FROM CAN TO HOW: A QUALITATIVE CROSS CASE ANALYSIS ON THE IMPACT A PRINCIPAL CAN HAVE ON STUDENT OUTCOMES

Goldy Brown III, Whitworth University

ABSTRACT

School leaders can only indirectly impact student outcomes by supporting school teachers. This study provides a qualitative research framework to study the supports principals in high achieving schools provide their teachers. Unlike previous research, this study investigates the principal position through the Perspectives on Learning Environment framework, which targets learning as opposed to leadership. By expanding the application of this perspective to the entire school, data is gathered and reported on two principals in high performing schools to identify how they impact learning school wide.

Keywords: Educational Leadership, Principal, Student Achievement, Student Outcomes.

INTRODUCTION

Quality school leaders, after teachers are the most important school-related factor affecting student learning. Teachers in fact are the most important factor (Leithwood et al., 2004; Goldhaber, 2016). This study provides a qualitative research framework to study the supports principals in high achieving schools provide teachers that has led to the increased achievement of their students. Most recent studies are mostly quantitative in nature. Unlike previous research, this study investigates the principal's position through the Perspectives on Learning Environment (PLE) framework, which targets learning as opposed to leadership. The PLE framework identifies four perspectives that are necessary for student learning in the classroom. By expanding the application of these four perspectives from the classroom to the entire school, I identify how the principal impacts learning school–wide, through their provided supports to their classroom teachers. Data is gathered to answer two research questions: What Supports Did the Elementary Principals in These High-achieving Schools Implement That Increase Student Achievement? Did These Supports Differ in the High Achieving Low-income Schools?

Conceptual Framework

The unique, feature to this study is the conceptual framework which came from chapter six of (Bransford et al., 2000) book entitled How People Learn: Brain, Mind, Experience, and School. The chapter discusses a Perspective on Learning Environment framework, which identifies four general perspectives of a quality learning environments and emphasizes that they need to be conceptualized as a system of interconnected components that mutually support one another (p. 133). These perspectives on learning are (1) learner centered, (2) knowledge centered, (3) assessment centered, and (4) community centered.

Learner Centered

For a learning environment to be learner centered, the educator must pay attention to the "knowledge, skills, attitudes, and beliefs that learners bring to the educational setting". If knowledge is continually delivered without any thought to the learners, it is unlikely that any real learning will occur. According to the model, it is critical that educators keep their learners in mind when planning lessons. Included in this teaching is "diagnostic teaching" (Bell et al., 1980). Diagnostic teaching attempts to discover what students think in relation to the problems at hand, discusses students' misconceptions sensitively and gives them situations to go on thinking about which will enable them to readjust their ideas. Learner-centered teachers also respect the language practices of their students because they provide a basis for further learning. Teachers who are learner centered recognize the importance of building on the conceptual and cultural knowledge that students bring with them to the classroom. If teaching is conceived as constructing a bridge between the subject matter and the students, then learner centered teachers keep a constant eye on both ends of the bridge. The teachers attempt to get a sense of what students know and can do, as well as their interests and passions (Bransford et al., 2000).

Knowledge Centered

According to the PLE model of a learning environment, knowledge-centered environments emphasize the importance of students understanding knowledge as opposed to simply memorizing a set of facts (Bransford et al., 2000). In a knowledge-centered environment, students can transfer knowledge to new learning situations. When teaching students, it is important to take into account the prior knowledge that students bring with them. This approach helps students formulate new knowledge and make sense of what they are learning. The most important part of the knowledge component is that educators ensure that students are truly understanding information and not merely memorizing it. Environments that are solely learner centered would not necessarily help students acquire the knowledge and skills necessary to function effectively in society. Knowledge-centered environments take seriously the need to help students become knowledgeable by helping them learn in ways that lead to understanding and subsequent transfer. Knowledge-centered environments intersect with learner-centered environments when instruction begins with a concern for students' initial preconceptions about the subject matter. Without carefully considering the knowledge that students bring to the learning situation, it is difficult to predict what they will understand about new information that is presented to them (Bell, 1981).

Assessment Centered

The third component of the PLE model is that the learning environment be assessment centered. There are two types of assessment: formative assessment, which is administered and used to improve teaching and learning, and summative assessment, which is used to measure what students have learned at the end of the designated learning period (Bransford et al., 2000). Summative assessments are what most people think of when assessment is mentioned; they can assure accountability and may even help teachers modify their teaching strategies. However, one might argue that formative assessments are more beneficial. Formative assessments allow students to receive feedback in a more informative and timely manner. Furthermore, teachers are better able to adjust their instruction for students who have difficulty understanding the concepts. Assessing the achievement of learning goals is critical.

Assessments should be "predictive of students' performance in everyday settings once they leave the classroom" (Bransford et al., 2000). Assessments that are designed to measure students' ability to simply recall memorized information do not necessarily assess knowledge transfer, which is critically important in learning situations. Proper assessments must measure students' ability to take knowledge that has been acquired in the classroom and, in turn, apply it to a new situation.

Community Centered

The final component of the PLE theory is that the learning environment is community centered—that is, it focuses on the social nature of learning, including the norms and modes of operation of any community. Research shows that learning can be increased by social norms that value striving for understanding and making mistakes (Bransford et al., 2000). In a constructivist classroom, for example, students are encouraged to share their ideas with one another to learn from different ways of thinking. Students who feel safe to make a mistake (because the norm is learning from mistakes) are more likely to feel comfortable sharing. It is also important to bear in mind that teachers can formulate detrimental norms if they are not careful, such as low or different expectations for certain groups of children. Norms must be consistent.

The four components of an effective learning environment described in *How People Learn* provided a conceptual foundation for my study. In particular, I collect and analyze data using the PLE components as the guiding framework. Two elementary school principals from demographically different schools serve as case studies. I asked the principals about the support they have provided in their respective schools to raise the achievement of their students. Interview data collected from the principals as well as data from school documents such as meeting agendas, site plans, and newsletters are analyzed using qualitative methods in accordance with the PLE model. While the four tenets of the PLE model do not directly align to the characteristics of effective instructional leadership previously identified in the literature, they do reflect the categories in which an instructional leader helps provide support to increase student achievement. I use the tenets of PLE to analyze the data to provide a context for my research question. I briefly discuss the support elementary principals provide that is related to the PLE model in the context of support that is provided to increase the achievement of low-income students in their buildings. I analyze all the data collected on the two principals using the Perspectives on Learning Environment model shown in Table 1.

Table 1 TENETS OF THE PERSPECTIVES ON LEARNING ENVIRONMENT (PLE) MODEL & ELEMENTARY PRINCIPAL SUPPORT IDENTIFIED FROM THE DATA ACCORDING TO THE		
Tenets of PLE Model	**Mary's Support**	**Gene's Support**
Learner Centered (LC)		
Knowledge Centered (KC)		
Assessment Centered (AC)		
Community Centered (CC)		
Other (O)		

Table 1 shows how I fit the data into the PLE categories and recorded the support that the elementary principals provided to increase the achievement of low-income students. Data

found outside of the framework will be recorded as other. Gene and Mary, the two principals will each have a category to compare similar and different provided supports in their buildings, from the categorized "*clumps*" of data discussed in the methods (Leithwood & Harris, 2019).

METHODS

Participants

I conducted this research study in one school district located in the Midwest. The units of analysis for the case study are two elementary school principals. Specifically, I study the cases of two principals of high-achieving elementary schools in demographically distinct contexts.

Two particular school principals were chosen because they have significantly increased student achievement in their buildings and have raised the achievement of low-income students. Additionally, these two schools' student populations are demographically different from one another. I selected the two schools based on the principals' performance and the fact that the schools accomplished and maintained high achievement profiles throughout the principals' tenures. When evaluating successful schools today, test scores and school labels are important factors. Both of the schools in my study have exceeded adequate yearly progress targets in their overall student population and have shown significant improvement among low-income students as set forth by the state, and achievement scores continue to rise. The school with a majority of students who are low income received state recognition for closing the achievement gap four years in a row and received two blue-ribbon awards for student performance in five years.

When seeking school principals for the case studies, I employed five selection criteria. First I was looking for one principal who improved student achievement in a public school whose student population is predominately high income and one principal who raised student achievement in a public school whose student population is predominately low income. Second, I sought principals who continued improving the achievement of low-income students each year they were principals in their buildings. Third, I wanted the schools to be within a reasonable driving distance. Because I am a full-time student with limited financial means, it would have been difficult to conduct an in-depth case study on two school principals who were not within an hour's drive (Youngs, 2002). The locations of the two elementary schools selected were convenient places for me to conduct my research. Fourth, the principals selected needed to have an unwavering belief that all students can learn. This is an important characteristic noted in the reviewed literature on principals who have raised the achievement of low-income students. I know and have worked closely for four years with both of the principals who were ultimately chosen for this case study, and I know this belief is a strong part of their commitment to educational leadership. Finally, both schools are in the same district. This criterion was added based on some limitations noted within the reviewed literature. Examining two principals and schools in the same district allows me to clearly identify other influences that impact student achievement besides the way the principals support the achievement of low-income students. Working within one district eliminates the possibility that differences between districts will affect the data and will therefore strengthen my findings (Brooks, 2007).

As an elementary principal in a public school, I am interested in identifying individuals who have been successful in raising the achievement of low-income students, because learning about ways they provide support will help me do my job better. Researching others in my

position will benefit the students I serve. In addition, I would like to add to the research regarding successful elementary principals to help other elementary principals improve student achievement and contribute to closing the achievement gap once and for all. An important part of my study is an interview with the supervisor of the elementary principals in the district regarding the support the principals provided. This input from a district administrator allows me to determine what supports the principal provides that contribute to school success and not misinterpret the principal support with district office initiatives.

The case study selection criteria allowed me to identify two principals who could help me identify the support they provided to raise student achievement and thus answer my research question. The other participants are teachers from each grade level and two teachers in the building who are not classroom staff (specialist, resource, etc.). I interviewed the teachers and staff in the two schools to learn their perspectives on the principal's provided support. This step helps me triangulate the data collected from the elementary principal.

I used the instrument shown in Table 2 to select the two principals and school locations for my research.

Table 2 THE PARTICIPANT CRITERIA		
Criterion	Monroe Elementary	Gibson Elementary
Public school	Yes	Yes
Student achievement of low-income students improved under the principal in the case study	Yes	Yes
Within 50 miles of the researcher	Yes	Yes
Principal has an unwavering belief that all children can learn	Yes	Yes
Schools are in the same district	Yes	Yes

Data Collection

To answer my research question, I collected qualitative data by the following means: (a) three interviews each with the two principals (six total); (b) interviews with teachers at each grade level in two schools; (c) interviews with one district office administrator; (d) document collection (i.e., site plans); and (e) an informal interview with the after-school program coordinator of Gibson Elementary School (Heck & Hallinger, 2009).

Document Analysis and Protocol

In addition to the interviews I collected and analyzed documents with demographic data, student achievement data, and site-level plans of each school to identify support that the principals provided that has impacted student achievement. I studied parent communication letters, parent organization agendas, and staff meeting agendas. I reviewed site plans for information on school goals, data decisions, and developed programs. I examined parent organization agendas to see how the school community impacts student achievement. I reviewed staff meeting agendas to identify what discussed topics impact student achievement. I asked follow-up questions during the interviews for an in depth explanation of the information contained in these documents.

INSTRUMENTATION

Principal Interviews

I conducted three interviews with the principal at each of the two elementary schools. The first individual interview focused on building a biographical base of information about each principal. I asked the principals about informal supports they provide to manage their buildings and deal with people on a daily basis. Through a series of open-ended questions, the principals provided information on their backgrounds, educational beliefs, and careers in education. The interviews lasted 60 minutes each (Kelley & Shaw, 2009).

My second interview with the principals focused on identifying strategies they used to raise the achievement of low-income students in their schools. The questions targeted strategies that are consistent with the learner-centered and knowledge-centered components of the PLE model. I derived these questions from the conceptual framework and the site plans collected. These interviews also lasted about 60 minutes each.

My third individual interview with the principals focused on identifying strategies they used to raise the achievement of low-income students in their schools. In particular, the questions target strategies that are consistent with the assessment-centered and community-centered components of the PLE framework. These interviews lasted about 60 minutes.

District Administrator Interviews

I interviewed one district office administrator who supervises the elementary principals in the district. This interview provided additional views of the principals' leadership styles from outside the context of the principals' buildings. I asked the administrator about the principals' abilities to be instructional leaders and move their buildings toward raising student achievement. I also asked the administrator why the principals were chosen for those buildings and what challenges the principal had faced and had overcome in raising the achievement of students. This interview lasted 60 minutes.

Teacher Interviews

I met with teachers to discuss the study and to explain the components of the PLE framework. The interviews focused on the support the principal provided through the four components of the PLE framework. I interviewed one teacher from each grade level at Monroe and one teacher each of kindergarten, first grade, second grade, third grade, and fourth grade at Gibson. In addition, I interviewed one resource teacher at each building. All of the teacher interviews lasted about 60 minutes.

Finally, through the process of data collection at Gibson Elementary School, I felt that it was important to add an informal conversation with the director of the after-school program to further clarify the principal's role in implementing the program.

I encouraged all of the participants to follow up with me via e-mail or zoom after their interviews as a means of extending discussions. This occurred after they received and read a copy of the interview transcripts from each interview. This gave the teachers and administrators the opportunity to share further thoughts and ideas not presented during the interviews and to clarify any information in the transcripts.

Data Analysis

To review and analyze the collected data, I used the Perspectives on Learning Environment framework. I used a progressive process of sorting and defining to sort the collected data. Glesne (1999) defines this progressive process of sorting and defining as

coding. First, I developed major clumps to sort the data. These clumps are categorized as BK (background notes), SS (similar supports), DS (different Supports), and TH (theoretical notes). Then I coded the contents of each clump, thereby breaking down the main code into numerous sub codes. As this process evolved, I collected the data, then sorted the data into clumps, and then sorted the clumps into the PLE framework.

I used the background notes to set the context and framework about the two principals, their backgrounds, and their educational philosophies. I coded the similar provided supports that the principals used to increase student achievement. If the principals used different provided supports, I coded them through the interview data. I used the theoretical notes to categorize the provided supports and categorized them in the PLE framework. I was then able to clearly identify what supports were similar and what supports differed between the principals. I collected and organized the data in this order:

1. Compile background information on the principals
2. Identify the supports the principals provided to increase student achievement
3. Identify supports that fit into the PLE framework
4. Organize the supports based on the data

Using the PLE framework, I narrowed the list of supports identified in interviews to a manageable set of categories. I placed the information into an appropriate category in the PLE framework, and if it did not fit, it was labeled other. I repeated this process after each interview. Once the analysis of each interview question was complete, I analyzed the data I had categorized according to Table 1. I performed this procedure for both school principals. I then interviewed the teachers and district office administrators. I categorized their answers with in the PLE framework as well. I then triangulated the data, and the supports that were listed by all three were recorded as data. Follow up questions were conducted as needed for clarification. For example when I interviewed teachers at Gibson, they mentioned the difficulties of co-teaching. During my second interview with Gene I asked her about it again, for clarification on how she dealt with the resistance and what it has meant to student achievement in her school.

Trustworthiness

Glesne (1999) identifies eight procedures associated with trustworthiness: (1) prolonged engagement and persistent observation; (2) triangulation of data; (3) peer review and debriefing; (4) negative case analysis; (5) clarification of research bias; (6) member checking; (7) rich, thick description; and (8) external audit. I used four of these eight procedures to ensure the trustworthiness of my study: prolonged engagement and persistent observation; triangulation of data; clarification of research bias; and rich, thick description.

Prolonged engagement and persistent observation was accomplished as I spent extended amounts of time in the schools to develop trust and learn the culture. This totaled 15 hours at Mary and 12 hours at Gene's schools. I accomplished triangulation by using multiple sources of evidence, including interviews with principals, teachers, and district office personnel as well as documents such as site plans, staff meeting agendas, and parent organization agendas. I accomplished clarification of researcher bias by implementing methods that would account for my working relationship with the two principals. No data were recorded unless they were triangulated as a provided support from the principal. The principal, teacher, district office personnel, and analyzed documents had to concur in order to be recorded as a finding in this study. For example for both principals; teachers, district office personnel, and themselves mentioned scheduling for collaboration as a provided support, this

was recorded as data. The use of a lead teacher came out in interview data from the principal and district office interviews, but no teachers mentioned it. So it was not recorded as a support provided by a principal for this study. This process mitigated the effect of my admiration for the work of the two principals influencing the recorded data. I accomplished rich, thick description in my writing by describing the research context, the study, and the reporting of findings through a case study.

Ethical Considerations

According to Glesne (1999), a research code of ethics has two parts: the aspirations of the researcher balanced with the avoidance of harm. One potential ethical consideration is to protect the confidentiality of the study respondents. To achieve this, I gave all respondents and their schools pseudonyms. I also recorded and documented all interviews in the same format. Documentation was saved on a laptop computer that can only be opened with my password.

Cross-Case Findings

This study is a qualitative, multi case study. Interviews and document analysis were used to collect data. To sort the data it was coded and sorted into categories based on the research question. The categories were then placed within the PLE framework. In order to make sure that the findings were trustworthy suggestions on interviewing from the pilot study was employed when interviewing. Recorded findings were triangulated between all interview participants and documents.

Principal-provided support was recorded through a process of data triangulation that is, the provided support was recorded only if it was mentioned by three of the following: principal, teachers, or district personnel, or in document analysis. It is important to emphasize that Mary led the implementation of aligning curricula to the standards and developing common assessments. When Gene took the position, this was done on a district scale, so it was in place in her building; she just did not lead the initiative (Leithwood, K, 2011). Table 3 represents only the supports provided by the principals. The PLE Tenets are Learner Centered (LC), Knowledge Centered (KC), Assessment Centered (AC), Community Centered (CC), and Other (O).

Table 3 PERSPECTIVES ON LEARNING ENVIRONMENT (PLE) AND PRINCIPAL-PROVIDED SUPPORT		
PLE Tenets	**Mary's Support**	**Gene's Support**
LC	Data Driven Instruction	Data Driven Instruction
		Established a targeted Afterschool Program
KC	Common Core Implementation	Professional Learning Community
AC	Developed Common Assessments	Professional Learning Community
CC	Professional Learning Communities	Professional Learning Community
	Strong Parent Teacher Organization	Strong Parent Teacher Organization
	TRIBES	PBIS
O	Budgeting/Scheduling	Budgeting/Scheduling

What Supports Did the Elementary Principals in These High-achieving Schools Implement That Increase Student Achievement?

Mary and Gene both believe that instruction should be driven by data. This is evident through the professional learning communities in both schools, where student achievement data are examined and ways to proceed instructionally are identified. Data and the appropriate use of data were at the core of many teachers' answers to questions about instruction. At Mary's school, data drives teachers' grouping of students for reading and math. At Gene's school, data drives reading and math instruction as well (Louis, 2010).

Both principals use data to identify interventions for students who are behind in math and reading. Another practice that both principals have in common is engaging a strong parent organization into the school culture. Both Mary and Gene's schools have strong parent organizations that host monthly meetings and activities. Due to the demographic differences of the schools, there is some variance in the types of activities and planning that takes place in regard to these organizations at each building. For example, at Mary's school, most of the events are student performances (songs, recitals, ice cream social, etc.). These are done at Gene's school as well, but in addition to the annual Halloween parade and end of the year carnival, there are educational game nights, parent information nights, library card signups, etc. Gene does a good job using PTO to get families in for fun activities but also giving parenting lessons on how they can support their children's learning. Both principals implemented a school-wide behavior expectation plan that creates similar language between students and staff.

At Mary's school, it is the TRIBES program, and at Gene's school, it is the Positive Behavior Intervention System (PBIS). Budgeting and scheduling are also practices that both principals are involved in. The principals' ability to budget building funds and schedule a comprehensive day while protecting the classroom learning time was a big factor in winning over teachers and showing them that a schedule and money will support them in meeting district initiatives regarding instruction (Creswell, 1998). This was evident in the interview responses teachers gave in regard to identifying practices that their principals had taken to raise student achievement. Most teachers commented that having a schedule and getting money for materials so they could meet district requirements in regard to curriculum was a key to their being able to meet the needs of their students and raise student achievement.

DISCUSSION

Did these Supports Differ in the High Achieving Low-income Schools?

One of the principal supports that are different between the two schools is the establishment of school-wide incentives at Gene's school. The initiative was called TAG which stands for Together we Achieve at Gibson (Gibson is the name of the school). This initiative recognizes students on a quarterly basis with an assembly for good academic performance and behavior. These rewards were also huge. The principal partnered with community agencies such as the movie theatre, Six Flags, restaurants (Culvers, Subway, Pizza Hut, etc.), a roller rink, and a minor league baseball team to get prizes for every positive aspect expected from students. These rewards included free kids meals for perfect attendance, reading awards from Pizza Hut, and drawings for bicycles and baseball tickets donated by local agencies. Gene stated, (Sebastian, 2019). "Many of these awards were things that kids could provide for themselves and families by doing well in school that their parents could not afford." This practice is significantly different than anything in place at Mary's school identified through the data. At Mary's school, through the TRIBES program, positive actions are expected, not rewarded. At Gene's school, positive student actions are expected and highly

awarded. Another difference between the two schools is that Gene's has a comprehensive, targeted after-school program.

CONCLUSION

The data that I collected about Mary's school did not reveal any type of similar program. The after-school program at Gene's school extends the school day of many low-income students who are not performing at grade level with regular classroom instruction received during the school day. Students are provided a structured place to receive tutoring, complete homework, and participate in character-building activities.

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