data and to take that into account during the data analysis phase of the study.

As a qualitative researcher, I used strategies to ensure that my data collection's fidelity produced rich data that incorporated the study participants' commentary and recorded my observations accurately (Hatch, 2002; Maxwell, 2013). While conducting the principal interviews, I faithfully asked the same questions as they appeared on the interview protocol to ensure that I could compare and contrast the principals' responses (Creswell, 2007; Hatch, 2002). The principals validated the interpretations of the interviews through their review of portions of the dissertation (Maxwell, 2013). The document analysis was completed using the same codes as the interview for consistency.

### **Role of the Researcher**

I designed the study using the resources of Tichnor-Wagner and Manise (2019). The resources were used in selecting the study sites, the high school identification protocol, and the development of the interview questions. Two university professors reviewed the interview questions and field tested with three school principals not included in the study. The researcher completed the data analysis using basic statistical analysis and comparison, the computer program Dedoose, participant validation, and content analysis.



### **Potential Researcher Bias and Limitations**

To ensure as unbiased a study as possible, I used the research of Tichnor-Wagner and Manise (2019) as the lens through which to view leadership practices. This was done to control my personal belief influences on data collection tools for the study as much as possible.

A limitation of this study is that it is specific to three Kentucky high school principals and their leadership practices toward global competencies. In addition, one of the principals in the study was in his first year at the high school, limiting personal influence on the school. The study is limited by the small number of participants, and the selection of research methods may also limit the study. For example, increased depth of evidence may have been achieved by including teacher perceptions and lesson observations in the study. Although the study findings are not generalizable to all high school principals either within Kentucky or the United States, the study may be replicated with other principals in the USA that use or have used PISA for Schools and have a global competency focus. In addition, it may be possible that the PISA for Schools portion can be removed and used with a more general group of high school principals.

### **Summary**

This qualitative study was designed and conducted in two parts: semi-structured and unstructured interviews with a school tour and document analyses. To collect data about three high school principals' leadership practices, I used as the theoretical foundation the framework of leadership practices developed by Tichnor-Wagner and Manise (2019). Their framework of leadership practices provides a theoretical framework through which I could determine these principals' perceptions of their leadership

effectiveness and path to the global competency focus for graduates. The goals of the study and research questions were explained, the data collection tools, and analysis processes were described, and study dependability, researcher bias, and potential limitations were addressed. Chapter Four discusses the data collection processes and presents key findings and results from multiple sources.

## **CHAPTER FOUR**

### **FINDINGS**

This chapter describes the study results from the two parts completed. The chapter is organized by the parts of the study and the identified research questions for the study. The level of immersion in the GCELF is presented after Parts One and Two. The immersion of the three high schools is described using the evidence from Parts One and Two.

#### **Part One: Document Analysis**

The first part of the study was a qualitative document analysis using the content analysis method. The documents analyzed were PISA for Schools most recent results provided by each school, principals' messages, course catalogs, student handbooks, mission statements, and the portrait of a graduate. Each document was examined for evidence that applies to the codes created from the GCELF. This section is organized by each document analyzed. The names of the Kentucky high schools were changed to protect the anonymity of study participants. The directional names do not indicate the geographic locations of the high schools.

#### **PISA for Schools**

The fact that the principals in the study administered the PISA for Schools is a practice that is an indicator of leading toward global competence because the assessment allows for international comparisons. The principals emailed the last three reports from the administration of PISA for Schools. This assessment practice codes to the *Vison and Pedagogy and Practice domains* in this way. The report gives the principals suggestions about how to make improved achievements based on what has worked for other countries

concerning the same improvement area. The assessment report codes to the *Systems and Structures* domain in Section 5, addressing equity among a diverse population suggesting that principals “ensure disadvantaged students have good teacher”, “address the needs of teachers in disadvantaged schools”, and “encourage diversity in the teaching profession.” The most recent version of the assessment has a section that asks students specifically if they know about the following global competence topics,

- Climate change and global warming.
- Global health (e.g., epidemics).
- Migration (movement of people).
- International conflicts.
- Hunger and malnutrition in different parts of the world.
- Causes of poverty.
- Equality between men and women in different parts of the world

(OECD, 2021, p. 80).

The global competency topics code to the *Situated Action* domain. The remainder of the 84-140 pages mostly discusses each schools’ scores in comparison to the rest of the United States and other countries that administer PISA for Schools.

### **Mission Statements**

The mission statements are available online, but also in some of the publications of the high schools. East High School’s mission statement states that the school “provides engaging and challenging learning experiences which foster creativity, curiosity, and innovation while inspiring all students to pursue lifelong learning and become productive members of the global community.” This mission statement specifically codes to the

*Vision Setting* domain concerning the global focus in the mission statement. North High School's mission states, "in collaboration with the community, is committed to cultivating a tradition of excellence by empowering its students to become independent, life-long learners in a global society." This mission statement codes to the *Vision Setting* domain with a specific global focus and codes to the *Situated Action* domain by including collaboration with the community. South High School's mission is "to provide a safe environment in which students will be provided an opportunity to excel in learning, leadership, citizenship, and character." This mission statement codes to the *Systems and Structures* domain with the "opportunity to excel" provided equally to all students.

### **Portrait of a Graduate**

To illustrate how the Portraits of a Graduate correspond to identified codes, the components of each are placed in a table and discussed. The Portraits of a Graduate were obtained online. The component of East High School's Portrait of a Graduate that directly corresponds to identified codes is "Global Communicator". This component codes to the *Pedagogy and Practice* domain, specifically with embedded global competence in instruction. "Empathetic Collaborator" suggests learning to be understanding of other people with whom students work. This component codes to the *Systems and Structures* domain related to creating a tolerant and civil environment for students with differing characteristics and cultures.

North High School's Portrait of a Graduate at the time of this study has four components that directly align with the codes for global competency, (a) World Class Education, (b) Cultural Competence, (c) Compassion, and (d) Community Connections. World Class Education codes to the *Vision Setting* domain for high-quality education,

preparing students for a successful transition to work and citizenship. Cultural Competence and Compassion code to the *Systems and Structures* domain under the *Equity and Inclusivity* tenet. Community Connections codes to *Situated Action* under the *Advocacy and Community Engagement* tenet. Several of the other descriptors of a graduate could connect with further explanation to determine if a global competency alignment exists.

South High School has a companion image that gives more detail about their

Table 4.1 Portrait of a Graduate

East High School	North High School	South High School
Rich in Tradition, Focused on the Future	College, Career, Life Ready	Communicator
Courageous Leader	Student Empowerment	Critical Thinker
Empathetic Collaborator	World Class Education	Collaborator
Creative Problem Solver	Resource Optimization	Resilient
Curious Critical Thinker	Communication	Highly Prepared for their Individual Paths
Global Communicator	Cultural Competence	
	Choice	
	Creativity	
	Collaboration	
	Compassion	
	Community Connections	
	Critical Thinking	
	Character	
	Challenge	

Source: East, North, and South High School Portraits of a Graduate (2022)

Portrait of a Graduate that they refer to as a Profile of a Graduate. In their description of a Communicator, the words “respectfully”, “empathetically”, and the phrase “appropriately adapt their communication style to the audience” code to the *Situated Actions* domain under the *Equity and Inclusivity* tenet. These words and phrases align with words in this tenet about civility and tolerance of people’s differences. The Critical Thinker describes problem-solving to “improve themselves and the world around them”. This aligns with the *Pedagogy and Practice* domain under both tenets in this domain; *Curriculum, Instruction, and Assessment* and *Collaborative Professional Community* for teaching problem-solving in a manner that increases global competency and provides teachers time to develop lessons around this type of problem-solving and thinking. South High School describes a Collaborator as a graduate that takes “actions that respect the needs and contributions of others” and “respect differences and sees multiple perspectives”. These phrases correspond to the *Situated Action* domain under the *Equity and Inclusivity* tenet. The descriptor “Highly Prepared for their Individual Paths” states that graduates will “demonstrate their abilities to be globally competitive and marketable for whatever life path they choose”. This phrase encompasses the domain *Pedagogy and Practice* as this phrase requires teaching that embeds global competencies. It also codes to the *Systems and Structures* domain under the *Operations and Management* tenet to enhance global competence efforts.

These Portraits of a Graduate do have global competencies woven through. South High School has the most cohesive integration of global competencies of the three high schools in the study, considering the detailed description of the words used in their Portrait of a Graduate.

## **Principals' Messages**

Usually, principals write a message to the school community and post it on their website. It was hoped that these community-facing documents would show evidence of the global focus. However, East High School's principal has not uploaded a message to the link on their website. South High School's principal has a message uploaded but does not make connections to global competencies in the message. The North High School principal states that the high school is a place "where each person is valued for their unique strengths". This statement does speak to valuing diversity which codes to the *Systems and Structures* domain under the *Equity and Inclusivity* tenet.

## **Course Catalogs**

The course catalogs for each of the high schools in the study are large documents, ranging in the number of pages from 75-98. They are available online. They contain graduation requirements, different types of diplomas, grading scales, course descriptions, course planning forms, and career pathway descriptions. The course descriptions were where global competency attributes were found. World Language classes naturally lend themselves to cultural topics. East High School offers German and Spanish. North High School offers French, German, and Spanish. South High School offers French and Spanish. These courses code to the *Pedagogy and Practice* domain under *Curriculum, Instruction, and Assessment* tenet with embedded global competencies. Another category of courses that naturally lend themselves to global competency attributes is the Social Studies classes. These code to the *Pedagogy and Practice* domain under the *Curriculum, Instruction, and Assessment* tenet with embedded global competencies. The Social Studies classes also code to the *Systems and Structures* domain under the *Equity and*



*Inclusivity* tenet addressing cultural norms and histories. Each high school also offered Language Arts classes that teach about cultures through literature coding to the *Systems and Structures* domain under the *Equity and Inclusivity* tenet addressing cultural norms and histories. Each high school offers courses allowing students to do internships or on-the-job training in the community coding to the *Situated Action* domain under the *Advocacy and Community Engagement* tenet. Global connections were not observed in the course descriptions for internships. These courses included an educator pathway, a business pathway, and a technical pathway. The Fine Arts courses also naturally embedded global competencies in world languages in songs, the study of fashion design throughout the world, visual art history, and the culinary arts through the study of foods around the world. These courses code to the *Pedagogy and Practice* domain under the *Curriculum, Instruction, and Assessment* tenet. One unique course among the three schools was Sports, Society, and Culture. Below is the course description.

This course will examine the history of sports and its relationship to economic, political and cultural forces within society. This course will use the world of sports to understand American history and culture. We will answer questions like why diverse groups still struggle for equality in sports, what role does the media play in mainstream sports, and how wars have impacted sports in America. (North High School)

This course codes to the *Pedagogy and Practice* domain under the *Curriculum, Instruction, and Assessment* tenet with embedded global competencies. It also codes to the *Systems and Structures* domain under the *Equity and Inclusivity* tenet with the study of cultural and war impacts on sports.

## Student Handbooks

The student handbooks for the high schools in the study address policies, practices, and procedures that govern the schools. For example, they contain dress codes, parking information, technology use information, rules, absence policy, etc. The student handbooks range in size from 38-48 pages, and the handbooks are available online. Each of the handbooks includes their mission statements with East and North High School's mission statements that reflect their global competency stance and code to the *Vision Setting* domain. Quotes that serve as evidence are:

“students...become productive members of the global community” (East High School, p. 6).

“...in collaboration with the community...students to become independent, life-long learners in a global society” (North High School, p. 4).

“...students will be provided an opportunity to excel in learning, leadership, citizenship, and character” (South High School, p. 3).

Global competency was found in East High School's vision statement, Portrait of a Graduate, rationale for their Portrait of a Graduate, and the technology responsible use policy. The following are quotes from the East High School Student Handbook.

Vision statement: “Our students...solve real-world problems and to become caring and productive members of the global community” (p. 6).

“Our community...reciprocates our desire to develop a highly-skilled workforce that demonstrates civic pride, global citizenship, and service to

others” (p. 6). “Our technology...to make real-world global connections” (p. 6).

Portrait of a Graduate: “Empathetic Collaborator...respects other’s perspectives” (p.7). “Global Communicator...ability to communicate effectively” (p.7).

Why develop the Portrait of a Graduate: “...achieving great things with regard to just the Commonwealth, but also the global marketplace” (p. 7).

Technology Responsible Use: “...resources provide opportunities to enhance learning and improve communication within the school community and with the larger global community” (p. 32).

This evidence codes to the domains *Vision Setting*, *Situated Action*, and *Systems and Structures*.

In addition to the mission statement, North High School’s Student Handbook has a statement that codes to the *Pedagogy and Practice* domain, “...fostering a positive learning environment and equipping our students academically and socially for the real world” (p. 6). This statement is located in the Positive Behavior Intervention System. This is an example of global competency because the learning environment focuses on academic and social real-world preparation.

These are the documents found to contain global competency terms and practices. The following section provides the evidence for global competency practices through a semi-structured interview with each high school principal and an unstructured interview during the school tour.

## **Part Two: Principal Interviews and School Tours**

The three participating high school principals completed a 23-question, face-to-face interview with me, followed by a tour of the school and an unstructured interview. The following are the findings for Part Two.

### **Vision Setting**

The excerpts from the interview question requesting principals to describe their leadership style or model are below. Two of the three principals specifically describe themselves as “a collaborative leader.” However, the third principal implies a collaborative style because he hires good people and lets them lead. The three principals value the input and leadership of teachers and other school stakeholders. According to the East High School principal, it is important to have

a collaborative atmosphere when it comes to shared decision-making. I think really just leveraging the staff’s skill set when it comes to big changes that we’re looking at making. I want them to definitely feel comfortable instead of dictating it from above.

The principal at North High School asserted,

I consider my leadership style [to be] collaborative with organizational structures in place that has the most input for stakeholders that are involved in our community. ...ongoing dialogue; ...open-door policy; ...more eyes the better, more brains the better, the more thoughts; ...a student-focused school that is here for kids.

According to the South High School Principal, the faculty

knows how much I care about this school, how hard I work at this school, and making this school a great place to be. ...leadership by example; ...my work ethic kind of is passed down to my staff. ...My love for the school is passed down the staff that they understand how important what we do is, and how important the school is to the community. ... My leadership style also is to hire good people, and then trust them to do the things around me. ...really surrounding myself with good people and letting them lead. That trickles down to our department leads, PLC leads, and those kind of departmental area people. I think it really is kind of trusting the people around you.

The second interview prompt asked the principals to describe how the global competency focus is developed within the school. While reviewing the excerpts for this interview prompt, the principals described three different pathways to the global competency focus. However, the principals indicated that they centered their efforts on student needs and what the school could provide to help each student succeed after graduation. The East High School principal said the process of developing a graduate profile began about three years ago while researching what successful high schools were focusing on with their students:

If you look at the Portrait of a Graduate, there was just a ton of work that went into that. Site visits were made to Minnetonka High School up in Minnesota. There were other schools that they went to High Tech High...in San Diego I believe. [However, the faculty at East High School], wanted to take those competencies from Portrait of a Graduate, build them with community partners . .

. [And] we had a ton of input from local business owners [when we asked them]  
'What are you looking for [in our graduates]'

The North High School principal said a regional focus started several years ago on initiatives that prepared students for work after graduation with companies in the area. This effort started their progression toward focusing on globally competent graduates. The South High School principal described a different approach:

I think that it just really came from a gradual progression of next step. We focused on the instructional models here and really improvement on those, and the next step was to focus on, okay, what else we need to do to make sure our kids are successful when they leave here.

Two principals specifically discussed the importance of meeting student needs following graduation as a motivation for transitioning. For example, the East High School principal said, "What we wanted more than anything was to know that when our students graduate, they're prepared, not for college but for what comes after that." Similarly, the North High School principal asserted that it was important "not only meeting [the students' needs] here in the building where they are, but also preparing them for next steps after they leave the building." Each pursuit for global competency among graduates developed out of a desire to prepare students for an ever-changing, highly connected world.

The third interview question asked the principals, *In what ways does the mission and vision of your school align with producing globally competent graduates?* The East High School principal responded simply, "Rich in Tradition, Focused on the Future," which is the school's tagline. The principal further asserted that the school's mission statement embodies who they are as a school. Members of the school community are very

proud of their accomplishments since their opening, but they are consistently looking toward their future and how to ensure that each graduate is prepared for whatever path they take after graduation: The principal also asserted, “We’re proud of who we are. We’re proud of where we came from...but we’re not gonna stop. We’re looking at what’s next.”

The North High School Principal said, “Our creed of integrity and respect and honor in our life while you're a student” describes their mission, which is “reaching all kids and meeting all kids.” The South High School principal said, “Our mission and vision is all about preparing students for whatever area they want to go into after they leave.” The responses by all three principals contained a similar focus on student preparation.

The final interview question related to vision setting asked the principals to describe their *leadership practices toward fulfilling the school mission or vision*. The East High School principal responded, “As we look to fulfilling those six competencies of the Portrait of a Graduate, for us it's being intentional at a leadership level of making sure all of those things are happening.” The North High School principal said, “Everything that we do—every decision that we make, every conversation we have—is about students.” This principal also asserted that teacher needs must be met but that the main “focus and center are students.” The South High School principal talked about the importance of hiring great teachers and the difficulty of having to non-renew appointments for the teachers that do not fit with the school:

When I first began as principal, I mean in my mind, I believed, okay, I'm going to be the [type of] principal that can work with the people that we have, and grow our teachers. I'm never going to have to non-renew a teacher or do any of those really difficult things. I was very naïve to think that.

Further, this principal talked about helping teachers grow professionally and ensuring teachers and students understand the purposes of the school to prepare students for what they want to do when they graduate from high school.

I think that it's really important that everybody, every stakeholder involved, the teachers, students, and parents all understand what we are as a school, what we are trying to accomplish and achieve, and how that will benefit their students, and the community that we live in.

The principal also talked about using assessment data to inform instructional decisions.

The following table illustrates the three principals' alignment with the GCELF by specifically analyzing each domain, tenet, GCELF activity, and the activities of the principals in the study. Quotes and paraphrased statements are used as evidence that the principals lead their schools with activities that, overall, align with the GCELF. Table 4.2 contains quotes from the high school principals that were interviewed for the study that support alignment with the GCELF. The interviews provided evidence of similar activities to the GCELF. The table does not include every quote but a sampling as evidence of alignment with the GCELF activities.

### **Pedagogy and Practice**

The second component of the interview protocol included two themes of



leadership responsibilities assigned to principals. The first asked them to describe how they *implement global competency attributes in the curriculum, instructions, and assessment*. The second asked, *In what ways do you support global competency attributes in the curriculum, instruction, and assessment?*

Table 4.2 Global Competency Framework and Study Principal Supporting Quotes:  
Vision Setting

Tenet	GCELF Activity	Study Principals' Activity
Shared Mission and Vision	Bring stakeholders together to collectively define and incorporate global learning into the school vision, mission, and strategic plans.	“more than that we wanted to take those competencies from Portrait of a Graduate, build them with community partners—we had a ton of input from local business owners to say, ‘What are you looking for?’” (East High School Principal)
	Connect global competence to the needs and priorities of students and the school community.	“What we wanted more than anything was to know that when our students graduate, they're prepared, not for college but for what comes after that.” (East High Principal)
		“not only meeting them here in the building where they are, but also preparing them for next steps after they leave the building and that awareness and hopefully competitiveness that they'll have.” (North High Principal)
		“I think that it just really came from a gradual progression of next step. We focused on the instructional models here and really improvement on those, and the next step was to focus on, okay, what else we need to do to make sure our kids are successful when they leave here.” (South High School Principal)
		Rich in tradition and focused on the future, the East School District provides engaging and challenging learning experiences which foster creativity, curiosity

Table 4.2 (continued).

Tenet	GCELF Activity	Study Principals' Activity
Shared Mission and Vision	Include global competence as part of school definition of student success and determine what metrics to use to show how students demonstrate global competence success.	and innovation, while inspiring all students to pursue lifelong learning and become productive members of the global community. (East High School)  North High School, in collaboration with the community, is committed to cultivating a tradition of excellence by empowering its students to become independent, life-long learners in a global society. (North High School)  It is the mission of South High School to provide a safe environment in which students will be provided an opportunity to excel in learning, leadership, citizenship, and character. (South High School)  The metric used by all three high schools is PISA for Schools.

*Note.* Adapted from “Globally Competent Educational Leadership: A Framework for Leading Schools in a Diverse, Interconnected World,” by A. Tichnor-Wagner and J. Manise. Copyright 2019 by ASCD and the Longview Foundation.

**Curriculum, instruction, and assessment.** The East High School principal reported that the school does not have Professional Learning Communities (PLCs) that function optimally; rather, they conduct “informal conversations” about how to develop a unique portrait of a graduate for each student. The principal talked about vertical alignment, starting in preschool and continuing throughout all grade levels, and a program housed in a location different from the high school that focuses on themed pathways to help students be prepared for educational and employment opportunities after graduation. The program is performance-based and “where everything that they're assessed with—it goes back to showing one of those Portrait of a Graduate standards.”

The North High School principal talked about their world languages program and how they “embed” global competency standards in their curriculum. The principal also

asserted that they take “any opportunity to reach beyond our immediate area to gain a greater perspective.”

The principal from South High School shared that they have different course offerings from years ago because they realized they were offering some fun classes for students but provided nothing related to student preparation for after graduation. They trimmed off the excess to focus on relevant, performance-based class offerings, including computer programming, engineering, and biomedical courses. The principal explained, “We really trying to take the elective courses that we offer here that are leading to those career pathways and make sure that they are really leading to focused careers.” The principal worked with teachers to write and rewrite curriculum maps and lesson plans. They also reviewed instructional materials to determine effectiveness toward accomplishing goals. This school developed a course catalog that they named the *Destinations Catalog*. Now the school community expects to receive this catalog annually because it has become a part of the school curriculum. The catalog outlines pathways to college and career options.

When asked to describe *how the school curriculum, instruction, and assessments support global competency*, the East High School principal discussed showcasing what teachers are doing related to the profile of a graduate and how teachers are given the freedom to experiment with their instructional strategies. The North High School principal answered the question, stating, “Any way possible.” That includes providing teachers with the instructional resources they need, making them aware of opportunities for professional development provided by the district, and providing teacher training when needed. The South High School principal focuses on assuring that the curriculum

and assessments “are not watered down” and maintains high expectations for every student to ensure that the students are prepared for what they do after high school. He said teachers are passionate about helping students succeed and sometimes want to ease off them because they know details about their students’ personal lives. He is committed to persevering a global-oriented curriculum and helping students succeed without watering down the curriculum, which partially explains the school’s success with a 98 percent graduation rate.

**Collaborative professional community.** The principals were then asked *what fostering a collaborative professional community means*. The East High School principal said a priority when he began implementing Professional Learning Communities (PLCs) at his school was that teachers would understand the importance of planning and working together to help students achieve the competencies necessary for success after high school. Although they already have students earning scores of 32 and 33 on the ACT, they also have students that need help achieving required scores. Hence, those students are their current focus by assuring that the graduate competencies are a natural part of the curriculum. He said the teachers do not have to be convinced that there is always room to improve.

The North High School principal remarked that he fosters a professional learning community by having structures that support teachers’ meetings during the school day. He also said that he wants all voices to be heard and teachers to be given the opportunity to learn about and practice the best instructional strategies.

The South High School principal said they have worked and reworked the PLC structures and foci. Recently, the focus has been on “what those professional learning

communities look like.” He said,

My message to the teachers is that [the purpose of] your professional learning community is for you to [meet] as a group of teachers and [share with] one another the things that are [working well] in your classroom, so that you know this is the standard I am trying to get to. You have an activity that you have designed, and you’re looking for feedback on if this activity is going to get to the standard that you’re trying to teach. ...I feel like we’re getting—we’re still not there yet, but I think we have teachers who work really closely together, work really well together, collaborate often. I think we’re starting to get to those conversations where they’re being critical of one another in a professional way.

This principal also asserted that he was most proud of how their teacher of mathematics and English collaborates with special education teachers. They were assigned to work together and engage together in a manner that it would be difficult to identify the lead teacher in the classroom. This practice developed through the PLC has allowed students with special needs to have instruction more aligned with the classroom content.

The three principals were also asked about the current focus within the PLCs at their school. Interestingly, each high school had unique foci for its currently functioning PLCs (see Table 4.3). The principal at East High School is leading the teachers to develop a flexible Response to Intervention (RtI) program in which students can fluidly move in and out of an instructional intervention as needed. For example, only two or three students in one English class may need additional help understanding a concept or skill. In this case, the students can get assistance from an English teacher to move toward

mastery of the concept or skill while the other students can refine or accelerate their performance using the concept or skill. After all, students are proficient in using the concept or skill; they shift back into what the full class is doing, and no longer need an intervention.

Table 4.3 Study High Schools' PLC Focus

	East High School	North High School	South High School
Focus	Creating flexible Resource to Intervention (RtI)	Standards-based grading  Remediation  Assessments  Assignments	Planning  Student-focus  Assessments

The North High School principal said they are continuing to work on implementing standards-based grading, with remediation as a focus. The staff is “grappling” with remediation practices and knowing what will work for their students. Thus, they are also working on assignments and assessments that will assist them in answering two questions: What assessments allow students to demonstrate mastery of standards? And once the assessments are created, what assignments develop mastery of standards for students?

The principal at South High School said the teachers could focus on three things during their PLC meetings: planning, students, or assessments. He said it is very difficult to structure the master schedule so that the appropriate teachers have common planning periods to address their focus areas; thus, some PLC meetings are scheduled after school and have to stay “very, very focused” since time is typically limited. Therefore, when planning for an upcoming PLC meeting, the teachers identify the “content standards that they’re going to be teaching” and design the “activities that they’re going to be doing for

an upcoming unit or weekly lesson or whatever.” Once they get “feedback from their colleagues,” they solidify their curricular plans. Teachers bring specific student reports such as MAP, CERT, or failure reports for student-focused meetings. They use the data from these reports to plan how to improve their students’ academic achievement. Teachers share common assessment results during assessment meetings to compare and determine “the next steps” in student learning. The principal mentioned that his staff falls into a pattern of “plan, plan, and plan some more, and then plan again, and then plan again.” Because he does not think “we were ever really getting to look at assessment data, student work samples, things like that,” previously, he asked his teachers to be more intentional about achieving the other PLC meeting focus areas.

Because the three schools that were study sites for this research focus on developing *global competence for each student and staff member*, the principals were asked how they lead during their interviews. The East High School principal described his leadership of the PLC as an “observer,” as a “facilitator,” and as a provider of “resources” because he did not want to be authoritative with the teachers. He said that while his focus did need to be on the Portrait of a Graduate and making sure those goals were met, he was fortunate to lead a very professional staff that knows how to do their jobs well.

The North High School principal explained that he perceived his role in the PLC is to “set the tone,” “provide the structure...and any resource,” “guide or facilitate,” and “reduce the barriers.” He said he likes for the PLC teams to “lead within” and “bring to the surface what is needed.”

The South High School principal explained that he has led the PLC in his school by “putting together a pretty specific structure.” He elaborated further that he felt the teachers were having “great discussions...but never really...taking the next step.” Thus, he utilizes different strategies to address different things.

If you choose an assessment-focused meeting, here is the step-by-step what it should look like. You’re going to do this in the first part of your meeting; then you’re going to go to this. These are the things you need to come prepared with before you come to the meeting, so really making it pretty regimented that it’s like that. I think that by doing that, it has taken out, and now, hopefully, it continues to take out, a lot of the unnecessary things that go on within a PLC meeting that are just wasting time, because, again, getting back to that we don’t have a ton of time for PLCs, so we need to make sure we’re making good use of every minute in those PLCs.

These principals utilize two different leadership approaches. The East and North High School principals predominantly facilitate PLC meetings, whereas the South High School principal uses prescriptive strategies allowing less flexibility within the meetings than the other two principals. Table 4.4 has quotes and paraphrased statements that serve as evidence that the high school principals in the study lead concerning pedagogy and practice in ways that align with the GCELF.

### **Situated Action: Connecting Local and Global**

The next section of the interview with each principal focused on (a) global connections and collaborations and (b) advocacy and community engagement. Regarding global engagement, the principals were asked to describe any global connections,



Table 4.4 Global Competency Framework and Study Principal Supporting Quotes:  
Pedagogy and Practice

Tenet	GCELF Activity	Study Principals' Activity
Curriculum, Instruction, and Assessment	Support courses, instructional programs, extracurricular programs, and special events that embed global competence.	The world languages program “embeds” global competency standards in its curriculum. (North High School Principal)
		“really trying to take the elective courses that we offer here that are leading to those career pathways, and making sure that they are really leading to focused careers” (South High School Principal)
		...focused on working with teachers to write and rewrite curriculum maps and lesson plans...reviewed instructional materials (South High School Principal)
		...showcasing what teachers are doing related to the profile of a graduate and giving teachers the freedom to experiment some with instruction. (East High School)
	Provide resources and ongoing training to help all staff integrate global competence and student diversity into daily instruction across all content areas and grade levels.	“any way possible”; then added, providing teachers with needed resources, making them aware of opportunities that come across his desk, and providing teacher training. (North High School Principal)
	Provide access to summative and formative assessments that monitor student global competence development and improve instruction.	“...everything that they're assessed with—it goes back to showing one of those Portrait of a Graduate standards” (East High School Principal) All administer PISA for Schools
Collaborative Professional Community	Expose staff to information on global learning opportunities.	<i>Not observed.</i>

Table 4.4 (continued).

Tenet	GCELF Activity	Study Principals' Activity
Collaborative Professional Community	Provide staff time for leading collaborative, innovative work.	“observer”, “facilitator”, and provider of “resources” (East High School Principal) “set the tone”, “provide the structure”, “resource”, “guide or facilitate”, and “reduce the barriers” (North High School Principal)
	Provide job-embedded professional development focused on global competence that allows for teacher innovation, experimentation, differentiation, and leadership.	<i>Not observed.</i>
	Provide opportunities for nontraditional professional development that focuses on global competence, such as educator exchanges, micro-credentials, and certificate programs.	<i>Not observed.</i>
	Allow staff, students, and administrators to lead their own global learning and learn from and with each other.	Focus on the Portrait of a Graduate and making sure those goals are met so that students are prepared for whatever direction they go after high school, but that he has a very professional staff that knows how to do their jobs well. (East High School Principal)  Likes for the PLC teams to “lead within” and “bring to the surface what is needed”. (North High School Principal)

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collaborations, or partnerships that were active at the school at that time.

**Global connections and collaborations.** The East High School principal described the area cooperation as playing a role in students' education by partnering with the school at an off-campus location to give "students opportunities to do shadowing internships to pursue careers that are here. I think that's really gonna be a game changer for making this that global marketplace for our kids." The high school is located near regional businesses with international connections, which the principal perceives as "potentially great advantages for students to experience businesses with global reach."

The North High School principal said they have a foreign exchange program and are currently hosting students from Belgium and Germany. He also shared that the school has "partnerships through our Project Lead the Way with companies that are globally minded. Bosch is one example that is local right here and partners with us to help fund Project Lead the Way initiatives."

For the last five years, the South High School principal and staff have focused on building relationships with diverse businesses and organizations, which they consider successful because of the internships available for their students. The principal wants to expand these business relationships "to grow more [opportunities] to get our students to see what life will be like in the careers they think they want to go into." The principal reported that the high school has no collaborations or relationships with other countries.

During the interview, principals were also asked about *their role in developing global connections, collaborations, or partnerships*. East High School's principal said they have an employee whose job is to locate businesses willing to partner with them for

student internships and collaborations. The principal said his role is to facilitate with the potential employee when needed. He elaborated:

Really, it's just to allow him the opportunity to go to these places and to make sure that they know who we are, that he can tell them who our kids are, and then we can hopefully get some students working with them in the future.

The North High School principal described himself as a “facilitator or lead opportunist” and “if I see an opportunity, to try to either make that connection with the community partner to our teachers, our students, with those stakeholders.”

The South High School principal explained how his role in making global connections and partnerships has changed.

When we first started the internship program, it was [only] me out there knocking on doors, calling people that I know, and trying to get people to say, “Yeah, we’ll take your students here.” Now, it’s kind of became more of a collaborative effort. I have a person [at the school who] is our College and Career Readiness Coach. . . . [who] handles all the internships and things like that. [My role] is setting the vision. . . . Going back to that leadership model, I feel like I set the vision by example. . . . as the Principal, I was out meeting with people and trying to do those things [to develop an internship program] . . . . Now, I think [my responsibility is] setting the vision, and then letting people around me carry that vision out.

All three principals describe themselves as someone who collaborates with others to produce opportunities for students to experience what it would be like working at some

local businesses. The South High School principal also connected his role to vision-setting for the school.

**Advocacy and community engagement.** The principals were also asked how they inform the broader community about students' global learning and competencies. The East High School principal shared two strategies he uses to inform community members and stakeholders. The first is partnering with a public relations company to disseminate information about things that are happening at the school and about new initiatives. The principal tries not to overload people with too much information but rather to anticipate questions the community may have and be ready to address those questions. He also said it has been "hugely important" to utilize the counseling department to determine what the students want and strive to provide those experiences.

The North High School principal uses diverse resources (e.g., the school's College and Career Readiness coach, a weekly newsletter, various events, a dedicated career day, and heritage month) to inform the broader community about the school's activities to enhance global learning. This effort

provides intern, co-op programs, or opportunities for kids in various [careers]—from healthcare to Duke Energy—there's a long list of about six or seven different pathways. Just two weeks ago in our newsletter, we described how we are providing [those opportunities] and also the reasoning to help them be competitive and learn on the job and the global awareness that some of these companies span all over the globe, not just right here locally.

The South High School principal said being transparent with everyone is very important to him. He does this by using a full-color course catalog, called the Destination Catalog, about everything taught at the school and about every career track offered. He said the school community expects the catalogs even though it is an expensive investment; it is worth it to inform the school community about what the school has to offer. The principal explained further,

We put out a robust catalog that has everything in it about the classes [students] can take, these are the Destination programs that we offer here. ... I think in the times [in which] we live in now; you think that you should be able to put it digitally somewhere that people know to get it. If I did that in this community, they would throw their arms up and say, “What do you mean? Where is my course catalog?” because they like to have the physical catalog [in order to know about] the things that are going on in the school. ...It’s kind of a big financial commitment, but I think it’s just being transparent in many different ways. ...I think you’ve got to be transparent. I think that getting [the information] out in multiple different formats, putting it in multiple different areas really, really helps people understand what’s going on [at our school].

Each principal uses different strategies to disseminate information, but all three principals value sharing information about their schools and recognize its benefits.

The principals were also asked about *their involvement in engaging the community and stakeholders to contribute in some way to global learning and competencies for students*. The East High School principal said the global competency

initiative is a passion of the district superintendent and that the assistant superintendent focused on the Portrait of a Graduate. Because of district leadership, the principal's involvement became "reinforcing that information."

The North High School principal seeks partnerships with businesses for students to have internships and co-op opportunities. He also provides opportunities for business leaders to come to the school to meet students and to join a lecture or information session. In addition, the World Language Department at the high school has representatives of "various companies that span the globe [who come to our campus] to help incorporate the global competencies of learning."

The South High School principal discussed using the NaviGo and YouScience programs to help students explore their talents and career aptitude. He said his involvement is

setting the tone of what goes on in this building, making sure that our community understands what we're trying to do, and then asking for their help in preparing their students for life after high school as well.

He also talked about asking parents to review the information available about career options and discuss with their children the best options. Table 4.5 contains the principal activities.

from the study that aligns with activities from the GCELF for the situated action domain.

### **Systems and Structures**

The fourth domain of the GCELF contains two broad areas. The first relates to equity and inclusivity, while the second concerns operations and management.

Table 4.5 Global Competency Framework and Study Principals' Supporting Quotes: Situated Action

Tenet	GCELF Activity	Study Principals' Activity
Global Connections and Collaborations	Seek to build their own global professional learning community.	<i>Not observed.</i>
	Develop partnerships with schools in other regions and countries.	...foreign exchange program and currently hosting students from Belgium and Germany. (North High School Principal)
	Participate in local, national, and international cross-cultural learning exchanges.	Businesses give “students opportunities to do shadowing internships to pursue careers that are here. I think that's really gonna be a game changer for making this that global marketplace for our kids.” (East High School Principal)
		“...it is such a hub for international everything. ...home to the United States operations to [Company], which makes [Product]. (East High School Principal)
		“...make sure that they know who we are, that he can tell them who our kids are, and then we can hopefully get some students working with them in the future”. (East High School Principal)
		“partnerships through our Project Lead the Way with companies that are global minded. [Company] is one example that is local right here and partners with us to help fund Project Lead the Way initiatives”. (North High School Principal)
		“facilitator or lead opportunist, if I see an opportunity, to try to either make that connection with the community partner into the school and just connecting our teachers, our students, with those stakeholders”. (North High School Principal)
Global Connections		“...we have a great relationship with the business called [Company]”, ...and that “we have an internship program with them



Table 4.5 (continued).

Tenet	GCELF Activity	Study Principals' Activity
Global Connections and Collaborations		where they take students every year, and in several different areas". (South High School Principal)
	Form and maintain relationships with local, national, and international colleagues.	"When we first started the internship program, it was me out there knocking on doors, calling people that I know, and trying to get people to say, "Yeah, we'll take your students here." Now, it's kind of became
	Form and maintain relationships with local, national, and international colleagues.	more of a collaborative effort." (South High School Principal)
	Provide a technology base that allows for global connections.	All three schools have 1 to 1 technology.
Advocacy and Community Engagement	Promote digital citizenship.	Students complete technology use agreements.
	Promote the importance of global learning to key stakeholders, including staff, students, parents, district leaders, school boards, and state policymakers.	The East High School principal uses a public relations company to inform the public about school initiatives.
		Newsletters (North High School Principal)
		Destinations Catalog (South High School Principal)
		"I think you've got to be transparent." (South High School Principal)
	Gather input on global initiatives from families, business leaders, and community leaders.	Uses the counseling department of the school to understand what students want for their futures. (East High School Principal)

Table 4.5 (continued).

Tenet	GCELF Activity	Study Principals' Activity
Advocacy and Community Engagement	Engage all families as partners for global learning.	Career Day, Newsletters, Heritage Day (North High School Principal)
	Engage all families as partners for global learning.	Asking parents to review course schedules and career ideas with their children. (South High School Principal)
	Connect to local businesses, universities, community organizations, and cultural initiatives that support global learning.	Career Day, Co-ops, Internships

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**Equity and inclusivity.** Each principal was asked what it meant for a system to be equitable. Interestingly, all three school leaders provided very similar, yet unique, responses to this question. For example, the principal of East High School responded that.

It's making sure that not every kid gets a pair of shoes, but every kid gets a pair of shoes that fit. Personally, I have a student who's gifted and talented in my family—one of my kids—and another one that has an IEP [i.e., an individualized plan to address a specific learning need]. I think I can probably talk that lingo as well as anybody because I want to make sure that my child that has a disability has every opportunity . . . just like the [one who has been identified as] gifted and talented.

According to the North High School Principal,

Equitable is not necessarily [about being] equal. It's what [each student] needs. . . . There's a visual [someone shared with me] that helps bring that

home...a fence and a baseball field. Two people are trying to look over the fence. ...one is standing there and can look over the fence. The other one... needs a small box to stand on...to see the field. That doesn't mean both of them need the box to stand on. To me, that was a great depiction of what equity means—is whatever it takes to get [students] to the same level of understanding or awareness or resource.

When asked about what it means to be equitable, the principal at South High School replied,

I think what it means to be equitable is that we ensure that every student has what [he or she] personally needs to be successful. It does not mean that every student is treated exactly the same. For the past five or six years, [we have] really worked very hard on ...trauma-informed practices. I think we're getting there with our staff [today compared to what we did in the past] ...What matters is does the behavior improve. I think we have teachers now that are starting to understand that...maybe [a student] did something bad in their class. My suspending that student is going to put them in a really, really terrible environment. We have to take all those things into consideration.

These three principals think that being equitable means providing whatever each student needs to be successful, which is not necessarily the same thing.

**Inclusivity.** The principals' conceptions of inclusivity were somewhat similar to their notions of being equitable and inclusive. Interestingly, however, are the differences in the length of their responses. For example, the principal at East High School replied,

They're open and available to anybody. ...With that, we're not a school that has a huge minority population. I know at the district level, we've done a ton of DEI [diversity, equity, and inclusion] work. Our assistant superintendent who did the Portrait of a Graduate also spearheaded the Diversity, Equity, and Inclusion [work]. He is super passionate about that, and [thus] that's something we're constantly talking about [to make sure] we're following that DEI plan. ...I would hope that students say we have something for everybody regardless of who they are or how they identify [themselves]—but making sure that students know that everyone's welcome. When we do our meetings, and I know this isn't global competency related, but one message we send to kids is the thought that [if] someone doesn't want to come to school because of the way they're treated—we're not okay with that. We make that clear to students on Day 1 is that everybody has a place here. ...we want everybody to know, regardless of what your perception is of you, that there's something that's great within you.

Conversely, the principal at North High School provided a short response:

To include as many people as possible—not to exclude anyone. We try to be inclusive in all that we do no matter who [the students] are...or what they think or believe in.

According to the South High School principal, being inclusive means being accepting of

every student no matter where they're at educationally, where they're at socially, where they're at in their own personal journeys for who they are, figuring out what they want to be, or who they are as a person. I think that we try to model that in everything we do. I think that our students understand that. I think that we have a very inclusive environment here. ... I'm proud of that because we draw from a very vast geographically diverse area. We're not super diverse as a [school community], but we are geographically diverse. We have students who live on 200-acre farms. We have students who live down in an area that is like it would an inner city. I think everybody is pretty accepting of everyone else. I think that we all...have different beliefs and values and all those things, but I don't think that people are trying to force their values and beliefs on anybody else. I think everybody treats everybody with a great deal of respect. That's what I would say being inclusive means.

Each principal described inclusivity the same but used different examples of how they perceive inclusivity.

**Ensuring equity and inclusivity.** During their interview, all three principals were also asked how they *ensure equity and inclusivity within their school*. The East High School principal said he ensures equity and inclusivity through the master schedule by providing classes to meet the needs of all students. The North High School principal said he achieves that goal through the,

things that we do and say. We want those two things to be evident in the forefront. If there are things that arise that would be contrary to those, we

address that. ...We talk through that and try to address it as it occurs as well.

The South High School principal shared that he uses modeling to ensure equity and inclusivity:

I think modeling it from my perspective, and the way that I handle my business, and ensuring that the teachers model it within their classroom [ensures equity and inclusivity. I realize that I] can't force somebody into submission to be nice to someone or to accept someone or whatever. But when they see the people that I hope that they respect, and I'm not saying it's me, but the teachers that they respect in their classroom being very inclusive of people, being very accepting of people, not judging people for what they look like, or what their beliefs are or whatever, I think that's the best way to ensure that the students then are treating everyone with respect. I just feel like modeling it from the adult standpoint is the best way to do it.

The three principals each use different activities to ensure equity and inclusivity.

**Operations and management.** To assess how the principals operate and manage the school, I asked, *How do you leverage resources (instructional, human resource, time) to support global competency for students?* The East High School principal talked about the allocated funds the school receives from the district office. He asserted that although the district is small, the superintendent supports this initiative.

The principal at North High School said that appropriating resources is sometimes a challenge— “especially now, more than ever, in regards to human resources. We want

the best and the brightest [teachers] in our classrooms.” He added that he partners with their community members, networks with agencies and civic organizations, and fosters an atmosphere of “support and opportunity for thoughts and opinions . . . to move our system forward.”

Presenting a somewhat different response from the other two school leaders, the principal at South High School explained,

Each year we work through a process to determine our focus points and priority initiatives for the year. These initiatives are determined from a thorough review of assessment results including MAP, CERT, ACT, KSA, OECD, Impact KY and ValEd Results. These help us determine where to leverage our resources to help with student and overall school growth.

Table 4.6 contains evidence of the principals’ alignment with the GCELF for systems and structures. This concludes the findings for the interview questions developed from the GCELF. The following section contains the findings related to the PISA for Schools for each high school in the study.

### **PISA for Schools**

This section of the interview included six questions that are listed below. The principals’ responses are presented in table format to simplify comparison.

1. *How long have you been administering the PISA for Schools?*
2. *How did the use of the PISA for Schools come about?*
3. *What are the advantages of using the PISA for Schools?*
4. *What are the disadvantages of using the PISA for Schools?*
5. *Is the use of PISA for Schools planned to be permanent?*

Table 4.6 Global Competency Framework and Study Principal Supporting Quotes:  
Systems and Structure

Tenet	GCELF Activity	Study Principals' Activity
Equity and Inclusivity	Commit themselves to deep, ongoing integration of diversity, equity, and inclusion principles in their leadership and organizational infrastructure.	“Equitable is not necessarily maybe equal. It's what everyone needs.” (East High School Principal)
		“...whatever it takes to get people to the same level of understanding or awareness or resource.” (North High School Principal)
		“I think what it means to be equitable is that we ensure that every student has what they personally need to be successful. It does not mean that every student is treated exactly the same.” (South High School Principal)
		“...modeling it (equity and inclusivity) from my perspective, and the way that I handle my business, and ensuring that the teachers model it within their classroom.” (South High School Principal)
	Help staff to be reflective and action-oriented about building a culture that includes, cares for, and supports the unique needs of each student and their families.	“...worked very hard on ...trauma informed practices.” (South High School Principal)
	Create an environment that welcomes and accommodates students, families, and staff from culturally and linguistically diverse backgrounds, and utilize the diversity of students, families, and staff as learning assets throughout	<p>“Equitable is not necessarily maybe equal. It's what everyone needs.: (North High School Principal)</p> <p>“We try to be inclusive in all that we do no matter who you are, what you are, or what you think or believe in.” (North High School Principal)</p>



Table 4.6 (continued).

Tenet	GCELF Activity	Study Principals' Activity
Equity and Inclusivity	classroom and schoolwide programming.	“Equitable is not necessarily maybe equal. It's what everyone needs.” (North High School Principal)
		“We try to be inclusive in all that we do no matter who you are, what you are, or what you think or believe in.” (North High School Principal)
		“...being inclusive of every student no matter where they're at educationally, where they're at socially, where they're at in their own personal journeys for who they are, figuring out what they want to be, or who they are as a person. I think that we try to model that in everything we do.” (South High School Principal)
	Establish an ethos of tolerance and civility so that all students, families, and staff feel safe engaging in dialogue when instances of intolerance or prejudice occur.	<p>“...we've done a ton of DEI work.” (East High School Principal)</p> <p>“I would hope that students say we have something for everybody regardless of who they are or how they identify—but making sure that students know that everyone's welcome.” (East High School Principal)</p> <p>“...one message we send to kids is the thought that someone doesn't wanna come to school because of the way they're treated—we're not okay with that.” (East High School Principal)</p>
	Ensure that every student has equitable access to high-quality coursework, programs, and resources that emphasize global competence.	“I wanna make sure that my kid that has a disability has every opportunity in front of them just like the gifted and talented kid.” (East High School Principal)
	Seek to hire and manage a diverse staff committed to preparing each	<i>Not observed.</i>

Table 4.6 (continued).

Tenet	GCELF Activity	Study Principals' Activity
Equity and Inclusivity	student for life, work and citizenship in a global society.	
Operations and Management	Allocate existing resources towards professional learning and development, instructional materials, and staff positions that support global competence.	<p>“...as a district they are committed to making sure the schools have all the resources we need in order to impose their vision or in order to follow their vision at a smaller level.” (East High School Principal)</p> <p>“Each year we work through a process to...determine where to leverage our resources to help with student and overall school growth.” (South High School Principal)</p> <p>“We want the best and the brightest in our classrooms.” (North High School Principal)</p>
	Support the development of new resources to enhance global competence efforts.	<i>Not observed.</i>
	Provide staff financial support when they travel abroad for professional teaching, research, and learning (e.g., offering continued insurance coverage, sabbaticals).	<i>Not observed.</i>
	Review and revise school and district policies to support global learning opportunities.	...partners with their community, networks with agencies and civic organizations, and fosters an atmosphere of “support and opportunity for thoughts and opinions...to move our system forward”. (North High School Principal)

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6. *How do the PISA for Schools results inform instructional decisions toward global competency?*

Each principal talked about the number of PISA for Schools administrations they have conducted. The assessment is conducted every three years, and all three high school principals have administered the assessment at least three times. The East High School principal emphasized that “our kids are more than a number, but we want a lot of numbers about every kid to know what they need [in terms of academic content and skills]. The data provides the teachers and administrators more information to make sure they are preparing students for a shot at a successful life.” The North High School principal said the results allow them to “improve our students' global competitiveness.” According to the South High School principal, the data derived from administration of PISA for Schools “was kind of a natural next step.” He asserted that the assessment supported “comparing us to all these other schools and...other countries, and what they are doing within their schools.”

The principal at East High School principal said the results from PISA for Schools assessment give them a “world-level” report about how well they are preparing students for work and global competitiveness. Similarly, the North High School principal recognized that the global-level comparison provided information about how well they prepare students. The principal at South High School administers the assessment to gain another data report about their strengths and areas of growth in preparing high school graduates.

Interestingly, the three principals provided different responses concerning the disadvantage of using PISA for Schools. According to the East High School principal, the

Table 4.7 PISA for Schools Interview Responses

	East High School Principal	North High School Principal	South High School Principal
Administrations	3 or 4	4	3
How started using PISA for Schools	To have another data point to inform about student preparedness	Regional initiative	Relationship with NWEA (already using MAP) and a District initiative
Advantages	World-level comparison of strengths and areas of growth	Comparison of global economy, global learning, and competitiveness.	Another data point, which identifies strengths and areas of growth
Disadvantages	Making education a competition	Inconsistencies of populations taking the test	Motivating students to do their best on the test
Planned to be permanent	Yes	Yes	Yes
Use of results to inform instructional decisions	Appropriate and effective curriculum, school-wide teacher effectiveness and ownership of assessment results	Insight and information, Reading instruction	Identify areas for improvement and areas of success

disadvantage is it lends itself to making education a competition. He insinuated that teaching should be collaborative among teachers and other schools, both nationally and globally. The principal at North High School voiced a concern that the results of PISA for Schools can be skewed negatively for the United States because his school randomly selects the students that take the test, while some other countries have a more selective, homogenous group of students taking the test. The South High School principal voiced a different concern: the difficulty in convincing students to give their best effort in responding to the PISA for Schools. Unlike other standardized tests, it does not yield

individual student scores; thus, students sometimes do not personally recognize any value to them.

All three principals replied yes when asked if they intended to keep administering PISA for Schools. The only caveat was based on if the district leadership changed their desire to use PISA for Schools.

Each principal gave different responses to the question about how they use PISA for School results to inform instruction toward global competency. The East High School principal uses the results as another data point that helps him identify schoolwide effectiveness. He uses the results of *all* the assessments administered at the school to encourage schoolwide teacher ownership of the results regardless of whether or not they have the students in class the year the test is administered. The PISA for Schools results are also used to identify the effectiveness of their curriculum. According to the principal, all the information is combined and used to identify a “guaranteed and viable curriculum ensuring that students leave with these skills. We need every data point we can get to ensure that we’re preparing them.”

The principal at North High School uses PISA for Schools results because it yields “great insight and information.” However, he and his teaching staff focus on reading because “reading is kind of a universal help and resource to move students forward.”

At South High School, the principal and teachers use PISA for Schools results to focus on what they are not doing well—although he admitted that the results provided them an opportunity to look at what they are doing well. The principal said the best

outcome is when they identify a specific area to focus on improvement and then find from the next administration of an assessment that they have made improvements.

### **High School Tour Observations, Unstructured Interview, and Reflection**

The walk-through tours took about 30 minutes each, with unstructured questions included. Areas observed included *outside* the building (i.e., how the grounds and outside of the high school are maintained). Observations conducted in the *front office* included (a) the friendliness of the staff, (b) maintenance of the front office, and (c) the check-in procedure for a visitor. The *hallways* were observed to assess overall maintenance and items posted on the walls to gain a general sense of what students, staff members, and visitors experienced when walking through the halls. While observing the *cafeteria*, I noted the diversity of food choices and the general layout of the cafeteria. In the *classrooms* I was able to visit, I looked for signs of cultural diversity and inclusivity for students. The *media center* was included in the walk-through because it is typically a common place for all students; I concentrated on how well it is maintained, decorated, and stocked with resources. Before I left the high school properties and recorded a brief reflection on the school tour and attributes of the schools. This information is included in this section.

**East High School.** The outside of the high school was clean and neat on the day of my visit, and the front office staff was friendly. They have a check-in system that requires a visitor to present a driver's license to create a sticker badge for visitors. East High School has a history of many successes, evidenced by pictures and other items displayed in the hall. They are proud of their successful Advanced Placement (AP) program and display their success on the walls in the hallways. The high school has an

impressive visual arts program with an art studio that has glass walls on one side, which allows observers to watch student artists create. Displays of their visual art are displayed on the walls throughout the school and behind the glass wall. Three-dimensional art is also displayed.



Figure 4.1 East High School Collaboration Room Image

The cafeteria offers diverse types of foods, a patio area for eating, and an indoor location; the spaces evoke a collegiate feel. They have a student-run store and a website, including clothing created by students in their fashion design classes. Likewise, the culinary classes offer catering. The school runs a preschool room set aside for student use when completing collaborative work on projects. Figure 4.1 is a picture of the collaboration room. Learning collaboration skills is a component of global competency. The media center is well-organized, with access to computers and a variety of resources. The school has a Spanish club and various language classes. All of these characteristics lend themselves to preparing for work and global-mindedness.

**North High School.** The outside of the school is immaculate, and the front office staff is welcoming. They also use a driver's license system to admit visitors and produce a sticker badge that is returned upon leaving the school as evidence of checkout. Walking

the hallways suggests that the student body is quite diverse. During the walk-through, the principal shared that the school has students who speak 14 different languages and offers various language classes. The cafeteria likewise reflects the school's diverse population through the food options and bright signage.

During the walk-through, the principal talked about the school's eight academic wings and the available student enterprises. The school is in an area where several businesses with global reach are located, which provides a natural focus on global competencies for graduates. When the school opened in 2008, the principal and faculty started making vision posters that continue to today (See Figures 4.2, 4.3, and 4.4). The mission focus of the principal and faculty is evident through this annual activity. The words used to express their focus on producing globally competent graduates are also evident. For example, some of the words and phrases used are *creative*, *innovative*, *for all students*, *lead the charge*, *discover the advantage of variety*, and *contributors*. Their mission statement is posted at the end of the hall with the vision posters (See Figure 4.5). The school has 1 to 1 availability of computers for students, and the media center has a wide variety of resources available to students.

The school has an active student government, which the principal said gives them a voice in making decisions about many aspects of the school. One of the student government groups was recognized nationally (See Figure 4.6). The group also does things to raise the morale of the student body and teachers, such as attaching post-it notes on student lockers that have words of encouragement from the student government officers.



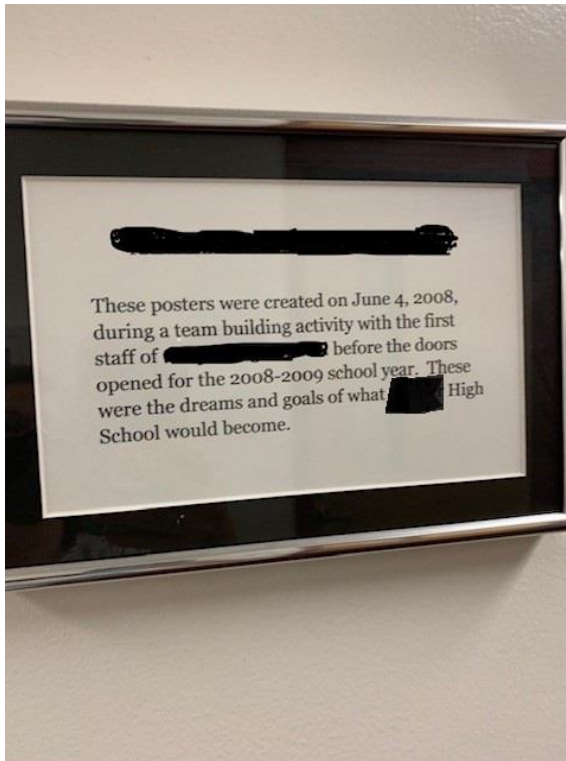


Figure 4.2 North High School 1



Figure 4.3 North High School 2



Figure 4.4 North High School 3



Figure 4.5 North High School MS



Figure 4.6 North High School Student Council Award

**South High School.** The campus of South High School is beautifully well-kept. The principal greeted me at the check-in location of the school, and the front office staff was welcoming. Many awards are posted in the hallways, which the principal asserted evidenced school pride (See Figures 4.7 and 4.8). During the walk-through tour, he stated that South High School has a rigorous academic program focusing on AP classes and testing. The school also houses some technical school programs and takes pride in students earning various industry certifications (See Figure 4.9). These include a catering business through the culinary department and a coffee and muffin bar for the school community. All of these opportunities prepare students for work after graduation and to be globally competent with regard to academic and vocational preparation.

South High School has a vibrant student leadership group, which the principal said he depends on to help make decisions. This is a globally competent practice because students are taught to think critically and make decisions that impact the student body.



### Figure 4.7 South High School Awards



Figure 4.8 South High School Awards Continued



Figure 4.9 South High School Industry Certificates



Figure 4.10 South High Encouragement Notes      Figure 4.11 South High Faculty Pictures

The student population encourages teachers by putting post-it notes on their classroom doors (See Figure 4.10). Teachers are also highlighted by putting pictures of them up from their school days, adding from where they graduated (See Figure 4.11).

The school also displays student accomplishments on a dedicated board that includes students' photos (See Figure 4.12). On this board, there was also a letter from another high school principal acknowledging how impressed he was at the end of an athletic event when the student section got up after the game and started throwing away trash left by attendees. He asserted that this action demonstrates that the students are being taught to take care of their facility and reduce the work the custodians would have to do on the field. The media center houses the 1 to 1 computer assignments and is stocked with various resources. The school has two life-sized mascots in the media center, which shows the school's pride. The principal talked about modeling behaviors in the interview, a practice evident throughout the school.





Figure 4.12 South High School Pride Board

Conducting these walk-through tours with each of the three principals, followed by my recorded reflection, provided evidence that they foster an environment of innovation, collaboration, and pride in their schools. The next section compares the results from Part One to the Global Competencies Framework.

### **Comparison to Global Competencies Framework**

This section summarizes the comparison of leadership practices among the three principals based on their interview comments about the Global Competencies Framework (Tichnor-Wagner & Manise, 2019). Tables 4.1, 4.3, 4.4, and 4.5 show the principal comments that indicate alignment with the GCELF. In addition, using GCELF-identified activities, principal activities from the study are compared to the activities within the framework. Although the activities in the framework are not exhaustive, they are used as a guideline to match or align principal activities from the study. The principal activities were added to the GCELF activities, creating Table 5.4. This process revealed that the principals in the study perform activities that align with the activities and practices found in the Global Competencies Framework to some degree. For example, in the domain of vision setting, each principal has modeled the vision of developing graduates prepared for work life. Other examples of their leadership practices aligning with the Global

Competency Framework are developing diversity, equity, and inclusivity within their schools through professional trainings. Also, activities of the GCELF become evident with which the principals could improve their leadership toward globally competent graduates. A third example is the use of PISA for Schools to provide information about graduates' preparedness to excel in the workplace and about the student attitudes and perceptions of the school environment and curriculum comparable on an international level. The following section will identify the level of GCELF immersion for each principal.

### **Leadership Practice Highlights**

This section presents a summary of the principals' leadership practices. Following this summary, the GCELF Immersion Level for the schools is discussed.

**East High School.** The principal at East High School seeks to foster a collaborative atmosphere related to shared decision-making. Graduates will be prepared to complete the Portrait of a Graduate competencies successfully. These include a global component but are predominantly characteristics of well-educated graduates that are developed utilizing practices espoused by Hitt and Tucker's (2016) leadership framework. The leadership encourages teachers to use the Portrait of a Graduate competencies to plan lessons. Fostering an authentic professional learning community is a goal for the principal, but it is not currently happening. The principal wants the PLC of East High School to be teacher-led. The administrators will serve as facilitators and providers of resources. East High School has access to companies with international connections, so students can do co-ops and learn about the global workplace, and

businesses can do presentations at the school. The principal identified a facilitator role working with the local businesses.

Equity in the school was presented as providing access for all students to the curriculum. Also, the district trained staff in Diversity, Equity, and Inclusion (DEI) practices. Further, treating everyone respectfully was emphasized. The principal talked about scheduling in a manner that allows students with special needs to have the classes they need most to be successful.

The evidence supports an alignment of leadership practices with both the Hitt and Tucker framework (2016) and the Tichnor-Wagner and Manise framework (2019), minus the global focus for the most part. For example, both frameworks identify providing resources to support teachers and students. The principal practices this leadership activity but needs to provide resources that yield global competencies.

**North High School.** This principal describes a collaborative leadership style with a student-centered focus. Everything is done intentionally to support student learning. Global competency standards are embedded in the curriculum for world language classes. The principal discussed building empathy for others using the student leadership structure. Global competency attributes are supported by sharing what the principal receives. However, an intentional practice needs to be evident.

The principal said structures are in place for teachers to meet daily as a professional learning community. At the time of this study, North High School focused on standards-based grading and strategies to address remediation. The teachers review assessments and assignments to eliminate non-essential work for students. The principal said the PLC is supported by facilitation, providing resources, and reducing barriers.

Students have opportunities to participate in co-ops that have global connections. The principal serves as a facilitator and lead opportunist to make connections with local businesses. The businesses are invited to present at the school also. The world languages classes are also an avenue for businesses to highlight opportunities for translators.

The principal discussed equity in terms of providing resources needed to level the access to the curriculum for all students. Addressing any issues arising from prejudice or inequity were dealt with immediately. The administration actively evaluates behaviors related to equity, diversity, and inclusivity and addresses any deficits.

The primary resource the principal discussed was the teachers. They seek the best and brightest teachers for their school. They also seek to partner with their community to enhance that relationship.

The North High School principal is slightly intentional about producing globally competent graduates. This principal employs leadership practices that align with the Hitt and Tucker framework (2016) in many ways. One example is the practice of building a professional capacity. The principal emphasized recruiting and hiring excellent teachers. The Tichnor-Wagner and Manise framework (2019) identifies leading a professional community that collaborates to build capacity in increasing global competence. This practice needs to be evident in an intentional manner.

**South High School.** This principal described a leadership style of modeling expectations for teachers and students. Hiring good people was also identified and trusting them to do a good job without micromanagement. Instructional models have been a focus for the improvement and professional development of teachers. The principal repeated that everything they do prepares students for whatever they want to



pursue after high school. Curriculum review is a cyclical process eliminating courses that lead to nothing.

The professional learning community development is progressing. The principal has shared an expected outcome for the meetings and provided time for teachers to meet during the school day. The administration is facilitating the PLC process toward more than only planning. The teachers are expected to review available data to inform instruction. The focus for including community businesses is to build relationships with them and place students in the businesses to learn about the work.

Equity was interpreted as providing every student with what they need to be successful. Inclusivity meant to the principal to make sure everyone was accepted and welcomed in the school. The principal models the expected behaviors, and teachers and students are expected to practice equitable and inclusive behaviors. The principal also stated that any issues around equity and inclusivity would be addressed.

As with the other two principals, the South High School principal used effective leadership practices. For example, in both the Hitt and Tucker framework (2016) and the Tichner-Wagner and Manise framework (2019), modeling appropriate behaviors and practices as written in the mission and vision statements are identified. The principal at South High School discussed modeling expected behaviors several times but did not indicate a global competencies focus.

The three principals in the study use research-based leadership strategies, but none lead toward developing globally competent graduates beyond a “First Steps” level. They are reactive about the inclusion of global competency activities waiting on things to

come to them rather than intentionally embedding the global competencies where they naturally fit into the curriculum and school experience.

### **GCELF Immersion Level**

The Global Competency Educational Leadership Framework includes suggested activities to illustrate the level of immersion in the GCELF. I read through the suggested activities several times thinking about the three high schools in the study and if they align with the suggested activities in any way or if a similar activity exists among the high schools in the study. For example, the *Vision* domain has three suggested “First Steps” activities. The first activity is about developing the mission and vision with staff, students, and applicable community stakeholders that have global competencies included. The principals have missions with global competency attributes, but I do not have evidence that community stakeholders were involved. I also considered if there is something like the statement that may be classified as a “First Steps” level of immersion. I made tally marks for each observation of a principal activity that aligned with the GCELF. I analyzed the interview responses, tour observations, and document analyses for each principal, each domain, each tenet, and each level of immersion of the activities identified in the GCELF.

Each immersion level was assigned Fully Observed, Partially Observed, Minimally Observed, or Not Observed. Based on the maximum number of observations of principal activities in the domains, I developed a scale to assign number ranges to the immersion level categories. The range of observations was 1-10. I assigned the Fully Observed category 8-10, Partially Observed 4-7, Minimally Observed 1-3, and Not Observed is 0. I also color-coded the analysis table for visual ease of interpretation. Fully

Observed is green. Partially Observed is yellow. Minimally Observed is light blue. Not Observed is lavender.

The analysis reveals that the high schools were predominantly at the First Steps and partially at Deeper Dives for the *Vision* domain. North and South High School principals display behaviors sufficient to label them as Fully Observed at the First Steps immersion level. This is logical because vision and mission setting with multiple people involved is an expectation for schools. None of the high school principals exhibit behaviors in the Full Immersion category.

For the *Curriculum, Instruction, and Assessment* tenet of the *Pedagogy and Practice* domain, the high school principals were Partially and Minimally observed to exhibit these behaviors mostly at the First Steps immersion level and have one observation each in the Fully Immersed category. For the *Collaborative Professional Community* tenet of this domain, the immersion level is predominantly First Steps with No Observations for the Full Immersion level and only East High School's principal with one observation in the Deeper Dives immersion level.

In the *Situated Action* domain, for *Global Connections and Collaborations* tenet, the high school principals exhibited Minimal to No observed behaviors. Although the North and South principals demonstrated one practice in the Full Immersion level, and the East principal demonstrated one practice in the Deeper Dives level. And for the *Advocacy and Community Engagement* tenet, the high schools were predominantly at the Partially Observed category in the Deeper Dives Level and Minimally Observed in the First Steps level. The East and North principals each exhibited one practice at the Full Immersion level. This is due to the partnerships with businesses in the area.

Table 4.8 Immersion Level of the High School Principals

Domain	Tenet	East High School			North High School			South High School		
		FS	DD	FI	FS	DD	FI	FS	DD	FI
Vision	Shared Mission and Vision	1111 111	1111		111111 111	11		111111 1111	1111	
Pedagogy and Practice	Curriculum, Instruction, and Assessment	111	1111	1	11111	11	1	111111	1111	1
	Collaborative Professional Community	111	1		11111			1111		
Situating Action	Global Connections and Collaborations		1			11	1	1		1
	Advocacy and Community Engagement	11	11111	1	111	111111 1	1	1111	1111	
Systems and Structures	Equity and Inclusivity	1111 1111	1		111111 111	11	1	111111 1	1	
	Operations and Management	1	1			1		11		

*Note.* FS = First Steps, DD = Deeper Dives, FI = Full Immersion. FO = Fully Observed (8-10 marks), PO = Partially Observed (4-7 marks), MO = Minimally Observed (1-3 marks), NO = Not Observed (0 marks)

In the *Systems and Structures* domain for the *Equity and Inclusivity* tenet, the high schools are predominantly Fully Observed at the First Steps level and minimally at the Deeper Dives levels. The North High School principal was observed once at the Full Immersion level. This finding makes sense because of the recent focus on diversity, equity, and inclusivity focus in schools in Kentucky. Finally, the *Operations and Management* tenet of the domain is Minimally Observed at the First Steps and Deeper Dives levels and not observed at the Full Immersion level. This is logical because the Full Immersion level requires financing teacher exchange programs and hiring a person to oversee the global competency programs.

### **Summary**

Chapter Four presented findings and results from the two parts of the study and the GCELF immersion level of the three high schools in the study. Although the principal practices vary by activity, they nonetheless align to some degree with those in the Global Competency Framework (see Table 4.8). Student performance on three administrations of PISA for Schools are quite similar, suggesting that the leadership practices among the three principals in this study were somewhat different but nonetheless produced higher student achievement on PISA for Schools. All three high schools perform above the base proficiency Level 2 on PISA for Schools (i.e., they all perform at Level 3). The document analyses supported findings from the interviews about GCELF practices among the principals. Chapter Five presents a study discussion and answers the study research questions.

## **CHAPTER FIVE**

### **DISCUSSION AND CONCLUSION**

This study aimed to explore principal practices within selected Kentucky high schools with a global competency focus in mission and administer PISA for Schools assessment. The goals for the study were to (a) explore leadership practices by principals toward preparing globally competent graduates, (b) identify leadership practices in schools that perform proficiently on PISA for Schools, and (c) inform educational practice and policy. The theoretical framework in this study incorporates the work by Tichnor-Wagner and Manise (2019) on Global Competencies for Educational Leaders Framework (GCELF) and PISA for Schools assessment results. My study was based on my assertion that it is important to analyze school leaders' practices because they affect student achievement (Leithwood, 2012; Murphy et al., 2006; Sebring et al., 2006), and because of globalization, school leaders need to employ practices that support the development of global competencies in high school graduates.

This study narrowed the exploration of principal practices to those with a global competency focus. Two research questions were posed to achieve the goals of this study:

RQ1. In Kentucky schools that have declared a global focus in both mission and assessment, what documentary, assessment, and visual evidence supports the implementation of the global focus? (Part One)

RQ2. In Kentucky schools that have declared a global focus in both mission and assessment, what principal practices support the implementation of the global focus as framed by the Global Competencies for Educational Leaders Framework? (Parts One, Two, and background data)

The discussion section of this chapter is organized according to the research questions that guided the study and data generated through interviews, school tours, document analyses, and PISA for Schools data. A summary of the study precedes the

discussion section. The last three sections of the chapter address the study's limitations, potential implications, and a concluding statement.

### **Summary of the Study**

The study was completed in two parts. Part One was an analysis of documents produced by the high schools. The same codes were used in the analysis as with the interview results. Part Two was a semi-structured interview with the selected principals conducted in person at each principal's high school. The questions for the interview were created by me using the Global Competency Framework, and I added questions about the use of PISA for School at the end of the interview. The interview tool was field tested with three other principals who were not study participants. Following each interview, the principal led me on a tour of his school, during which I recorded information about the building's outside appearance, main office characteristics, displays in the hallways, the layout of the cafeteria and some classrooms, cultural aspects displayed in the media center, and the general feel of the school. An unstructured interview was conducted during the tour, and a researcher's reflection on the entire school visit was audio recorded before leaving the property.

A professional transcription service was used to transcribe the interviews, which the principals reviewed prior to analysis. After the principals sent me suggested edits to their comments or approved their transcription as accurate, I uploaded the documents into Dedoose on my personal computer for coding and analysis. After the data collection and analyses were completed, the leadership practices of the three principals in the study were compared to the Global Competency Framework practices and activities. The activities listed in the Framework are not an exhaustive list; rather, they are activities by principals

observed by Tichnor-Wagner and Manise (2019) when they created the framework. The PISA for Schools outcomes were compared to practices by the three Kentucky principals that may have contributed to students' proficiency on PISA for Schools. A finding of the study was that students at the three high schools in this study achieved similar PISA for Schools proficiency results. In the next section, I will discuss the findings in greater detail.

## **Discussion**

This section is organized by the research procedure map that informed the study design and responses to the two guiding research questions. The findings of the study are used to answer the questions.

### **Research Procedure Map**

The research procedure map for this study is located at the end of Chapter Two (Figure 2.2, p. 75). The framework illustrates that this study began by identifying Kentucky high schools that administer PISA for Schools. The results of this international assessment provide a means to determine the extent to which the participating high schools prepare graduates to compete globally. The students at the three high schools perform at the proficient level (Level 3). In addition to PISA for Schools results, principal practices toward developing globally competent graduates using the GCELF as the theoretical lens of the study, the principal interview, and document analyses were completed. After completing this study, I am convinced that the main practice needed is to be *intentional* about weaving global competency actions in every aspect of the school. What the principal prioritizes gets the attention, focus, and resources leading to



improvement (Dwyer, 1984; Lee & Lee, 2020; Leithwood & Jantzi, 1987; Robinson et al., 2008). This assertion is discussed further later in this chapter.

### **Principal Leadership Supporting Global Competency**

The first research question (*In Kentucky schools that have declared a global focus in both mission and assessment, what documentary, assessment, and visual evidence supports the implementation of the global focus?*) was answered using findings from Part One of the study. The second research question (*In Kentucky schools that have declared a global focus in both mission and assessment, what principal practices support the implementation of the global focus as framed by the Global Competencies for Educational Leaders Framework?*) was answered using results from Parts One, Two, and background data. Part One was a document analysis of the three high schools in the study. The documents with global competency indicators were coded to the same codes used in Part Two. Semi-structured interviews with each of the three high school principals in the study were completed in Part Two and included an unstructured interview and tour of each school guided by the principal. Many of the principals' responses and some artifacts posted in the hallway provide evidence of alignment with the Global Competency Framework that has four domains: (a) Vision Setting, (b) Pedagogy and Practice, (c) Situated Action, and (d) Systems and Structures. Within the four domains are seven tenets, each of which is connected to a practice or activities that support the domain. The activities listed as evidence of each practice are not an exhaustive list. I analyzed the principal activities described during their private interviews compared to those listed in the Globally Competent Educational Leadership Framework, looking for alignment. Table 5.1 illustrates the process and is an excerpt from Table 5.4.

Globally Competent Educational Leadership Framework is abbreviated GCELF to simplify the column headings.

**Vision setting.** Each principal described collaborative efforts to develop globally competent graduates. This vision was not a personal initiative by the principals but rather driven by district-level guidance and support by each principal through their leadership

Table 5.1 Globally Competent Educational Leadership Framework with Activity Included and Evidence from Study Principals Excerpt

Domain	Tenet	Practice	GCELF Activity	Evidence of Similar Activities
Vision Setting	Shared Mission and Vision	Educational leaders facilitate, advocate, and enact a shared mission and vision of high-quality education that includes preparing students for life, work, and citizenship in a global society.	Commit to incorporating global competence as a lens to their own practice.	Portrait of a Graduate Mission Statements
			Bring stakeholders together to collectively define and incorporate global learning into the school vision, mission, and strategic plans.	Faculty vision posters Student government
			Connect global competence to the needs and priorities of students and the school community.	Curriculum analyzed and developed to support a successful transition after high school graduation
			Model global competence mission and vision through daily actions, communications, and decisions.	Model behaviors for success Global competence is specifically addressed in the missions and portraits of a graduate
			Include global competence as part of school definition of student success, and determine what metrics to use to show how students demonstrate global competence success.	Meeting <b>all</b> students' needs for successful transitions after high school Hiring the best teachers
				Coaching teachers

*Note.* Adapted from “Globally Competent Educational Leadership: A Framework for Leading Schools in a Diverse, Interconnected World,” by A. Tichnor-Wagner and J. Manise. Copyright 2019 by ASCD and the Longview Foundation.

practices. The visions and graduate profiles created in each school district reflect the commitment to produce globally competent graduates. The principals in the study describe their efforts to increase student achievement and preparation for graduation

through modeling and shared leadership. Vision setting, collaboration, and leadership for student achievement are characteristics of instructional and transformational leadership described by researchers and employed by the principals in the study (Bass, 1985; Blasé & Blasé, 1999; Jantzi & Leithwood, 1996; Lashway, 1995; Leithwood, 1992; Marzano et al., 2005; Mendels, 2012; Morris, 2017; Valentine & Prater, 2011).

Through the vision-setting process in each school, the principals lead their schools, focusing on the goals that comprise the graduate profiles for each of their schools. The graduate profiles require progression toward global competency as citizens. The principals model expectations for teachers and students related to the vision for the overall successful production of globally competent graduates. Principals prioritize hiring teachers that are a good fit for their schools and qualified to teach the content necessary for student achievement of the goals in each high school's graduate profile. The documents that apply to this domain are the PISA for Schools, East High School's and North High School's mission statements, North High School's Portrait of a Graduate, and the Student Handbooks. Although these global competence indicators were observed, the level of observation is low. This will be discussed later in this chapter.

**Pedagogy and practice.** The principals were leading toward global competency concerning pedagogy and practice but can add activities that would strengthen the focus. The principals had teachers working actively together in professional learning communities who regularly reviewed and analyzed the curriculum, instruction, and assessments. They focused on achieving the profile of a graduate goals, making this a practice of the GCELF. The principals were fostering professional learning communities (PLC) to encourage teacher collaboration to obtain and give feedback to colleagues about

instructional and assessment strategies for improved student learning, engagement in learning, and ownership of their learning. The PLC environment also allows teachers to give input about decisions impacting the school. The principals discussed working with teachers to structure lessons using the graduate profile goals, performance-based programs, world language programs, standards-based grading, and career pathways. Principals shared that they embrace their roles in reducing barriers for teachers to develop professionally and have the resources necessary to help students graduate prepared for a global society. The documents that contain parts that align with the *Pedagogy and Practice* domain are the PISA for Schools, East High School's and South High School's Portraits of a Graduate, course catalogs, and North High School's Student Handbook.

The areas to strengthen are professional development opportunities related to developing globally competent graduates. The nontraditional professional development requires some creative methods to fund because of budget restrictions (i.e., professional development funds in Kentucky schools were not available or minimal when the study was conducted). It was evident that the principals wanted to help their teachers and students be successful. It was also apparent that a priority of the principals was for graduates to be able to pursue their interests after school and develop plans for students with various challenges to also graduate successfully. Global competency traits were not discussed to a great degree. Principal support includes providing resources, scheduled work times, materials, sufficient people to complete the work, flexibility with teaching methods, mentoring by teacher leaders, and seeking external community assistance and involvement.

**Situated action.** A comparison of the Global Connections and Collaborations tenet and the principals' actions revealed that the three principals do several things to meet the characteristics of the practice. They lead by building relationships with local companies to secure opportunities for their students to engage in co-op programs and internships. Businesses have agreed to allow students at the high schools to participate in co-op programs and send people from their businesses to talk with students about what is required to work in their companies. Many local companies conduct business globally, thus exposing high school students to working in a global business environment. The principals also have Project Lead the Way programs available for their students to have an introduction to engineering practices that can be built upon as students decide their career pathways. In addition, principals seek out resources for hands-on learning, like the Project Lead the Way program. The principals have acquired computers for every student in their buildings to use and teach digital citizenship in classes. One principal facilitates a foreign exchange program for students. These are productive actions within the schools toward producing globally competent graduates. Growth areas include teacher foreign exchange programs and connections with colleagues within the state, national, and international universities and post-secondary programs that support greater global collaborations.

The principals' comments during the interviews and activities posted in their schools evidenced multiple characteristics of the Advocacy and Community Engagement tenet. Table 4.5 (p. 134) shows that they reach out to area businesses to establish co-op and internship programs for their students. The counseling department helps students identify and pursue post-secondary education to prepare for jobs they want. Parents are

asked to participate in career days and discuss academic schedules supporting global awareness with their children (e.g., high school courses and opportunities within the broader community). The schools have career aptitude and exploration computer-based programs called NaviGo and YouScience for students to use while preparing for their post-secondary preparation for jobs. Political and policy advocacy for global competency is mostly addressed at the district level, but the principals support and promote the district initiatives.

The principals involve and inform the community about the efforts to develop globally competent graduates through school publications. The community is invited to participate in Heritage Month programs, career day, and school events. Parents are encouraged to assist their children with career planning. The principals support district-wide global competency initiatives like using PISA for Schools to assess student readiness to compete in a global society. The documents that align with this domain are the most recent version of the PISA for Schools, North High School's mission statement, North High School's and South High School's Portraits of a Graduate, the course catalogs, and the student handbooks.

**Systems and structures.** The three principals perceive equity and inclusivity in similar ways. For example, they talked about equity not meaning equal but assuring each student has equal access to diverse opportunities. Inclusivity was described as accepting everyone regardless of their beliefs, appearance, language, socio-economic characteristics, and ethnicity and involving everyone in available functions without discrimination. The three principals clearly articulate their beliefs and modeling of equity and inclusivity, although none discussed hiring for diversity or global competence.

During the tour of the schools, there was evidence of investments in sewing and fashion design equipment for students to design and sell their creations. Two high schools had coffee bars and catering services through programs that support learning marketing and service; students with disabilities ran one coffee bar. These findings indicate the principals are trying to foster environments that allow all students to learn and make progress toward meaningful work after high school and, to some degree, incorporate global competency practices.

The principals at the high schools indicate that they work toward an equitable and inclusive school environment by ensuring all students have what they need to be successful, regardless of their challenges. The principals said that everyone is accepted and welcomed in their schools. They model this belief by seeking resources to support all students, providing diversity, equity, and inclusivity training for staff, and understanding that students need different solutions from one another based on their personal needs. The principals said they do not tolerate poor treatment of students by other students and address intolerance when it arises. They also structure the master schedule to provide classes and services that meet the needs of all students. The principals encourage discussions with the faculty and the community to move their school programs forward in a cycle of consistent analysis and improvement. The documents that align with codes in the domain are the PISA for Schools, North High School's and South High School's mission statements, South High School's Portrait of a Graduate, North High School's Principal's Message, the course catalogs, and East High School's Student Handbook. As with the other domains, a substantial focus on global competency would improve immersion into practices that produce globally competent graduates.

## PISA for Schools Results

The PISA for Schools is used to gauge the readiness of high school students to compete globally and as an assessment practice toward global competency.

Approximately 74 students are given PISA for Schools each time it is administered for each of the three high schools in the study. The percentage of students assessed each year ranged from 14% to 31% of the age-appropriate students in each high school. The percentage range is over all the PISA for Schools results submitted to me by the principals, a total of 8 test administrations spanning four years. The students usually are 15 years old and sophomores in high school. Table 5.2 compares PISA for Schools scores and the proficiency levels for the three high schools in the study in the tested content areas of mathematics, reading, and science.

Table 5.2 PISA for Schools Analysis: Mean Scores of High Schools Participating in the Study

	PISA for Schools											
	Year 1 (2016-17)			Year 2 (2017-18)			Year 3 (2018-19)			Year 3 (2020-21)		
	Math	Read	Science	Math	Read	Science	Math	Read	Science	Math	Read	Science
East HS				546	525	519	545	537	536			
				L4	L3	L3	L4	L3	L3			
North HS	500	499	525	513	515	498	497	503	513			
	L3	L3	L3	L3	L3	L3	L3	L3	L3			
South HS	519	507	519	519	511	507				501	537	528
	L3	L3	L3	L3	L3	L3				L3	L3	L3

*Note.* The data source is PISA for Schools for each participating high school.

All three schools scored above Level 2 (See Table 5.3), the lowest level of proficiency on PISA for Schools, earning Level 3. East High School earned Level 4 in mathematics, but at the lower range of the cut score for the level. The Level 4 scores were precisely on the lower cut score (545) for Level 4 and one point above the lower cut score on another administration of PISA for Schools.



Table 5.3 2015 PISA Cut Scores

	Reading	Mathematics	Science
Level 6	698+	669+	708+
Level 5	626 - 697	607 - 668	633-707
Level 4	553 - 625	545 - 606	559-632
Level 3	480 - 552	482 - 544	484-558
Level 2	407 - 479	420 - 481	409-483
Level 1a, 1, 1a	335 - 406	358 - 419	335-408
Level 1b, < 1, 1b	262 - 334	< 358	< 335
< Level 1b	< 262		

Source: Educational Research Centre, 2017; OECD, 2017.

Especially when the standard error is considered, all three schools perform similarly to one another. East High School does have slightly higher mathematics scores. The standard error for PISA for Schools results is discussed in detail in Chapter Four.

Selected student characteristics were obtained from the most current school report cards for the three high schools in the study. The characteristics include the percentages of (a) economically disadvantaged, (b) ethnicity, (c) advanced course work completed, and (d) gifted and talented. This information was obtained to yield insight into factors that may affect student achievement besides the leadership practices of the principals. East High School did have a lower percentage of economically disadvantaged students (8.0%) compared to North High School (29.2%) and South High School (45.3%). The ethnicity of the three high schools is similar and likely to be a minor factor for performance results on PISA for Schools. East High School (98.7%) has the highest percentage of students that have completed advanced course work compared to North High School (93.3%) and South High School (96.8%), but East High School's percentage and South High School's percentage is close. East High School (18.8%) has the highest percentage of students identified as gifted and talented compared to North High School (10.4%) and South High School (14.8%). Of these statistics, East High School students have a significant economic advantage compared to North High School and South High

School students. This could contribute to the slightly higher PISA for Schools results from East High School.

In addition, the ACT Composite scores and Kentucky Summative Assessment (KSA), formerly known as Kentucky Performance Rating for Educational Progress (KPREP), scores were reviewed. East High School had the highest ACT Composite scores of the three schools in the study and the highest KSA scores except for on the Science 2018-19 assessment. This information indicates that scoring proficient on PISA for Schools does not necessarily suggest that schools will perform similarly on the ACT or the KSA. Including this information was not to determine if scoring proficient on PISA for Schools would be a predictor for scoring proficient on the ACT or the KSA but to explore factors that may influence PISA for Schools results other than principal leadership practices. The PISA for Schools results for the three high schools are located in Table 5.2. All three high schools perform similarly on PISA for Schools, scoring above the lowest proficiency level of 2, scoring Level 3 overall, and East High School barely scoring into Level 4 in mathematics. These solid proficiency scores indicate that the graduates from the participating high schools are globally competent on tested concepts at a proficient level.

### **GCELF Immersion**

Tichnor-Wagner and Manise (2019) describe three levels of implementation of the GCELF; First Steps, Deeper Dives, and Full Immersion. The immersion levels are applied to each tenet in the framework. The framework's creators give activities that are exemplars for each immersion level but not an exhaustive list of activities. Table 5.4 is an example of activities assigned to the three immersion levels. It illustrates that in the

domain, Situated Actions, under the tenet of Advocacy and Community Engagement, the principals have practices from each level of immersion represented in their schools. I found it was rare to identify practices indicating Full Immersion.

Table 5.4 Example of Level of Immersion in GCELF of Principals in the Study

Level of Immersion	Practice
First Steps	Ensure the school communication is easily accessible in all languages spoken by families in your school community.
Deeper Dive	Provide staff with resources and professional learning opportunities that focus on integrating culturally responsive teaching strategies.
Full Immersion	Integrate the perspectives and feedback of families into school decision-making processes.

*Note.* Adapted from “Globally Competent Educational Leadership: A Framework for Leading Schools in a Diverse, Interconnected World,” by A. Tichnor-Wagner and J. Manise. Copyright 2019 by ASCD and the Longview Foundation.

Table 4.8 contains the immersion level of the high schools in the study. The principal practices were analyzed compared to the GCELF practices, and immersion levels were determined using exemplars in the framework. The categories of immersion are *Not Observed*, *Minimally Observed*, *Partially Observed*, and *Fully Observed*. The table is color-coded to identify the extent of observed immersion. The amount of red (Not Observed) and light blue (Minimally Observed) in the table illustrates that the principals have a great deal of room for growth in the area of employing global competency practices to ensure that high school graduates are ready to compete on every level of life on a global scale.

To illustrate the alignment of the leadership practices of principals from the three high schools in the study, their observed practices were synthesized and compiled in

Table 5.5. Each of the four domains has activities of the principals in the last column of the table that are evidence of their alignment with the GCELF activities.

### Summary

The major theme or pattern that arises from this study is that there are no specific principal leadership practices, as a whole, that produce globally competent graduates, as revealed in this study. However, an *intentional focus* on developing globally competent graduates is necessary due to globalization. Each of the principals demonstrates some evidence of leading their high schools toward developing graduates that meet the goals of the graduate profiles, starting with a shared *vision* as the foundation of the entire process (Green, 2010; Jantzi & Leithwood, 1996; Leithwood & Louis, 2010; Valentine & Prater, 2011). The leaders oversee the *pedagogy and practice* of their schools, attempting to ensure everyone keeps on track to help each graduate be prepared for their next step in life (Hitt & Tucker, 2016; Pont et al., 2008). They include “First Steps” education strategies addressing global connectivity and the importance of interacting with others on a global level (Friedman, 2005).

The assessments are used appropriately as data points to give information to inform their practices and help to educate each student better (Earl, 2007; Goldstein & Lewis, 1996; Manitoba Education, Citizenship and Youth, 2006). The leaders operate in *situated actions* of the school that they initiate and maintain. They provide students opportunities to study and experience life beyond the walls of their high schools and communities through virtual resources, doing co-ops and internships with globally

Table 5.5 Globally Competent Educational Leadership Framework with Evidence of Similar Activities from Study Principals

Domain	Tenet	Practice	GCELF Activity	Evidence of Similar Activities
Vision Setting	Shared Mission and Vision	Educational leaders facilitate, advocate, and enact a shared mission and vision of high-quality education that includes preparing students for life, work, and citizenship in a global society.	Commit to incorporating global competence as a lens to their own practice.	Portrait of a Graduate
			Bring stakeholders together to collectively define and incorporate global learning into the school vision, mission, and strategic plans.	Mission Statements
			Connect global competence to the needs and priorities of students and the school community.	Faculty vision posters
			Model global competence mission and vision through daily actions, communications, and decisions.	Student government
Pedagogy and Practice	Curriculum, Instruction, and Assessment	Educational leaders implement and support curriculum, instruction, and assessment that incorporate and promote the development of each student's global competence.	Include global competence as part of school definition of student success, and determine what metrics to use to show how students demonstrate global competence success.	Curriculum analyzed and developed to support a successful transition after high school graduation
			Support courses, instructional programs, extracurricular programs, and special events that embed global competence.	Model behaviors for success
			Provide resources and ongoing training to help all staff integrate global competence and student diversity into daily instruction across all content areas and grade levels.	Global competence is specifically addressed in the missions and portraits of a graduate
			Provide access to summative and formative assessments that monitor student global competence development and improve instruction.	Meeting all students needs for successful transitions after high school
				Hiring the best teachers
				Coaching teachers
				Structure lessons using portrait of a graduate goals
				Performance-based programs
				World language programs
				Teacher training, facilitate and observe teachers
				Career pathways
				Use of PISA for Schools
				Provide resources
				Reduce barriers
				Standards-based grading

Table 5.5 (continued).

Domain	Tenet	Practice	GCELF Activity	Evidence of Similar Activities
Pedagogy and Practice	Collaborative Professional Community	Educational leaders foster a professional community where school personnel work together to build capacity in developing global competence for each student and staff member.	Expose staff to information on global learning opportunities.	Teachers understand the importance of working together to support student success
			Provide staff time for leading collaborative, innovative work.	Structures in place to allow PLC meeting times
			Provide job-embedded professional development focused on global competence that allows for teacher innovation, experimentation, differentiation, and leadership.	Giving staff input Teaching strategies that help all students meet the portrait of a graduate goal Get and give feedback to each other about instructional strategies
			Provide opportunities for nontraditional professional development that focuses on global competence, such as educator exchanges, micro-credentials, and certificate programs.	Be critical of one another in a professional way
Situated Action	Global Connections and Collaboration	Educational leaders connect and collaborate globally to promote and support each student's academic success, well-being, and global competence development.	Allow staff, students, and administrators to lead their own global learning and learn from and with each other.	
			Seek to build their own global professional learning community.	Area co-op
			Develop partnerships with schools in other regions and countries.	Partnerships with businesses that have international connections Foreign exchange program
			Participate in local, national, and international cross-cultural learning exchanges.	Project Lead the Way program Employee hired to seek out partnerships with businesses

Table 5.5 (continued).

Domain	Tenet	Practice	GCELF Activity	Evidence of Similar Activity
Situated Action	Global Connections and Collaboration	Educational leaders connect and collaborate globally to promote and support each student's academic success, well-being, and global competence development.	Form and maintain relationships with local, national, and international colleagues.  Provide a technology base that allows for global connections and digital citizenship.	1 to 1 computer to student ratio  Require technology use agreement
	Advocacy and Community Engagement	Educational leaders promote student success by advocating for global competence and engaging families, community members, and policymakers for support.	Promote the importance of global learning to key stakeholders, including staff, students, parents, district leaders, school boards, and state policymakers.  Gather input on global initiatives from families, business leaders, and community leaders.  Engage all families as partners for global learning.  Connect to local businesses, universities, community organizations, and cultural initiatives that support global learning.	Use of a public relations company to inform stakeholders  Use the counseling department at the high school to obtain student wants and needs for adult life  Newsletters School events Career day Heritage month Course offering and career pathways publication Support district-wide global competency initiative Provide opportunities for business leaders to visit the school Use of career aptitude programs Asking for resources Asking for parent involvement with their children planning for careers

Table 5.5 (continued).

Domain	Tenet	Practice	GCELF Activity	Evidence of Similar Activity
Systems and Structures	Equity and Inclusivity	Educational leaders strive for equity of access to high-quality global learning opportunities for each student and cultivate an inclusive, caring, and supportive school community that values the cultural and linguistic diversity of each student.	<p>Commit themselves to deep, ongoing integration of principles of diversity, equity, and inclusion in their leadership and organizational infrastructure.</p> <p>Help staff to be reflective and action-oriented about building a culture that includes, cares for, and supports the unique needs of each student and their families.</p> <p>Create an environment that welcomes and accommodates students, families, and staff from culturally and linguistically diverse backgrounds, and utilize the diversity of students, families, and staff as learning assets throughout classroom and schoolwide programming.</p> <p>Establish an ethos of tolerance and civility so that all students, families, and staff feel safe expressing personal opinions, beliefs, and perspectives and engaging in dialogue when instances of intolerance or prejudice occur.</p> <p>Ensure that every student has equitable access to high-quality coursework, programs, and resources that emphasize global competence.</p> <p>Seek to hire and manage a diverse staff committed to preparing each student for</p>	<p>Make sure students have what they need to be successful regardless of their challenges</p> <p>Understanding students are different and need different solutions at times to address their needs</p> <p>Everyone accepted and welcomed</p> <p>Poor treatment of others not tolerated</p> <p>Diversity, Equity, and Inclusivity training with staff</p> <p>Model equity and inclusivity to staff and students</p> <p>Master schedule that provides classes to meet the needs of all students</p> <p>Address intolerance when it arises</p>



Table 5.5 (continued).

Domain	Tenet	Practice	GCELF Activity	Evidence of Similar Activities
Systems and Structures	Equity and Inclusivity	Educational leaders strive for equity of access to high-quality global learning opportunities for each student and cultivate an inclusive, caring, and supportive school community that values the cultural and linguistic diversity of each student.	life, work, and citizenship in a global society.	
	Operations and Management	Educational leaders manage school operations and resources to support staff and student global competence development.	<p>Allocate existing resources towards professional learning and development, instructional materials, and staff positions that support global competence.</p> <p>Support the development of new resources to enhance global competence efforts.</p> <p>Provide staff financial support when they travel abroad for professional teaching, research, and learning (e.g., offering continued insurance coverage, sabbaticals).</p> <p>Review and revise school and district policies to support global learning opportunities.</p>	<p>Money is allocated to produce graduates that meet the goals of the portrait of a graduate</p> <p>Encourage discussions to move the program forward</p> <p>Opportunity to participate in PISA for Schools</p>

*Note.* Adapted from “Globally Competent Educational Leadership: A Framework for Leading Schools in a Diverse, Interconnected World,” by A. Tichnor-Wagner and J. Manise. Copyright 2019 by ASCD and the Longview Foundations.

interactive businesses, and foreign exchange opportunities (Sebring et al., 2006). They open the students' minds to the world's diversity and prepare them to work competitively in that environment. The principals in the study created *systems and structures* to optimize teacher planning and collaboration opportunities for producing graduates that attain success through the goals of their graduate profiles. Moreover, the three principals clearly and firmly articulate their stance concerning equity and inclusivity, that everyone that attends their high schools will have equal access to high-quality instruction and courses to prepare them for post-secondary plans. They also model appropriate treatment of people, regardless of personal characteristics, which applies to staff and students. As the law allows, they secure resources to provide the best school experience possible. Many principal practices were identified that align with the GCELF, but the practices predominantly are at the "First Steps" immersion level of the GCELF. Also, many GCELF activities that may accelerate progress toward developing globally competent graduates were not observed. Table 5.6 contains a sampling of GCELF activities not observed or discussed during the study with the principal. It is not assumed that these or similar activities are not part of the principals' activities; they were not observed or discussed. A suggestion for the principals in the study for improvement toward developing globally competent graduates is to review the activities in Table 5.6 and determine, through self-reflection, if the activities should be considered to add to the activities they already have for leadership toward developing globally competent graduates. Another suggestion is to study the GCELF for practices to implement

Table 5.6 GCELF Activities Not Observed During the Study

Domain	Tenet	Practice	GCELF Activity Not Observed
Pedagogy and Practice	Collaborative Professional Community	Educational leaders foster a professional community where school personnel work together to build capacity in developing global competence for each student and staff member.	<p>Expose staff to information on global learning opportunities.</p> <p>Provide job-embedded professional development focused on global competence that allows for teacher innovation, experimentation, differentiation, and leadership.</p> <p>Provide opportunities for nontraditional professional development that focuses on global competence, such as educator exchanges, micro-credentials, and certificate programs.</p>
Situated Action	Global Connections and Collaborations	Educational leaders connect and collaborate globally to promote and support each student's academic success, well-being, and global competence development.	Seek to build their own global professional learning community.
Systems and Structures	Equity and Inclusivity	Educational leaders strive for equity of access to high-quality global learning opportunities for each student and cultivate an inclusive, caring, and supportive school community that values the cultural and linguistic	Seek to hire and manage a diverse staff committed to preparing each student for life, work, and citizenship in a global society.

Table 5.6 (continued).

Domain	Tenet	Practice	GCELF Activity Not Observed
		diversity of each student.	
	Operations and Management	Educational leaders manage school operations and resources to support staff and student global competence development.	Support the development of new resources to enhance global competence efforts.
			Provide staff financial support when they travel abroad for professional teaching, research, and learning (e.g., offering continued insurance coverage, sabbaticals).

*Note.* Adapted from “Globally Competent Educational Leadership: A Framework for Leading Schools in a Diverse, Interconnected World,” by A. Tichnor-Wagner and J. Manise. Copyright 2019 by ASCD and the Longview Foundation.

that will develop deeper levels of immersion in global competency for graduates.

### **Global Competency Integration**

Reflecting on my study, I am now asking, *What happened to the commitment to global competency integration in Kentucky public schools in the study?* Indicators were present from the national and state levels that global competency is relevant for continued economic growth and civic responsibilities. The indicators include using PISA since 2000 at the national level to assess the preparedness of 15-year-old students to compete academically compared to other countries. Another indicator is the U. S. Department of Education’s objective to increase, in all U. S. students, global and cultural competency (U. S. Department of Education, 2022) stating that:

Global and cultural competencies comprise the knowledge and skills individuals need to be successful in today's interconnected world and to fully engage in and act on issues of global significance. Our students need to be equipped with critical thinking, communication, socioemotional, and language skills in order to work effectively with their counterparts in the United States and around the world. Understanding and appreciating our diverse country and other parts of the world, including different religions, cultures, and points of view, are essential elements of global and cultural competence. (Objective 1)

Although this quote was obtained in 2022, it originated between 2017 and 2021 when Betsy Devos was the United States Secretary of Education.

Looking at Kentucky's stance on global competency, the Kentucky Board of Education published its resolution supporting global competency for Kentucky students on August 7, 2014. In the resolution, they stated the need for global competency education because of the growing need for bilingual and multilingual interpreters for businesses, the increasing number of businesses in Kentucky that have an international presence, and to prepare students for an ever-changing world that is increasingly interconnected creating a need of global and cultural awareness and skills. The Kentucky Department of Education (2022) published its position statement in 2018 to produce the "most globally prepared students in the country" (p. 4). The Kentucky Department of

Education created five objectives to achieve this goal. The objectives were to be in place within five years of their creation, which would be the year 2023. The five objectives are:

1. Ensure that Kentucky's K-12 educators have robust, integrated, and innovative professional development and support for global education.
2. Provide cutting-edge language learning.
3. Transform schools through innovative models of international education that support students in developing the attitudes, skills, and knowledge needed to succeed in a global economy.
4. Provide pathways for district, school, teacher, and student globally competent designations.
5. Partner with local businesses, governments, and communities to advocate for and support for global education. (p. 4)

I found little evidence that these objectives are near achievement. Professional development has received less funding than in previous years. However, it will be essential to have educators prepared to be proficient with globally competent teaching and learning. Kentucky public schools have foreign language classes, but can they be called “cutting-edge”? The third objective has some evidence with programs like Deeper Learning collaborating with the University of Kentucky College of Education. This program seeks to help cohorts of teachers and school administrators transform the way that teaching and learning have been done throughout the U. S. history of education to methods that give students the skills they need to be successful in whatever careers or vocational pursuits they have in a rapidly evolving world.

Globalization is another indicator of a need for globally competent graduates and was discussed in Chapter One. Technologies have developed rapidly, making the

interconnectedness of countries easier, and this connectedness legitimizes the need for globally competent graduates, not only for economic reasons but for environmental, cultural, and national security.

So, what happened to the emphasis on developing globally competent graduates in Kentucky high schools in the study? The obvious answer is that COVID-19 caused a pandemic and shut down Kentucky schools in March 2020. Schools did not begin to open for in-person learning until January 2021. However, many school districts offer virtual learning alternatives to in-person learning. Governor Andy Beshear signed a bill to require some level of in-person schooling to begin by March 29, 2021, for Kentucky school districts still fully virtual (House Bill 208, 2021). Once schools started returning to a level of normalcy, the focus shifted in Kentucky schools from globally competent graduates to the recovery of critical skills and content from academic standards that were not mastered during the pandemic. Now the question becomes, when will Kentucky schools shift back to a global competency focus, for the pandemic revealed the depth of interconnectedness of the world and gives cause for developing globally competent school graduates with problem-solving skills and cultural understanding to tackle global issues that may arise.

### **Contribution of the Study to the Field**

The contribution of this study to the educational leadership field is that it explores the leadership practices of three principals in Kentucky High Schools that are leading toward developing globally competent graduates at the “First Steps” level. The number of

high schools eligible for this study was small, with only 13 high schools. It is a glaring truth that Kentucky administrators must look again at global competency for high school graduates and how this goal may be achieved. This study revealed that this work has been at its beginning stages since at least 2014. Almost a decade has passed, and Kentucky does not have systemic, embedded global competency teaching and learning.

Another contribution to the field is using the GCELf to study principal practices toward developing globally competent graduates. The framework was analyzed with OECD leadership standards (Pont et al., 2008), the Professional Standards for Educational Leaders 2015 (National Policy Board for Educational Administration, 2015), and the Hitt and Tucker (2016) Unified Model of Effective Leadership Practices. The GCELf was found to be aligned with these established leadership standards and practices making it a valid leadership framework for future studies. The data collection tools created can be reused or modified to further study in this area.

### **Limitations**

The main limitation of the study is that it involves only three participants. Four principals were invited to participate in the study, but one district denied the request to do the study in their district, citing the volume of research studies in which they were asked to participate. In addition, one of the principals in the study was in his first year at the high school, limiting personal influence on the school. A small number of participants can limit the generalizability of the study (McMillan & Schumacher, 2010). Another limitation of the study is that it was only done in Kentucky. The study could be



completed in other states in the United States, but education systems vary so drastically that it is impossible to claim similar results to this study. For that matter, results could vary within Kentucky because of the local control that school districts have concerning many aspects of the schools.

The selection of research methods may have limited the study. I cannot be certain without conducting other research methods. However, a focus group to interview or survey teachers and students might yield more evidence of global competency teaching and learning. Classroom observations might also provide more evidence. The pandemic created limitations in access to people in schools. I consider these possible limitations and potential future research ideas to collect more evidence about globally competent teaching and learning and how school administrators lead relative to this part of schooling.

### **Implications**

There is still much work to accomplish toward becoming globally competent schools. However, as shown in this study, evidence exists that these three principals lead toward developing globally competent graduates at the “First Steps” level. They began the work toward globally competent graduates. Then, the pandemic created by Covid-19 halted the work. Now Kentucky schools are in a recovery phase and are likely to be in this phase for at least two more years until 2024 or 2025 (Sparks, 2022). Kentucky schools can accomplish this goal for graduates. However, it will take time and commitment from educational professionals to change how schooling is accomplished.

This study provides insights into the progress of implementing global competency for graduates. Basically, Kentucky administrators in the study stopped focusing on globally competent graduates when schools were shut down due to Covid-19. Now the business of schools is to recover skills and content missed during the pandemic, which will take at least three years and maybe more, especially for gap group populations (Sparks, 2022). Future research is needed to develop ways to implement and embed global competency strategies that school principals can help teachers utilize. Intentional plans need to be developed by school leaders for this process, remembering that what school leaders prioritize gets the focus and resources (Lee & Lee, 2020). Therefore, school leaders need to make developing globally competent graduates a priority.

Barriers exist to this process. For example, schools are very inward-looking, and principals state that time is a factor in having the ability to implement changes focused on instruction (McEwan-Adkins & McEwan-Adkins, 2002). The lack of an aligned mission and vision in a school district can be a barrier or cooperation from teachers. Principals need the opportunity to learn about global competency and why it is important in the education of students. Teachers and administrators are overwhelmed with high-stakes testing and trying to eliminate skills and content deficits created by the Covid-19 pandemic. These barriers can be overcome with commitment from all stakeholders to developing global competency in students. The GCELF contains accounts of how some schools are successfully implementing global education strategies and can be used as a starting point to initiate a custom plan in schools.

Administrators can start to overcome the barriers by analyzing the mission and vision of the school. If global competency is to be achieved, it must be a part of the mission and vision of the school. Second, the curriculum, instruction, and assessments should be reviewed, looking for ways to embed global competency education without creating additional work for teachers. This is not about adding one more thing to do. Third, engage the school stakeholders to have input about implementing global education and determine how the community can provide resources for successful implementation. Fourth, ensure that the school is inclusive and equitable toward all cultures, values, beliefs, linguistic diversity, and abilities to teach students about maximizing peoples' differences for success economically, environmentally, politically, and culturally. Fifth, principals work toward fostering a collaborative professional community that embeds global education practices that may include international exchanges for educators and students, professional development about global education, and the freedom to be innovative in the classroom and experiment with strategies that develop problem-solving skills and the ability to work successfully with groups. Sixth, principals should make connections with other schools and high education institutions to have a community that supports global education and can be a resource. Seventh, ensure technology is available to support global competence education and teach students about appropriate digital citizenship on a global scale. Finally, school district administrators, principals, teachers, students, and other stakeholders should implement policies that support global education.

Future research could also include a synthesis of available research to develop a cohesive plan encompassing global competencies for policy formation, educator training programs for university preparation programs, professional development, curriculum development, and implementation. This is a complex undertaking, but I believe essential for the education of U. S. students. Additional research should be done to inform globally competent education and related policy development.

### **Conclusion**

The study's goals were achieved using the research questions identified for the study. For the most part, the principals are at the "First Steps" level of immersion but dabble in the other two immersion levels. A conclusion is that principals can lead toward graduates that are globally competent as long as principals use research-based and evidence-based practices while intentionally embedding global competency components. Another conclusion is that Kentucky principals, educators, and other stakeholders have a long way to go before global competency education can be achieved. School leaders can start by making global competency a component of their mission and vision statements and building from there.

The theoretical lens for this study was the Globally Competent Educational Leadership: A Framework for Leading Schools in a Diverse, Interconnected World (Tichnor-Wagner & Manise, 2019). As discussed in Chapter Two, the framework was substantiated by foundational leadership practices found in the Professional Standards for Educational Leaders 2015 (NPBEA, 2015), the OECD-supported leadership practices, the

Unified Model of Effective Leadership Practices (Hitt & Tucker, 2016), and an extensive study conducted by the authors of the framework.

The theme that arose out of this study is that *intentionality* toward developing globally competent graduates is the main practice necessary for success. Many of the leadership practices espoused by the principals in the study are expected and supported by the Professional Standards for Educational Leaders 2015 (National Policy Board for Educational Administration, 2015). The connections between the GCELF and the Professional Standards for Educational Leaders 2015 are discussed in Chapter Two. Having these standards already in practice, all that is needed is to add global education to those practices. Knowing that the world is ever increasingly flat (Friedman, 2005), adding the globally competent component to leadership practices seems prudent. Universities should consider adding globally competency leadership practices to the course of study. Also, travel abroad learning opportunities should be utilized when feasible. My passion for global competency education was sparked through participation in an international symposium that rotated between four countries each time it convened. I participated in the symposium held in China. My understanding of global connectedness in education and school leadership was broadened during this experience. I internalized the importance of embracing our global connectedness.

As school leaders, we are on a journey in an ever-changing world to help students achieve at their highest levels in ways that prepare them for life in the 21<sup>st</sup> century. I hope that this study and research results can, in some way, contribute to our understanding of

leadership practices to employ for developing globally competent high school graduates and that this work advances school leadership practices for a globalized world.

## APPENDICES

### APPENDIX ONE: IRB APPROVAL LETTER



Office of Research Integrity  
IRB, RDRC

Modification Review

Approval Ends:  
9/15/2022

IRB Number:  
69706

TO: Marjorie Johnson, PhD  
College of Education  
PI phone #: 8596080323  
  
PI email: marjorie.johnson@uky.edu

FROM: Chairperson/Vice Chairperson  
Nonmedical Institutional Review Board (IRB)

SUBJECT: Approval of Modification Request  
DATE: 9/22/2021

On 9/22/2021, the Nonmedical Institutional Review Board approved your request for modifications in your protocol entitled:

PRINCIPAL LEADERSHIP PRACTICES AT KENTUCKY HIGH SCHOOLS ADMINISTERING THE PISA FOR SCHOOLS: LEADING FOR GLOBAL COMPETITIVENESS

If your modification request necessitated a change in your approved informed consent/assent form(s), the new IRB approved consent/assent form(s) to be used when enrolling subjects can be found on the approved application's landing page in E-IRB. [Note, subjects can only be enrolled using consent/assent forms which have a valid "IRB Approval" stamp unless special waiver has been obtained from the IRB.]

Note that at Continuation Review, you will be asked to submit a brief summary of any modifications approved by the IRB since initial review or the last continuation review, which may impact subject safety or welfare. Please take this approved modification into consideration when preparing your summary.

For information describing investigator responsibilities after obtaining IRB approval, download and read the document "[PI Guidance to Responsibilities, Qualifications, Records and Documentation of Human Subjects Research](#)" available in the online Office of Research Integrity's [IRB Survival Handbook](#). Additional information regarding IRB review, federal regulations, and institutional policies may be found through [ORI's web site](#). If you have questions, need additional information, or would like a paper copy of the above mentioned document, contact the Office of Research Integrity at 859-257-9428.

seeblue.

405 Kinkaid Hall | Lexington, KY 40506-0057 | P: 859-257-9428 | F: 859-257-8995 | [www.research.uky.edu/ori/](http://www.research.uky.edu/ori/)

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## IRB APPROVAL CONTINUATION LETTER



Office of Research Integrity  
IRB, RDRC

XP Annual Administrative Review

Approval Ends:  
8/29/2023

IRB Number:  
69706

TO: Marjorie Johnson, PhD  
College of Education  
PI phone #: 8596080323  
PI email: marjorie.johnson@uky.edu

FROM: Chairperson/Vice Chairperson  
Nonmedical Institutional Review Board (IRB)

SUBJECT: Approval for Continuation

DATE: 8/30/2022

On 8/30/2022, the Nonmedical Institutional Review Board approved your protocol entitled:

**PRINCIPAL LEADERSHIP PRACTICES AT KENTUCKY HIGH SCHOOLS ADMINISTERING THE PISA FOR SCHOOLS: LEADING FOR GLOBAL COMPETITIVENESS**

Approval is effective from 8/30/2022 until 8/29/2023 and extends to any consent/assent form, cover letter, and/or phone script. If applicable, the IRB approved consent/assent document(s) to be used when enrolling subjects can be found in the "All Attachments" menu item of your E-IRB application. [Note, subjects can only be enrolled using consent/assent forms which have a valid "IRB Approval" stamp unless special waiver has been obtained from the IRB.] Prior to the end of this period, you will be sent an Administrative Annual Review (AAR) request which must be completed and submitted to the Office of Research Integrity so that the protocol can be reviewed and approved for the next period.

In implementing the research activities, you are responsible for complying with IRB decisions, conditions and requirements. The research procedures should be implemented as approved in the IRB protocol. It is the principal investigator's responsibility to ensure any changes planned for the research are submitted for review and approval by the IRB prior to implementation. Protocol changes made without prior IRB approval to eliminate apparent hazards to the subject(s) should be reported in writing immediately to the IRB. Furthermore, discontinuing a study or completion of a study is considered a change in the protocol's status and therefore the IRB should be promptly notified in writing.

For information describing investigator responsibilities after obtaining IRB approval, download and read the document "[PI Guidance to Responsibilities, Qualifications, Records and Documentation of Human Subjects Research](#)" available in the online Office of Research Integrity's [IRB Survival Handbook](#). Additional information regarding IRB review, federal regulations, and institutional policies may be found through [ORT's web site](#). If you have questions, need additional information, or would like a paper copy of the above mentioned document, contact the Office of Research Integrity at 859-257-9428.

seeblue.

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## APPENDIX TWO: CONSENT TO PARTICIPATE IN A RESEARCH STUDY



### Consent to Participate in a Research Study

IRB Approval  
9/22/2021  
IRB # 69706  
NMED

#### **KEY INFORMATION FOR: Principal Leadership Practices at Kentucky High Schools Administering the PISA for Schools: Leading for Global Competitiveness**

I am asking you to choose whether or not to volunteer for a research study about principal leadership practices in Kentucky high schools that use the PISA for Schools, have a graduate profile, and seem to be leading toward global competency of high school graduates. I am asking you because you are a principal at a Kentucky high school that meets the afore mentioned conditions. This page is to give you key information to help you decide whether to participate. I have included detailed information after this page. Please ask me any questions while deciding about your participation. If you have questions later, my contact information is below.

#### **WHAT IS THE STUDY ABOUT AND HOW LONG WILL IT LAST?**

The purpose of the study is to obtain data about principal leadership practices that align with the Globally Competent Educational Leadership framework (Tichnor-Wagner & Manise, 2019). By doing this study, I hope to identify what principal leadership practices contribute to developing globally competent high school graduates as evidenced on the PISA for Schools in the identified Kentucky high schools. The time commitment for your participation in this study is minimal requiring approximately 3-5 hours total for an audio recorded interview, tour of the school, and review of the interview transcript for accuracy.

#### **WHAT ARE KEY REASONS YOU MIGHT CHOOSE TO VOLUNTEER FOR THIS STUDY?**

You will not get personal benefit from taking part in this study other than the study results.

#### **WHAT ARE KEY REASONS YOU MIGHT CHOOSE NOT TO VOLUNTEER FOR THIS STUDY?**

There are no reasons to not participate in this study because no adverse effects are expected, either personal, financial, or professionally. You will not be identified, nor will the high school of which you are the principal.

#### **DO YOU HAVE TO TAKE PART IN THE STUDY?**

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any services, benefits, or rights you would normally have if you choose not to volunteer.

#### **WHAT IF YOU HAVE QUESTIONS, SUGGESTIONS OR CONCERNS?**

If you have questions, suggestions, or concerns regarding this study or you want to withdraw from the study contact Marjorie Johnson, Doctoral Candidate of the University of Kentucky, Department of Educational Leadership at [marjorie.johnson@uky.edu](mailto:marjorie.johnson@uky.edu) or 859-608-0323.

If you have any concerns or questions about your rights as a volunteer in this research, contact staff in the University of Kentucky (UK) Office of Research Integrity (ORI) between the business hours of 8am and 5pm EST, Monday-Friday at 859-257-9428 or toll free at 1-866-400-9428.

**DETAILED CONSENT:****ARE THERE REASONS WHY YOU WOULD NOT QUALIFY FOR THIS STUDY?**

You must be a principal at a selected Kentucky high school and be 18 years of age or older.

**WHERE WILL THE STUDY TAKE PLACE AND WHAT IS THE TOTAL AMOUNT OF TIME INVOLVED?**

The research procedures will be conducted at your high school when it is convenient for you. I plan to be at your school long enough to complete a 23-question audio recorded interview, tour the school, and review PISA for Schools scores from the latest three administrations. The total amount of time you will be asked to volunteer for this study is 3-5 hours. Besides the day I am at your high school, I will ask you to review the transcript of your interview for accuracy when it is available.

**WHAT WILL YOU BE ASKED TO DO?**

I am asking you to schedule a time with me to complete an audio recorded interview about your leadership practices relative to the Globally Competent Educational Leadership framework (Tichnor-Wagner & Manise, 2019). I also want to tour the high school noting the culture and atmosphere outside the school and in the front office, hallways, cafeteria, classrooms, and media/library area. I want to record results of the latest three PISA for Schools assessments. Once your audio recorded interview has been transcribed, I will send it to you electronically for your review.

**WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?**

To the best of my knowledge, the things you will be doing have no more risk of harm than you would experience in everyday life. Your audio recorded interview will be sent to a professional transcriptionist and the transcribed interview coded using Dedoose, a web-based application that secures data with high levels of encryption as stated on the webpage at dedoose.com. The program is designed to allow coding and identify patterns in the data in one secure place while analyzing it.

**WILL YOU BENEFIT FROM TAKING PART IN THIS STUDY?**

You will not get any personal benefit from taking part in this study other than the study results.

**WHAT WILL IT COST YOU TO PARTICIPATE?**

There are no costs associated with taking part in this study.

**WHO WILL SEE THE INFORMATION THAT YOU GIVE?**

This study will be reviewed by my dissertation committee and available to readers through the University of Kentucky dissertations. However, neither you nor your school will be identified. The name of the high school is only being used to connect principal responses with school

observation data and the PISA for School results and will only be seen by the primary researcher.

While I will make every effort to safeguard your data, as with anything involving the Internet, I can never guarantee the confidentiality of the data while still on the data analysis company's servers, or while en route to either them or me. Third-party applications used in this study may have Terms of Service and Privacy policies outside of the control of the University of Kentucky. I will be using Dedoose, a data analysis software. It is important to note that any data collection process undertaken through the use of third-party software comes with potential risks. Included among these risks is a potential breach of confidentiality. I will take all available precautions to prevent this from occurring, although I cannot guarantee that your identity will never become known.

We (myself and University of Kentucky people related to the study) will keep confidential all research records that identify you to the extent allowed by law. However, there are some circumstances in which we may have to show your information to other people. For example, the law may require us to show your information to a court or to tell authorities if you report information about a child being abused or if you pose a danger to yourself or someone else. Also, we may be required to show information which identifies you to people who need to be sure we have done the research correctly; these would be people from such organizations as the University of Kentucky.

#### **CAN YOU CHOOSE TO WITHDRAW FROM THE STUDY EARLY?**

You can choose to leave the study at any time.

#### **WILL YOU RECEIVE ANY REWARDS FOR TAKING PART IN THIS STUDY?**

You will not receive any rewards or payment for taking part in the study.

#### **WILL YOU BE GIVEN INDIVIDUAL RESULTS FROM THE RESEARCH TESTS/SURVEYS?**

You will have access to the results of this study.

#### **WHAT ELSE DO YOU NEED TO KNOW?**

If you volunteer to take part in this study, you will be one of four people to do so.

I am being guided in this research by Professor Tricia Brown-Ferrigno. Her contact email is [tricia.ferrigno@uky.edu](mailto:tricia.ferrigno@uky.edu). There may be other people assisting at different times during the study, but they will not have access to your identification.

#### **WILL YOUR INFORMATION BE USED FOR FUTURE RESEARCH?**

Currently, future use of the study results is not planned. If this plan changes and the study results are used for future studies, all identifiable information will be removed from the information collected in this study. After all identifiers are removed, the information may be

used for future research or shared with other researchers without your additional informed consent.

#### INFORMED CONSENT SIGNATURES

**This consent includes the following:**

- Key Information Page
- Detailed Consent

**You are the subject or are authorized to act on behalf of the subject. You will receive a copy of this consent form after it has been signed.**

_____ <b>Signature of research subject</b>	_____ <b>Date</b>
_____ <b>Printed name of research subject</b>	
_____ <b>Printed name of person obtaining informed consent</b>	_____ <b>Date</b>

## **APPENDIX THREE: STUDY INSTRUMENTS**

### **PRINCIPAL INTERVIEW QUESTIONS**

Prior to the interview the researcher:

- Reminds the interviewee of the purpose of the study.  
The purpose of this study is to explore Kentucky high school principal leadership practices toward preparing high school graduates for global competence including the economic competitiveness attribute espoused by the OECD (OECD, 2020) and the principals' experiences that led to a global competency path for graduates.
- Obtains consent to participate in the interview.
- Informs the interviewee that the interview will be recorded to ensure correct and complete responses are obtained.
- Reminds the interviewee that his or her responses will be kept confidential.

The following are questions the researcher asks each principal. The questions are organized by each leadership framework domain. The final questions are about their use of PISA for Schools.

#### **Vision Setting**

1. Describe your leadership style or model.
2. Describe how the global competency focus developed.
3. In what ways does the mission and vision of your school align with producing globally competent graduates?
4. Describe your leadership practices toward fulfilling the school mission/vision.

#### **Pedagogy and Practice**

##### **Curriculum, Instruction, Assessment**

5. How do you implement global competency attributes in the curriculum, instruction, and assessment?

6. In what ways do you support global competency attributes in the curriculum, instruction, and assessment?

#### Collaborative Professional Community

7. What does it mean to you to foster a professional learning community?
8. What is the professional learning community in this school focusing on at this time?
9. How do you lead the professional learning community to develop global competence for each student and staff member?

#### Situated Action: Connecting Local and Global

##### Global connections and collaborations

10. Describe any global connections, collaborations, and/or partnerships active at the school (e.g., with schools in other countries, other school districts)?
11. What is your role in developing global connections, collaborations, and/or partnerships?

##### Advocacy and community engagement

12. What do you do to inform the community and stakeholders about global learning and competencies for students?
13. What is your involvement in engaging the community and stakeholders to contribute in some way to global learning and competencies for students?

#### Systems and Structures

##### Equity and inclusivity

14. What does it mean to be equitable?
15. What does it mean to be inclusive?

16. How do you ensure equity and inclusivity within the school?

#### Operations and management

17. How do you leverage resources (instructional, human resources, time) to support global competency for students?

#### PISA for Schools

18. How long have you been administering the PISA for Schools?

19. How did use of the PISA for Schools come about?

20. What are the advantages of using the PISA for Schools?

21. What are the disadvantages of using the PISA for Schools?

22. Is the use of PISA for Schools planned to be permanent?

23. How do the PISA for Schools results inform instructional decisions toward global competency?

## **WALK-THROUGH INSTRUMENT**

HS \_\_\_\_\_

DATE: \_\_\_\_\_

Observer: Marjorie Johnson

Outside

Front Office

Hallways

Cafeteria

Classrooms

Media Center



## **DOCUMENT IDENTIFICATION FORM**

Title:

Author:

# of Pages:

Content Summary:

Global Competency:

Codes:

## REFERENCES

- The Annie E. Casey Foundation (2018). *Kids count data book: More than 3 million students have repeated a grade*. Baltimore, Maryland: The Annie E. Casey Foundation. Retrieved <https://datacenter.kidscount.org/updates/show/198-more-than-3-million-students-have-repeated-a-grade>
- Asia Society. (2022a). *What is global competence?* Retrieved from <https://asiasociety.org/education/what-global-competence>
- Asia Society. (2022b). *About Asia Society: Navigating shared futures*. Retrieved from <https://asiasociety.org/about>
- Auld, E., & Morris, P. (2019). Science by streetlight and the OECD's measure of global competence: A new yardstick for internationalisation? *Policy Futures in Education*, 17(6), 677–698. <https://doi.org/10.1177/1478210318819246>
- Bamburg, & Andrews, R. L. (1991). School Goals, Principals, and Achievement. *School Effectiveness and School Improvement*, 2(3), 175–191. <https://doi.org/10.1080/0924345910020302>
- Bartell. (1989). Outstanding Secondary Principals Reflect on Instructional Leadership. *The High School Journal*, 73(2), 118–128.
- Bass, B. (1985). *Leadership and performance beyond expectations*. New York, NY: The Free Press.
- Bass, B., & Avolio, B. (Eds.) (1994). *Improving organizational effectiveness through transformational leadership*. Thousand Oaks, CA: Sage.
- Becker, J. R., & Perl, T. (2003). The mathematics education community's response to a diverse and changing student population. In G. M. A. Stanic & J. Kilpatrick (Eds.), *A history of school mathematics* (vol. II, pp. 1085-1142). Reston, VA: National Council of Teachers of Mathematics.
- Bennett, W. J. (1988). *American education: Making it work*. Washington, DC: United States Department of Education.
- Berger, N., & Archer, J. (2016). School socio-economic status and student socio-academic achievement goals in upper secondary contexts. *Social Psychology of Education*, 19(1), 175–194. <https://doi.org/10.1007/s11218-015-9324-8>

- Berry, R. (2008). *Assessment for learning*. Hong Kong: Hong Kong University Press.
- Bickman, L., & Rog, D. J. (2009). *The SAGE handbook of applied social research methods* (2nd ed.). Los Angeles: SAGE.
- Bishop, A. J. (2008). Mathematical power to the people. In P. Clarkson & N. Presmeg (Eds.), *Critical issues in mathematics education*. (pp. 151-165). New York, NY: Springer.
- Blasé, J. & Blasé, J. R. (1994). *Empowering teachers: What successful principals do*. Thousand Oaks, CA: Corwin Press.
- Bloom, C. M., & Owens, E. W. (2013). Principals' perception of influence on factors affecting student achievement in low- and high-achieving urban high schools. *Education and Urban Society*, 45(2), 208–233.  
<https://doi.org/10.1177/0013124511406916>
- Bowen, Glenn A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27-40. DOI 10.3316/QRJ0902027
- Bracey, G. W. (2009). *Education hell: Rhetoric vs. reality: Transforming the fire consuming America's schools*. Alexandria, VA: Educational Research Service.
- Broadfoot, P. (1996). Assessment and learning: Power or partnership? In H. Goldstein & T. Lewis (Eds.), *Assessment: Problems, developments and statistical issues* (pp. 21-40). West Sussex, England: John Wiley & Sons.
- Broer, M., Bai, Y., & Fonseca, F. (2019). *Socioeconomic inequality and educational outcomes evidence from twenty years of TIMSS* (1st ed. 2019.). Cham: Springer International Publishing. <https://doi.org/10.1007/978-3-030-11991-1>
- Bruce, M. G. (1991). Developing a global perspective: Strategies for teacher education programs. *Journal of Teacher Education*, 42(1), 21-27.
- Bruner, J. (1960). *The process of education*. Cambridge, MA: Harvard Press.
- Burns, J. M. (1978). *Leadership*. New York, NY: Harper & Row.
- Bush, T. (2004). The global significance of educational leadership and management. *Educational Management, Administration and Leadership*. 32(4), 363-368.  
doi: 10.1177/1741143204046492

- Cabus, S. J., & DeWitte, K. (2010). Does school time matter? On the impact of compulsory education age on school dropout. *Economics of Education Review*, 30(6), 1384-1398. Retrieved from [www.elsevier.com/locate/econedurev](http://www.elsevier.com/locate/econedurev)
- Carl, I. M. (2003). Inescapable voices: Listening to the possible in school mathematics reform. In G. M. A. Stanic & J. Kilpatrick (Eds.), *A history of school mathematics* (Vol. II, pp. 1143-1164). Reston, VA: National Council of Teachers of Mathematics.
- Carminati, L. (2018). Generalizability in Qualitative Research: A Tale of Two Traditions. *Qualitative Health Research*, 28(13), 2094–2101. <https://doi.org/10.1177/1049732318788379>
- Carnoy, M., & Rothstein, R. (2013). *What do international tests really show about U.S. student performance?* Washington, DC: Economic Policy Institute.
- Castillo-Montoya, M. (2016). Preparing for interview research: The interview protocol refinement framework. *Qualitative Report*, 21(5), 811–. <https://doi.org/10.46743/2160-3715/2016.2337>
- Childress, S. M., Doyle, D. P., & Thomas, D. A. (2009). *Leading for equity: The pursuit of excellence in Montgomery County Public Schools*. Cambridge, MA: Harvard Education Press.
- The College Board. (2013). *FAQ's*. New York, NY: The College Board. Retrieved from <http://press.collegeboard.org/sat/>
- Common Core State Standards Initiative. (2017). Development process. Washington, DC: Council of Chief State School Officers. Retrieved from <http://www.corestandards.org/about-the-standards/development-process/>
- Cotton, K. (2003). *Principals and student achievement: What the research says*. Association for Supervision & Curriculum Development.
- Coxford, A. F., & Jones, P. S. (eds.) (1970). *A history of mathematics education in the United States and Canada*. Washington, DC: National Council of Teachers of Mathematics.
- Craig, W., & Hopkins, D. (2018). Theories of action: Teacher practice and student achievement. Retrieved from <https://nzeals.org.nz/pdfs/david-hopkins/Theories%20of%20action.pdf>

- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed-methods approaches* (4th ed.). Thousand Oaks, CA: Sage.
- Crow, G. M., Matthews, L. J., & McCleary, L. E. (1996). *Leadership: A relevant and realistic roll for principals*. Larchmont, NY: Eye on Education.
- Dall, A. (2012). Is PISA counter-productive to building successful educational systems? *Social Alternatives*, 30(4), 10-14.
- Darling-Hammond, L. (1990). Achieving our goals: Superficial or structural reforms? *The Phi Delta Kappan*, 72(4), 286-295.
- Data USA. (2022). *Profile*. Retrieved from <https://datausa.io/>
- Day, C., Gu, Q., & Sammons, P. (2016). The impact of leadership on student outcomes: How successful school leaders use transformational and instructional strategies to make a difference. *Educational Administration Quarterly*, 52(2), 221–258. <https://doi.org/10.1177/0013161X15616863>
- Dhuey, E., & Smith, J. D. (2014). How important are school principals in the production of student achievement? *The Canadian Journal of Economics*, 47(2), 634–663. <https://doi.org/10.1111/caje.12086>
- Dhuey, E., & Smith, J. (2018). How school principals influence student learning. *Empirical Economics*, 54(2), 851–882. <https://doi.org/10.1007/s00181-017-1259-9>
- Dimmock, C., & Walker, A. (2005). *Educational leadership: Culture and diversity*. Thousand Oaks, CA: SAGE.
- Divine, R. A. (1993). *The Sputnik challenge*. New York: Oxford University Press, Incorporated.
- Dobbins, M., & Martens, K. (2010). A contrasting case-the U.S.A. and its weak response to internationalization processes in education policy. In K. Martens, A. Nagel, M. Windzio, & A. Weymann (Eds.), *Transformation of education policy* (pp. 179-195). New York, NY: Palgrave Macmillan.

- Dodge, A. (2009). Heuristics and NCLB standardized tests: A convenient lie. *International Journal of Progressive Education*, 5(2), 1-19.
- Dossey, J. A. (2003). Large-scale assessments: National and international. In G. M. A. Stanic & J. Kilpatrick (Eds.), *A history of school mathematics* (Vol. II, pp. 1435-1490). Reston, VA: National Council of Teachers of Mathematics.
- Dwyer, D. C. (1984). The Search for Instructional Leadership: Routines and Subtleties in the Principal's Role. *Educational Leadership*, 41(5), 32-37.
- Earl, L. M. (2003). *Assessment as learning: Using classroom assessment to maximize student learning*. Thousand Oaks, CA: Corwin Press.
- Earl, L. M. (2007). Assessment as learning. In W. D. Hawley & D. L. Rollie (Eds.), *The keys to effective schools: Educational reform as continuous improvement* (2nd ed., pp. 85-98). Thousand Oaks, CA: Corwin Press.
- Edmonds, R. (1979). Effective schools for the urban poor. *Educational Leadership*, 37, 15-24.
- Educational Research Centre. (2017). *Proficiency levels in assessments of reading and mathematics: Descriptions of the skills of students at different levels of proficiency in the National Assessments of English Reading and Mathematics (NAERM) and the Programme for International Students Assessment (PISA)*. Dublin, Ireland: Author. Retrieved from <http://www.erc.ie/wp-content/uploads/2017/05/PISA-NAERM-Proficiency-levels.pdf>
- Eisner, E. W. (1991). *The enlightened eye: Qualitative inquiry and the enhancement of educational practice*. Toronto: Collier Macmillan Canada.
- Ellis, W. E. (William E. (2011). *A history of education in Kentucky*. Lexington, KY: University Press of Kentucky.
- Felch, C. (2016). Preparing the next generation of global leaders: How principals in international studies high schools promote global competence. ProQuest Dissertations Publishing.
- Ferrini-Mundy, J., & Graham, K. J. (2003). The education of mathematics teachers after World War II: Goals, programs, and practices. In G. M. A. Stanic & J. Kilpatrick (Eds.), *A history of school mathematics* (Vol. II, pp. 1193-1310). Reston, VA: National Council of Teachers of Mathematics.

- Fleischman, H. L., Hopstock, P. J., Pelczar, M. P., & Shelley, B. E. (2010). *Highlights from PISA 2009: Performance of U.S. 15-year-old students in reading, mathematics, and science literacy in an international context* (NCES 2011-004). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.
- Friedman, T. (2005, September 9). New York Times columnist, speaking at the Lee Kuan Yew School of Public Policy at the National University of Singapore [Video file]. Retrieved from <http://www.youtube.com/watch?v=UcK3b9qIBfk>
- Friedman, T. L., & Mandelbaum, M. (2012). *That used to be us: How America fell behind in the world it invented and how we can come back*. New York, NY: Picador.
- Fullan, M. (2011). *Seminar paper 204: Choosing the wrong drivers for whole system reform*. East Melbourne Victoria, AU: Center for Strategic Education
- Gentilucci, & Muto, C. C. (2007). Principals' Influence on Academic Achievement: The Student Perspective. *NASSP Bulletin*, 91(3), 219–236. <https://doi.org/10.1177/0192636507303738>
- Gibson-Graham, J. K. (1996). *The end of capitalism (as we know it): A feminist critique of political economy*. Cambridge, MA: Blackwell.
- Gilliom, E. M., & Farley, J. R. (1990). Needed: More effective teacher education for a global age. *NASSP Bulletin*, 74(522), 69-73.
- Glatthorn, A. A. (2000). *The principal as curriculum leader: Shaping what is taught & tested* (2nd ed.). Thousand Oaks, CA: Corwin Press.
- Glatthorn, A. A., & Jailall, J. M. (2009). *The principal as curriculum leader: Shaping what is taught & tested* (3rd ed.). Thousand Oaks, CA: Corwin Press.
- Goldstein, H., & Lewis, T. (1996). The scope of assessment. In H. Goldstein & T. Lewis (Eds.), *Assessment: Problems, developments and statistical issues* (pp. 1-7). West Sussex, England: John Wiley & Sons, Ltd.
- Goodlad, J. I. (2004). *A place called school*. New York, NY: McGraw-Hill.
- Gordon, M. F., & Hart, H. (2022). How strong principals succeed: improving student achievement in high-poverty urban schools. *Journal of Educational Administration*, 60(3), 288–302. <https://doi.org/10.1108/JEA-03-2021-0063>

- Grant, A. (2019). *Doing excellent social research with documents: Practical examples and guidance for qualitative researchers*. New York: Routledge.
- Green, R. L. (2010). *The four dimensions of principal leadership: A framework for leading 21st century schools*. Boston, MA: Allyn & Bacon.
- Grissom, J., & Loeb, S. (2011). Triangulating Principal Effectiveness: How Perspectives of Parents, Teachers, and Assistant Principals Identify the Central Importance of Managerial Skills. *American Educational Research Journal*, 48(5), 1091-1123.
- Guskey, T. R. (2007). Leadership in the age of accountability. *Educational Horizons*, 86(1), 29-34.
- Haladyna, T. M. (2006). Perils of standardized achievement testing. *Educational Horizons*, 85(1), 30-43.
- Hallinger, P., & Heck, R. H. (1996). Reassessing the principal's role in school effectiveness; A review of empirical research, 1980-1995. *Educational Administration Quarterly*, 32(1), 5-44.
- Hallinger, P. and R. Heck (1998). Exploring the principal's contribution to school effectiveness: 1980-1995. *School Effectiveness and School Improvement*, 9(2), 157-191.
- Handwerk, P., Tognatta, N., Coley, R. J., & Gitomer, D. H., (2008). *Access to success: Patterns of advanced placement participation in U.S. high schools*. Princeton, NJ: Educational Testing Service.
- Hanushek, E. A., Peterson, P.E., & Woessmann, L. (2010). *U. S. math performance in global perspective: How well does each state do at producing high-achieving students?* Cambridge, MA: Harvard Kennedy School.
- Hatch, J. A. (2002). *Doing qualitative research in education settings*. Albany, NY: State University of New York Press.
- Heck, R. H. (1992). Principals' Instructional Leadership and School Performance: Implications for Policy Development. *Educational Evaluation and Policy Analysis*, 14(1), 21-34. <https://doi.org/10.2307/1164525>
- Heck, R. H. (2004). *Studying educational and social policy: Theoretical concepts and research methods*. Mahwah, NJ: Lawrence Erlbaum.



- Henry, S. S. (2011). *Principals' use of assessment data to drive student academic achievement*. ProQuest Dissertations Publishing.
- Hitt, D. H., & Tucker, P. D. (2016). Systematic Review of Key Leader Practices Found to Influence Student Achievement: A Unified Framework. *Review of Educational Research*, 86(2), 531–569. <https://doi.org/10.3102/0034654315614911>
- Holliday, T. (2012, February 3). *Raising the dropout age*. Frankfort, KY: Department of Education.
- House Bill 208, Kentucky General Assembly, 2021 Regular Session, (KY 2021).
- Hunter, W. D. (2004). *Knowledge, skills, attitudes, and experiences necessary to become globally competent*. ProQuest Dissertations Publishing.
- Hunter, B., White, G. P., & Godbey, G. C. (2006). What does it mean to be globally competent? *Journal of Studies in International Education*, 10(3), 267–285. <https://doi.org/10.1177/1028315306286930>
- Hurst, S., Arulogun, O. S., Owolabi, M. O., Akinyemi, R., Uvere, E., Warth, S., & Ovbiagele, B. (2015). Pretesting qualitative data collection procedures to facilitate methodological adherence and team building in Nigeria. *International Journal of Qualitative Methods*, 15, 53-64.
- International Study Center. (2012). *About TIMSS and PIRLS*. Chestnut Hill, MA: International Association for the Evaluation of Educational Achievement. Retrieved from [http://timssandpirls.bc.edu/home/pdf/TP\\_About.pdf](http://timssandpirls.bc.edu/home/pdf/TP_About.pdf)
- Institute for Education Sciences. (2012a). *National Assessment of Educational Progress (NAEP)*. Washington, DC: Author. Retrieved from <http://nces.ed.gov/nationsreportcard/about/>
- Institute for Education Sciences. (2012b). *Program for International Assessment (PISA)*. Washington, DC: Author. Retrieved from <http://nces.ed.gov/surveys/pisa/index.asp>
- Investopedia. (2016). *What is GDP and why is it so important economists and investors?* New York, NY: Author. Retrieved from <http://www.investopedia.com/ask/answers/199.asp>
- Jacob, S. H. (1984). *Foundations for Piagetian education*. Lanham, MD: University Press of America.

- Jacobson, S. (2011). Leadership effects on student achievement and sustained school success. *International Journal of Educational Management*, 25(1), 33–44.  
<https://doi.org/10.1108/09513541111100107>
- Jantzi, D., & Leithwood, K. (1996). Toward an explanation of variation in teachers' perceptions of transformational school leadership. *Education Administration Quarterly*, 32(4), 512-438.
- Kafele, B. K. (2015). *The principal 50: Critical leadership questions for inspiring schoolwide excellence*. Alexandria, VA: ASCD.
- Keitel, C., & Vithal, R. (2008). Mathematical power as political power-the politics of mathematics education. In P. Clarkson and N. Presmeg (Eds.), *Critical issues in mathematics education*. (pp. 167-188). New York, NY: Springer.
- Kentucky Board of Education. (2014). *Resolution supporting global readiness for Kentucky students*. Retrieved from  
[https://education.ky.gov/curriculum/conpro/glocomp/Documents/KBE\\_Resolution\\_Global\\_Readiness\\_for\\_Kentucky\\_Students.pdf](https://education.ky.gov/curriculum/conpro/glocomp/Documents/KBE_Resolution_Global_Readiness_for_Kentucky_Students.pdf)
- Kentucky Department of Education. (2014). *Every child globally prepared for success: Kentucky's global education position statement* [Position statement]. Retrieved from  
[https://education.ky.gov/curriculum/conpro/glocomp/Documents/Global\\_Comp\\_WL\\_Position\\_Statement.pdf](https://education.ky.gov/curriculum/conpro/glocomp/Documents/Global_Comp_WL_Position_Statement.pdf)
- Kentucky Department of Education. (2020). *School report card*. Frankfort, KY: Author. Retrieved from <https://www.kyschoolreportcard.com/home?year=2019>
- Kentucky Department of Education. (2022a). *Global competency*. Retrieved from  
<https://education.ky.gov/curriculum/conpro/glocomp/Pages/default.aspx>
- Kentucky Department of Education. (2022b). *Kentucky education facts*. Frankfort, KY: Author. Retrieved from <https://education.ky.gov/comm/edfacts/Pages/default.aspx>
- Kifer, E. (2001). *Large-scale assessment: Dimensions, dilemmas, and policy*. Thousand Oaks, CA: Corwin Press, Inc.
- Kirst, M. W., & Wirt, F. M. (2009). *The political dynamics of American education* (4th ed.). Richmond, CA: McCutchan.

- Knip, W. M. (1989). Social studies within a global education. *Social Education*, 53(6), 399.
- Kohlberg, L., & Mayer, R. (1972). Development as the aim of education. *Harvard Educational Review*, 42(4), 449-496.
- Kraft, M. A., Marinell, W. H., & Shen-Wei Yee, D. (2016). School organizational contexts, teacher turnover, and student achievement: Evidence from panel data. *American Educational Research Journal*, 53(5), 1411–1449. <https://doi.org/10.3102/0002831216667478>
- The Lane Report. (February 21, 2020). *Hundreds of companies headquartered and invested in NKY region*. Retrieved from <https://www.lanereport.com/>
- Lappan, G., & Wanko, J. J. (2003). The changing roles and priorities of the federal government in mathematics education in the United States. In G. M. A. Stanic & J. Kilpatrick (Eds.), *A history of school mathematics* (Vol. II, pp. 897-930). Reston, VA: National Council of Teachers of Mathematics.
- Lashway, L. (1995, May). *Can instructional leader be facilitative leaders?* Eugene, OR: ERIC Clearinghouse on Educational Management. Retrieved from <https://files.eric.ed.gov/fulltext/ED381893.pdf>
- Lee, J., & Lee, M. (2020). Is “Whole Child” Education Obsolete? Public School Principals’ Educational Goal Priorities in the Era of Accountability. *Educational Administration Quarterly*, 56(5), 856–884. <https://doi.org/10.1177/0013161X20909871>
- Leithwood, K. (1992). The move toward transformational leadership. *Educational Leadership*, 49(5), 8-12.
- Leithwood, K. (2012). *Ontario leadership framework 2012 with a discussion of the research foundations*. Ottawa, Ontario, Canada: Institute for Education Leadership, OISE. Retrieved from [https://www.education-leadership-ontario.ca/application/files/2514/9452/5287/The\\_Ontario\\_Leadership\\_Framework\\_2012\\_-\\_with\\_a\\_Discussion\\_of\\_the\\_Research\\_Foundations.pdf](https://www.education-leadership-ontario.ca/application/files/2514/9452/5287/The_Ontario_Leadership_Framework_2012_-_with_a_Discussion_of_the_Research_Foundations.pdf)
- Leithwood, K., & Jantzi, D. (1997). Explaining variation in teachers’ perceptions of principals’ leadership: A replication. *Journal of Educational Administration*, 35(4), 312–331. <https://doi.org/10.1108/09578239710171910>

- Leithwood, K., & Louis, K. S. (2012). *Linking leadership to student learning*. San Francisco, CA: Jossey-Bass.
- Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (2004). Review of research: How leadership influences student learning. New York, NY: The Wallace Foundation.
- Leung, F. (2008). Chinese culture, Islamic culture, and mathematics education. In P. Clarkson & N. Presmeg (Eds.), *Critical issues in mathematics education*. (pp. 135-147). New York, NY: Springer.
- Levin, J., & Fox, J. A. (2000). *Elementary statistics in social research*. Needham Heights, MA: Allyn & Bacon.
- Li, Y. (2013). Cultivating student global competence: A pilot experimental study. *Decision Sciences Journal of Innovative Education*, 11(1), 125-143.
- Loeb, S., & Horng, E. (2010). New thinking about instructional leadership. *Phi Delta Kappan*, 92(3), 66-69.
- Lohmann, J., Rollins, H., & Joseph Hoey, J. (2006). Defining, developing and accessing global competence in engineers. *European Journal of Engineering Education*, 31(1), 119-131.
- Long, V. M. (2003). The role of state government in the custody battle over mathematics education. In G. M. A. Stanic & J. Kilpatrick (Eds.), *A history of school mathematics* (Vol. II, pp. 931-956). Reston, VA: National Council of Teachers of Mathematics.
- Madaus, G., Clarke, M., & O'Leary, M. (2003). A century of standardized mathematics testing. In G. M. A. Stanic & J. Kilpatrick (Eds.), *A history of school mathematics* (Vol. II, pp. 1311-1434). Reston, VA: National Council of Teachers of Mathematics.
- Mandinach, E. B., & Jackson, S. S. (2012). *Transforming teaching and learning through data-driven decision making*. Thousand Oaks, CA: Corwin.
- Manitoba Education, Citizenship and Youth. (2006). *Rethinking classroom assessment with purpose in mind: Assessment for learning, assessment as learning, assessment of learning*. Winnipeg, Manitoba: Crown in Right of Manitoba.

- Marks, H. M., & Printy, S. M. (2003). Principal leadership and school performance: An integration of transformational and instructional leadership. *Educational Administration Quarterly*, 39(3), 370-397.
- Marzano, R. J., Waters, T., & McNulty, B. A. (2005). *School leadership that works: From research to results* (2nd ed.). Alexandria, VA: ASCD.
- Matthews, & Brown, C. L. (1976). The Principal's Influence on Student Achievement. *NASSP Bulletin*, 60(402), 1-15.  
<https://doi.org/10.1177/019263657606040201>
- Maxwell, J. A. (2013). *Qualitative research design: An interactive approach*. Thousand Oaks, CA: Sage.
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey Bass.
- McEwan-Adkins, E. K., & McEwan-Adkins, E. K. (2002). *Seven steps to effective instructional leadership*. Thousand Oaks: SAGE Publications.
- McLean, L. D. (1996). Large-scale assessment programmes in different countries and international comparisons. In H. Goldstein & T. Lewis (Eds.), *Assessment: Problems, developments and statistical issues* (pp. 189-207). West Sussex, England: John Wiley & Sons, Ltd.
- McMillan, J. H., & Schumacher, S. (2010). *Research in education: Evidence-Based Inquiry* (7th ed.). Upper Saddle River, NY: Pearson.
- Mehta, J. D., & Schwartz, R. B. (2015). Canada: Looks a lot like us but gets much better results. In M. S. Tucker (Ed.), *Surpassing Shanghai: An agenda for American education built on the world's leading systems* (pp. 141-165). Cambridge, MA: Harvard Education Press.
- Mendels, P. (2012). The effective principal: 5 pivotal practices that shape instructional leadership. *JSD*, 33(1). Retrieved from <https://learningforward.org/docs/february-2012/mendels331.pdf>
- Menges, J., Walter, F., Vogel, B., & Bruch, H. (2011). Transformational leadership climate: Performance linkages, mechanisms, and boundary conditions at the organizational level. *The Leadership Quarterly*, 22(5), 893-909.

- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th. Ed.). San Francisco, CA: Jossey-Bass.
- Merryfield, M. (2008). Scaffolding social studies for global awareness. *Social Education*, 72(7), 363–364.
- Meyer, H., & Benavot, A. (Eds.). (2013). *PISA, power, and policy: The emergence of global educational governance*. United Kingdom: Symposium Books Ltd.
- Miladinovic, M. (2020). *PISA shows teacher attitudes, activities, in-and outside classrooms impact student global-mindedness*. New York, NY: AFS Intercultural Programs. Retrieved from <https://afs.org/2020/10/26/pisa-results-global-conference/>
- Morgan, H. (2022). Conducting a qualitative document analysis. *The Qualitative Report*, 27(1), 64-77. <https://doi.org/10.46743/2160-3715/2022.5044>
- Morris, W. V. (2017). Culture of Inquiry in Professional Development. *International Journal of Educational Reform*, 26(2), 123–131. <https://doi.org/10.1177/105678791702600202>
- Murphy, J. (1988). Methodological, measurement, and conceptual problems in the study of instructional leadership. *Educational Evaluation and Policy Analysis*, 10(2), 117-139.
- Murphy, J., Elliot, S. N., Goldring, E., & Porter, A. C. (2006). *Learning-centered leadership: A conceptual framework*. New York, NY: Wallace Foundation. Retrieved from [https://www.researchgate.net/publication/234590886\\_Learning-Centered\\_Leadership\\_A\\_Conceptual\\_Foundation](https://www.researchgate.net/publication/234590886_Learning-Centered_Leadership_A_Conceptual_Foundation)
- NASA. (2017). *Sputnik 1*. Retrieved from [https://www.nasa.gov/multimedia/imagegallery/image\\_feature\\_924.html](https://www.nasa.gov/multimedia/imagegallery/image_feature_924.html)
- National Center for Education Statistics. (2013). *An overview of NAEP*. Washington, DC: United States Department of Education. Retrieved from <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2013455>
- National Center for Education Statistics. (2023). *NCES handbook of survey methods*. Washington, DC: United States Department of Education. Retrieved from <https://nces.ed.gov/statprog/handbook/pisa.asp>

- National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for educational reform*. Washington, DC: United States Department of Education. Retrieved from [http://datacenter.spps.org/uploads/SOTW\\_A\\_Nation\\_at\\_Risk\\_1983.pdf](http://datacenter.spps.org/uploads/SOTW_A_Nation_at_Risk_1983.pdf)
- National Education Association. (2010). *Global competence is a 21<sup>st</sup> century imperative*. Retrieved from <https://www.staffordschools.net/site/handlers/filedownload.ashx?moduleinstanceid=35909&dataid=37863&FileName=NEA%20Global%20Competence.pdf>
- National Governors Association Center for Best Practices. (2010). *Common Core State Standards*. Washington DC: Council of Chief State School Officers.
- National School Climate Center. (2017). *The 13 dimensions of school climate*. New York, NY: Author. Retrieved from <https://www.schoolclimate.org/themes/schoolclimate/assets/pdf/measuring-school-climate-csci/CSCIDimensionChart-2017.pdf>
- 85th United States Congress. (1958). *National Defense Education Act of 1958*. Retrieved from <http://www.scribd.com/doc/57012400/National-Defense-Education-Act-of-1958>
- National Policy Board for Educational Administration (2015). *Professional standards for educational leaders 2015*. Reston, VA: Author.
- Neal, P., Justice, B., & Barron, K. (2019). How ethical leadership impacts student success. *New Directions for Community Colleges*, 2019(185), 97–105. <https://doi.org/10.1002/cc.20342>
- Neubauer, D. (2007). Globalization, interdependence and education. *Higher Education Press*, 2(3), 309-324. doi:10.1007/s11516-007-0026-7
- Neumerski, C. M. (2013). Rethinking instructional leadership, A review: What do we know about principal, teacher, and coach instructional leadership, and where should we go from here? *Educational Administration Quarterly*, 49(2), 310–347. <https://doi.org/10.1177/0013161X12456700>
- Northwest Education Association. (2017). NWEA FAQ: The OECD Test for Schools (Based on PISA). Portland, OR: Author. Retrieved from <https://www.nwea.org/content/uploads/2015/11/OECD-Test-for-Schools-FAQ-FEB17.pdf>

- Ninomiya, S. (2016). The possibilities and limitations of assessment for learning: Exploring the theory of formative assessment and the notion of “closing the learning gap.” *Educational Studies in Japan: International Yearbook*, 10(March), 79-91.
- Ochieng, P. A. (2009). An analysis of the strengths and limitations of qualitative and quantitative research paradigms. *Problems of Education in the 21st Century*, 13, 13-18. Retrieved from <http://ezproxy.uky.edu/login?url=https://www.proquest.com/scholarly-journals/analysis-strengths-limitation-qualitative/docview/2343816184/se-2>
- Organisation for Economic Co-operation and Development. (2005). *PISA 2003 data analysis manual: SPSS Users*. Paris, France: Author. Retrieved from <https://www.oecd.org/edu/school/programmeforinternationalstudentassessmentpisa/35002965.pdf>
- Organisation for Economic Co-operation and Development. (2009). *PISA assessment framework 2009: Key competencies in reading, mathematics, and science*. Paris, France: Author. Retrieved from <http://www.oecd.org/pisa/pisaproducts/44455820.pdf>
- Organisation for Economic Co-operation and Development. (2010a). *The high cost of low educational performance: The long-run economic impact of improving PISA outcomes*. Paris, France: Author. Retrieved from <http://www.oecd.org/pisa/pisaproducts/pisa2006/44417824.pdf>
- Organisation for Economic Co-operation and Development (2010b). *Strong performers and successful reformers in education: Lessons from PISA for the United States*. Paris, France: Author. Retrieved from <http://www.oecd.org/pisa/pisaproducts/46581035.pdf>
- Organisation for Economic Co-operation and Development. (2012). *PISA 2009 technical report*. Paris, France: Author. Retrieved from [http://www.oecd-ilibrary.org/education/pisa-2009-technical-report\\_9789264167872-en](http://www.oecd-ilibrary.org/education/pisa-2009-technical-report_9789264167872-en)
- Organisation for Economic Co-operation and Development. (2013a). *OECD mission*. Paris, France: Author. Retrieved from <http://www.oecd.org/about/>
- Organisation for Economic Co-operation and Development. (2013b). *Background and basics*. Paris, France: Author. Retrieved from [http://www.oecd.org/pisa/faqoecd/pisa.htm#Background\\_and\\_basics](http://www.oecd.org/pisa/faqoecd/pisa.htm#Background_and_basics)



- Organisation for Economic Co-operation and Development. (2016a). *About*. Paris, France: Author. Retrieved from <http://www.oecd.org/about/>
- Organisation for Economic Co-operation and Development. (2016b). *Annex A5 changes in the administration and scaling of PISA 2015 and implications for trends analysis*. Paris, France: Author. Retrieved from <https://www.oecd.org/pisa/data/PISA-2015-vol%202-Annex-A5-Trends-analysis.pdf>
- Organisation for Economic Co-operation and Development. (2017a). *About PISA*. Paris, France: Author. Retrieved from <http://www.oecd.org/pisa/aboutpisa/>
- Organisation for Economic Co-operation and Development. (2017b). *PISA mathematics data from 2000 – 2015*. Paris, France: Author. Retrieved from <http://www.oecd.org/pisa/data/>
- Organisation for Economic Co-operation and Development. (2017c). *Compare your country*. Paris, France: Author. Retrieved from <http://www.compareyourcountry.org/pisa/country/usa?lg=en/>
- Organisation for Economic Co-operation and Development (2017d). *PISA data*. Paris, France: Author. Retrieved from <http://www.oecd.org/pisa/>
- Organisation for Economic Co-operation and Development (2017e). *PISA 2015 technical report*. Paris, France: Author. Retrieved from <https://www.oecd.org/pisa/data/2015-technical-report/>
- Organisation for Economic Co-operation and Development (2017f). *How your school compares internationally: OECD Test for Schools based on PISA*. Paris, France: Author. Retrieved from [https://www.oecd.org/pisa/aboutpisa/Golden\\_e-book\\_1\\_example.pdf](https://www.oecd.org/pisa/aboutpisa/Golden_e-book_1_example.pdf)
- Organisation for Economic Co-operation and Development (2018a). *PISA-based test for schools*. Paris, France: Author. Retrieved from <http://www.oecd.org/education/PISA-for-Schools-brochure.pdf>
- Organisation for Economic Co-operation and Development. (2018b). *PISA: Preparing our youth for an inclusive and sustainable world*. Paris, France: Author. Retrieved from <https://www.oecd.org/education/Global-competency-for-an-inclusive-world.pdf>

- Organisation for Economic Co-operation and Development. (2019a). *Slogan*. Paris, France: Author. Retrieved from <http://www.oecd.org>
- Organisation for Economic Co-operation and Development. (2019b). *PISA 2018 results: Combined executive summaries*. Paris, France: Author. Retrieved from [https://www.oecd.org/pisa/Combined\\_Executive\\_Summaries\\_PISA\\_2018.pdf](https://www.oecd.org/pisa/Combined_Executive_Summaries_PISA_2018.pdf)
- Organisation for Economic Co-operation and Development. (2020). *PISA 2018 global competence*. Paris, France: Author. Retrieved from <https://www.oecd.org/pisa/pisa-2018-global-competence.htm>
- Organisation for Economic Co-operation and Development. (2022). *OECD welcomes Costa Rica as its 38th member*. Paris, France: Author. Retrieved from <https://www.oecd.org/newsroom/oecd-welcomes-costa-rica-as-its-38th-member.htm#:~:text=The%20OECD's%2038%20members%20are,Norway%2C%20Poland%2C%20Portugal%2C%20Slovak>
- Organisation for Economic Co-operation and Development (2023). *PISA for schools*. Paris, France: Author. Retrieved from <http://www.oecd.org/pisa/pisa-for-schools/>
- Paris, D. C. (1994). Schools, scapegoats, and skills: Educational reform and the economy. *Policy Studies Journal*, 22(1), 10-24.
- Pedroni, J. A., & Pimple, K. D. (2001). *A brief introduction to informed consent in research with human subjects*. Bloomington, IN: The Trustees of Indiana University.
- Pellicano, R. R. (1982). Global education: A macro perspective for citizenship education. *Social Studies*, 73(3), 125.
- Perkins, J. A. (1979). Report of the president's commission on foreign language and international studies. *Foreign Language Annals*, 12(6), 457.
- Phelps, R. P. (2011, Autumn). Teach to the test? Most of the problems with testing have one surprising source: Cheating by school administrators and teachers. *The Wilson Quarterly*, 38-42.
- Pickard, A. J., Childs, S., Lomas, E., McLeod, J., & Shenton, A. K. (2013). *Research methods in information* (Second edition.). London: Facet Publishing.

- Pont, B., Nusche, D., & Moorman, H. (2008). *Improving school leadership volume 1: Policy and practice*. Paris, France: OECD.
- Popham, W. J. (1999). Why standardized tests don't measure educational quality. *Educational Leadership*, 56(6), 8-15.
- Puccio, G. J., Mance, M., & Murdock, M. C. (2011). *Creative leadership: Skills that drive change*. (2nd ed.). Thousand Oaks, CA: SAGE.
- Reeves, D. B. (2004). *Accountability for learning: How teachers and school leaders can take charge*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Reimers, F. M. (2009). Global Competency: Educating the World. *Harvard International Review*, 30(4), 24–27.
- Ritchie, J., & Lewis, J. (2003). *Qualitative research practice: A guide for social science students and researchers*. London: SAGE.
- Ritchie, J., & Spencer, L. (2002). Qualitative data analysis for applied policy research. In A. M. Huberman, & M. B. Miles (Eds.), *The qualitative researcher's companion* (pp. 305-329). SAGE Publications, Inc., <https://dx.doi.org/10.4135/9781412986274.n12>
- Robinson, V. M. J. (2007). *School leadership and student outcomes: Identifying what works and why*. Winmalee, NSW, Australia: Australian Council for Educational Leaders. Retrieved from <http://www.saspa.com.au/wp-content/uploads/2016/02/Robinson.pdf>
- Robinson, V., Lloyd, C., & Rowe, K. (2008). The Impact of Leadership on Student Outcomes: An Analysis of the Differential Effects of Leadership Types. *Educational Administration Quarterly*, 44(5), 635-674.
- The role of education in global competitiveness: Hearing of the Committee on Health, Education, Labor, and Pensions, United States Senate*, 109d Cong. 1 (2006).
- Rost, Joseph C. (1991). *Leadership for the twenty-first century*. Westport, CT: Praeger.
- Rubin, H. J., & Rubin, I. S. (2012). *Qualitative interviewing: The art of hearing data* (3rd ed.). Thousand Oaks, CA: Sage.

- Schreier, M. (2014). Qualitative Content Analysis. In U. Flick (Ed.), *The SAGE handbook of qualitative data analysis* (pp. 170-183). SAGE Publications, Inc., <https://dx.doi.org/10.4135/9781446282243.n12>
- Schukar, R. (1993). Controversy in global education lessons for teacher educators. *Theory into Practice*, 32(1), 52–57. <https://doi.org/10.1080/00405849309543573>
- Sebastian, J., & Allensworth, E. (2012). The influence of principal leadership on classroom instruction and student learning: A study of mediated pathways to learning. *Educational Administration Quarterly*, 48(4), 626–663. <https://doi.org/10.1177/0013161X11436273>
- Sebring, P. B., Allenworth, E., Bryk, A. S., Easton, J. Q., & Luppescu, S. (2006). *The essential supports for school improvement*. Chicago, IL: Consortium on Chicago School Research. Retrieved from <https://consortium.uchicago.edu/sites/default/files/2018-10/EssentialSupports.pdf>
- Senate Bill 1, Kentucky Revised Statutes, KRS 158.6453 (2009).
- Smith, M. K. (2002). *Jerome Bruner and the process of education*. London, England: YMCA George Williams College. Retrieved from <http://infed.org/mobi/jerome-bruner-and-the-process-of-education/>
- Sparks, S. D. (2022). Academic recovery from the pandemic will outlast funding by years. *Education Week*, 41(1).
- Stake, R. E. (2010). *Qualitative research: Studying how things work*. NY: Gilford Press.
- Stephens, M. (2003). Assessment in the United States and Canada: An outsider's perspective. In G. M. A. Stanic & J. Kilpatrick (Eds.), *A history of school mathematics* (Vol. II, pp. 1581-1626). Reston, VA: National Council of Teachers of Mathematics.
- Stier, J. P. (2007). *The relationship between professional learning communities and student achievement in high schools*. ProQuest Dissertations Publishing.
- Stiggins, R. J., & Chappuis, J. (2012). *An introduction to student-involved assessment for learning* (6th ed.). Boston, MA: Pearson Education, Inc.

- Stigler, J. W., & Hiebert, J. (1999). *The teaching gap: Best ideas from the world's teachers for improving education in the classroom*. New York, NY: The Free Press.
- Stronge, J. H. (2007). *Qualities of effective teachers* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.
- Thompson, M. (2012). *Principal perceptions of experiences that helped to improve their practice as instructional leaders* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (UMI No. 3579768).
- Tichnor-Wagner, A. (2020). *Becoming a globally competent school leader*. Alexandria, VA: ASCD.
- Tichnor-Wagner, A., & Manise, J. (2019). *Globally competent educational leadership: A framework for leading schools in a diverse, interconnected world*. Alexandria, VA: ASCD.
- Tribble, E., Skariah, R., Tran, E., & Gulacar, O. (2022). Exploring the Effects of a Neglected Area: The United Nations Sustainable Development Goals in Science Education. *Journal of College Science Teaching*, 51(3), 37–42.
- Tucker, M. S. (Ed.). (2015). *Surpassing Shanghai: An agenda for American education built on the world's leading systems*. Cambridge, MA: Harvard Education Press.
- University of Kentucky Office of Research Integrity. (2017). *IRB survival handbook for human research protections*. Lexington, KY: Author. Retrieved from <http://www.research.uky.edu/ori/IRB-Survival-Handbook.html#Education>
- U.S. Department of Education. (2016). *Every Student Succeeds Act (ESSA)*. Washington, DC: Author. Retrieved from <http://www.ed.gov/essa>
- U.S. Department of Education. (2022). *Objective 1: Increase global and cultural competencies of all U.S. students*. Retrieved from <https://sites.ed.gov/international/objective-1-increase-global-and-cultural-competencies-of-all-u-s-students/>
- U.S. Department of Education (2023a). *Trend in NAEP long-term trend mathematics average scores for 9- and 13-year-old students*. Washington, DC: Author Retrieved from <https://www.nationsreportcard.gov/ltr/?age=9>

- U.S. Department of Education (2023b). *Trend in twelfth-grade mathematics average scores*. Washington, DC: Author Retrieved from <https://www.nationsreportcard.gov/mathematics/?grade=12>
- Valentine, J. W., & Prater, P. (2011). Instructional, transformational, and managerial leadership and student achievement: High school principals make a difference. *NASSP Bulletin*, 95(1), 5-30. doi:10.1177/0192636511404062
- Volante, L. (2004). Teaching to the test: What every educator and policy-maker should know. *Canadian Journal of Educational Administration and Policy* (35).
- Wagner, C., Kawulich, B., & Garner, M. (2012). *Doing social research: A global context*. Maidenhead, Berkshire: McGraw-Hill Education-Europe.
- Wagner, T. (2008). *The global achievement gap: Why even our best schools don't teach the new survival skills our children need-and what we can do about it*. New York, NY: Basic Books.
- Wagner, T. (2012). *Creating innovators: The making of young people who will change the world*. New York, NY: Scribner.
- Waters, T., Marzano, R., & McNulty, B. (2003). *Balanced leadership: What 30 years of research tells us about the effect of leadership on student achievement*. Denver, CO: Mid-Continent Research for Education and Learning. Retrieved from <https://eric.ed.gov/?id=ED481972>
- Weber, R. (1990). *Basic content analysis*. SAGE Publications, Inc., <https://dx.doi.org/10.4135/9781412983488>
- West, M. (2012). Global lessons for improving U.S. education. *Issues in Science & Technology*, 28(3): 37-44.
- Williams, D. (2016). *Leadership for teacher learning*. West Palm Beach, FL: Learning Sciences International.
- Williams, R. C., & Bank, A. (1981). Uses of data to improve instruction in local school districts: Problems and possibilities. In C. B. Aslanian (Ed.), *Improving educational evaluation methods: Impact of policy* (pp. 131-147). Beverly Hills, CA: SAGE.

- Willis, G. B. (2004). *Cognitive interviewing: A tool for improving questionnaire design*. Thousand Oaks, CA: Sage.
- Whisen, G. (2010, September). *Assessment as learning*. Retrieved from Ideaconnect website [ideaconnect.edublogs.org/2010/09/29/assessment-as-learning/](http://ideaconnect.edublogs.org/2010/09/29/assessment-as-learning/)
- Wood, L. M., Sebar, B., & Vecchio, N. (2020). Application of Rigour and Credibility in Qualitative Document Analysis: Lessons Learnt from a Case Study. *The Qualitative Report*, 25(2), 456-470. <https://doi.org/10.46743/2160-3715/2020.4240>
- The World Bank. (2019). *GDP (current US\$)*. Washington, DC: Author. Retrieved from [https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?most\\_recent\\_value\\_desc=true](https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?most_recent_value_desc=true)
- World Economic Forum. (2016). *The future of jobs: Employment, skills and workforce strategy for the fourth industrial revolution*. Retrieved from [http://www3.weforum.org/docs/WEF\\_Future\\_of\\_Jobs.pdf](http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf)
- World Population Review. (2022). *US Cities*. Retrieved from <https://worldpopulationreview.com/us-cities/>
- Xue, Y., Xuan, X., Zhang, M., Li, M., Jiang, W., & Wang, Y. (2020). Links of family- and school-level socioeconomic status to academic achievement among Chinese middle school students: A multilevel analysis of a national study. *International Journal of Educational Research*, 101, 101560–. <https://doi.org/10.1016/j.ijer.2020.101560>
- Young, M. (1998). Rethinking teacher education for a global future: Lessons from the English. *Journal of Education for Teaching*, 24(1), 51-62.
- Zahidi, S. (2020). *The jobs of tomorrow: Some jobs will disappear and other will emerge as the world faces a dual disruption*. Retrieved from <https://www.imf.org/external/pubs/ft/fandd/2020/12/pdf/WEF-future-of-jobs-report-2020-zahidi.pdf>
- Zhao, Y. (2009). *Catching up or leading the way: American education in the age of globalization*. Alexandria, VA: Association for Supervision and Curriculum Development.

Zuckerman, & O'Shea, C. (2021). Principals' schema: Leadership philosophies and instructional leadership. *Journal of School Leadership*, 31(4), 274–296.  
<https://doi.org/10.1177/1052684620966063>



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### Universities Attended and Degrees Awarded

- University of Kentucky, Education Specialist in Administration and Supervision (2004)
- University of Kentucky, Masters in Curriculum and Instruction (1998)
- Alice Lloyd College, Bachelor of Science in Mathematics and Physical Science-Secondary Education (1992)

### Professional Positions

#### Administrative Positions

- Assistant Principal, Scott County Middle School, Georgetown, KY (2017-Present)
- Dean of Students, Scott County Middle School, Georgetown, KY (2014-2017)
- Principal, Summit Christian Academy, Lexington, KY (2005-2014)
- Associate Principal, Crawford Middle School, Lexington, KY (2004-2005)
- Assistant Principal, Western Hills High School, Frankfort, KY (2003-2004)

#### Teaching Positions

- 8<sup>th</sup> Grade Mathematics and Physical Science, Scott County Middle School, Georgetown, KY (1994-1999)
- High School Mathematics and Physical Science, Allen Central High School, Eastern, KY (1992-1994)

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