IMPLEMENTING A HOUSE SYSTEM IN ELEMENTARY AND MIDDLE SCHOOL: USING ACTION RESEARCH TO ANALYZE ACADEMIC, SCHOOL CLIMATE, AND SCHOOL COMMUNITY CHANGE AFTER SYSTEMIC REFORM

A Doctoral Capstone Project

Submitted to the School of Graduate Studies and Research

Department of Secondary Education and Administrative Leadership

In Partial Fulfillment of the

Requirements for the Degree of

Doctor of Education

David A. Jagger

California University of Pennsylvania

August 2020

© Copyright by
David Alan Jagger
All Rights Reserved
August 2020

California University of Pennsylvania

School of Graduate Studies and Research

Department of Secondary Education and Administrative Leadership

We hereby approve the doctoral capstone of

David Alan Jagger

Candidate for the degree of Doctor of Education

7-20-2020

Dr. Mary A. Wolf
Assistant Professor, California University of PA
Doctoral Capstone Faculty Committee Chair

7-20-2020

Dr. Michael S. Elia
Superintendent, Mountain View School District
Doctoral Capstone External Committee Member

Dedication

for Mom and Dad

Acknowledgements

This capstone project represents an investment of many people who took big risks when common sense might have dictated more measured approaches to change. The visionaries who work alongside me at the Preston Area School deserve far more credit than a mention in my acknowledgements page, but it is a start. I am forever indebted to these fine people for their willingness to take a leap and start a House system when we had no idea if it would work or how successful we could be with it. Our program has strengthened and evolved, even when it seems very different from what we may have originally envisioned. Thank you.

My district administrators in the Wayne Highlands School District have allowed me the space to try new things and grow with this doctoral program, and I am forever grateful.

I must thank Dr. Mary Wolf for her guidance through the capstone process. She and the faculty for California University of Pennsylvania's doctoral program have been spectacular.

Dr. Michael Elia has been endlessly supportive, always ready with thoughtful advice and questions, and a sincere friend through this journey. For me, he has been a perfect mentor and guide. Thank you, Mike. The next burrito lunch is on me!

My wife Lacie and my three amazing children have been infinitely patient and supportive of my progress through this process. I owe you a lot of time as a husband and father. I love you all and am proud of all you do and accomplish. You inspire me to be a better person daily.

Table of Contents

List of Tables

List of Figures

Abstract

The purpose of this action research study was to determine the impact of implementing a House system in a K-8 rural school over a three-year period to address academic, school climate, and school community concerns. The review of the literature framed the House system as a school climate reform effort in the mold of John Dewey's social learning theory and experiential learning models, and Paulo Freire's critical consciousness and democratic principles. The impact of the House system was measured using academic data from summative and diagnostic assessments, school climate data from attendance and discipline records, a faculty focus group, and a faculty and staff survey measuring the perception of the House system's impact on the relevant areas of focus. The cyclical nature of action research, including planning, acting, developing, and reflecting stages of addressing concerns resulted in school leadership adjusting the design of the House system over the three-year implementation period to best fit the needs and structure of the school setting. Findings included evidence of stronger student effort and modest improvements on summative and diagnostic assessment, increased attendance percentage, decreased discipline referrals, and improved perceptions of faculty and staff in year three of the program as the House system evolved to best fit the school setting. The fiscal implications of school climate reform at this scale were analyzed and documented for the community partnerships that emerged. Research in this area should continue to focus on the effect of a token economy on the whole child, the role of faculty and staff perception on school climate and academic results, and the potential of student mentoring and role modeling within House systems to influence school climate and academic results.

CHAPTER I

Introduction

As a member school of the Wayne Highlands School District in Pennsylvania, the Preston Area School has a long history of both high academic achievement and high rates of participation in the school's extracurricular music, drama, and sports programs. This tradition has endured despite a remote and rural location with a limited local economy, as well as demographics usually consistent with lower academic achievement and community involvement.

In the past five years, from 2014-2019, The Preston School has seen a more drastic decline in student population from approximately 200 students to approximately 160 students in grades K-8. Also, the school has had an increase in percentage of socioeconomically disadvantaged students over the same time from 50-60% to approximately 70%. Student achievement has declined as student enrollment has declined and the percentage of socioeconomically disadvantaged students has increased. Teachers whose students regularly achieved higher proficiency rates on state standardized Reading and Math than most schools in the region have seen their student performance drop. Additionally, the school Parent Teacher Organization, or PTO, has seen a drastic reduction in membership and parent involvement and there are fewer families available to support school programs. Many of the families who remain are struggling with mental health issues, unemployment or underemployment, drug issues, or transient living situations.

As the Principal of the Preston Area School, these realities matter greatly to me. As of this writing, I have finished my seventh year at Preston, and have struggled to maintain the instructional excellence typical of the school. In addition to the demographic challenges we have faced, many teachers out for extended leaves of absence. In such a small school, with only one section per grade level, there are students who have had multiple school years with long-term substitute teachers. The impact of these fragmented school years is difficult to measure, but it has contributed to the realities we faced at Preston when planning academic and social interventions.

In response to the problem, my staff and I at Preston implemented a House system, largely modeled after the well-publicized and frequently imitated original model at the Ron Clark Academy in Atlanta, Georgia. In September 2017, all K-8 Preston students were randomly selected into one of four Houses, identified by a name, color, and attribute: the Amistad House, identified by the color red and the theme of friendship; the Altruismo House, identified by the color black and the theme of giving; the Isibindi House, identified by the color green and the theme of courage; and the Reveur House, identified by the color blue and the themes of dreams and creativity. All staff members chose a House in September 2017. New students and Kindergarten students each year are selected randomly into Houses. New staff members were selected into Houses to maintain balanced staff membership across all four Houses. Once students and staff members were selected in a House, it became their House for life. The basis of the system was a points model serving as a token economy for rewarding outstanding academic achievement, citizenship, behavior, extracurricular participation, and

community service. Activities related to the House system were designed to promote school spirit, team building, and competition.

The Preston House System was instituted for the 2017-2018 and 2018-2019 school years. Some of the data and resulting analysis was based on these two years in addition to the 2019-2020 school year during which this action research project is conducted. For control purposes, the 2015-2016 and 2016-2017 school years were considered as baseline years.

From a fiscal perspective, the House system had costs associated with implementation. These included:

- Costs for materials and supplies related to assemblies, House shirts, banners, and other promotional materials placed around the school to help establish House identities.
- Costs for House reward trips periodically throughout the year for achieving challenges or accumulating the most points.

The fiscal obligations to start the House system led to opportunities for me, as building principal, to engage with the community to partner with the school to help fund the effort. As will be described later, these community partnerships helped to raise awareness of the Preston Area School and provided enough support that the impact on the building budget to implement the House system has been negligible.

As examples of the community partnerships and their support for the project, the Preston School Parent Teacher Organization purchased $1200 of promotional banners for Houses to hang in the school. The George A. and Margaret Mee Charitable Foundation,

as a part of a much larger grant to support innovative programs at the Preston School, provided nearly $2000 for House reward trips for the 2018-19 school year. And a local lumber business donated a beautiful handmade trophy to be awarded to the annual winner of the points competition.

While these seem like trivial purchases when related to academic achievement, they supported the development of House identity in the school setting. That investment in school culture and climate, along with the energy and investment from the staff in faithfully implementing the token economy of the points system, became the public-facing structure of the House system. The fiscal impact of implementing the House system at the Preston Area School was minimized. Thanks to community partnerships and grants, revenues nearly met expenses.

With the fiscal impact minimized, school leadership focused on securing staff and student investment in the program. The full impact of this program was measured via the action research conducted during the 2019-2020 school year, a challenge undertaken to improve upon the program as it had existed in 2017-2018 and 2018-2019. Reaching the full potential of the program to positively impact academic achievement and school climate, while remaining nearly cost-neutral, was an administrative and programmatic goal of the House system.

The research questions analyzed through this action research project include:

1. What impact does a schoolwide points system implemented within a House structure have on academic achievement for grades 3-8?

2. What impact does a schoolwide points system implemented within a House structure have on school climate?
3. What are the benefits to a schoolwide House system as identified?

The purpose of this action research project was to gain a deeper understanding of social learning theories, experiential educational models, critical pedagogy and critical consciousness and their relationship to school climate and academic achievement. These concepts formed the framework of understanding that grounded a whole-school climate reform effort like a House system within traditional research.

Connecting the implementation of a House system to academic and behavioral data helped add data-driven results to the currently scant research base regarding this particular model of intervention. While the House system, made quite popular by the Ron Clark Academy in Atlanta, GA, had very clear aesthetic appeal and the potential to invigorate a school setting with a new identity and energy, connecting this program with academic growth and behavioral improvement had not been the focus of traditional school climate reform research efforts. A major objective of this research process was to focus the implementation of a House system to a theoretical framework and assess the correlation of this implementation to academic and behavioral data.

CHAPTER II

Review of the Literature

Introduction

The following review of relevant literature includes a conceptual framework based on research from John Dewey and Paulo Freire, a connection of that conceptual framework to school culture and climate research, and exploration through the literature of the connection of school climate reform on academic achievement.

The research base on House systems in school settings was scant, but fit within a larger context of research on school climate reform. As this literature review demonstrates, whole school climate reform can be a powerful effort to address student needs related to attendance, discipline, and academic achievement.

Conceptual Framework

The purpose of the conceptual framework for this project was to ground a House system within traditional research strands that evolved from such seminal researchers as John Dewey and Paolo Freire. In doing so, the precedent was set that the social aspects of school were areas where educators can intentionally address climate. A climate occurs when stakeholders agree on values that become embedded as the behavioral expectations of an organization (Smith & Shouppe, 2018). Cohen (2006), in a landmark and often-cited paper on the development of positive and healthy school climate, identified foundational elements of social, emotional, ethical, and academic education to be considered in the school setting. Compelling research demonstrated that sustained

positive school climate promotes academic achievement and healthy development (Cohen, Pickeral, & McCloskey, 2009; Ali & Siddiqui, 2016; Wang & Degol, 2016).

Dewey's theories related to social learning and experiential education were reviewed with a focus on school climate. Freire's theories, which challenged educators to consider critical consciousness and problem posing education for all learners within a system, were reviewed to support reform efforts at the school level. Both philosophers are often cited in research regarding school reform, and the objective of this research effort was to situate school climate reform, which is an area of ambiguous definition, within their work. While there is a body of research that supports empirical data that higher academic achievement results from healthy and positive school climates, there is very little in the way of blueprints to apply to realize this change.

John Dewey, in his 1938 text *Experience and Education*, said that schools are marked off from other social institutions by time schedules, rules of order and behavioral expectations, seating arrangements, methods of classifying students, examination, and promotion. In this traditional paradigm, Dewey noted that students, in order to learn, must be docile, receptive, and obedient. Textbooks contained all the correct knowledge, and teachers' roles were to connect students to the content and enforce standards of conduct. It was a dynamic of imposition upon students from above and beyond. These impositions threatened the organic relationship between democracy and education, and placed an overreliance on the power of authority figures to maintain an artificial control that limited learners from realizing their full potential within a democratic society (Dewey, 1938/2012).

In traditional environments such as the schools described by Dewey, young people were considered incapable of developing norms for learning or conduct. Adults were considered the elders and the finished product. Traditional routines were habitually easy. A progressive model of education was more difficult to execute than a traditional model. A progressive model does not have learning outcomes as a final target, but requires that these outcomes lead into new learning (Roberts, 2003). Experiential, social, or democratic routines are hard, but these are meant to be the true aims of education, as the resulting skills and knowledge become the foundation for people to be responsible and caring participants in a democratic society (Cohen, 2006).

Dewey's theoretical stance about social learning created space for young people to generate authority through experience, and admonished that mature adults are not the sole source of authority (Dewey, 1938). Dewey's argument was that students become actors in their education, rather than merely audience members (Clayton et al., 2014). In this mindset, students become legitimate participants in the school, and move from the status of newcomers to experienced members within a system. With this transition came the transfer of legitimacy, where the newcomer eventually is empowered and emboldened to have expert status and equal status (Lave & Wenger, 1991).

A modern emphasis troubles the notion of students achieving legitimate peripheral participation in traditional school models, as it places curriculum at the center of focus, rather than students (Breunig, 2004). As these pressures create dynamics of oppression on student thought and action, Dewey noted that children were able to discern the actions of adults that were geared toward power and dictating freedom rather than actions geared toward fairness and choice (1938). This emphasis reduced opportunities

for democratic models of social learning, as pressure on teachers and administrators mounted for assessment results (Cohen, 2006). Dewey reinforced that all analysis of social structures yielded the result that democratic decision-making and processes were more fruitful and satisfying than anti-democratic models (1938).

Dewey was careful to note that schools and organizations must have rules, and that social learning did not mean anarchy (1938). This important distinction regarding any consideration for social reform to improve school climate applied to this research project. However, having rules and order did not mean there should not be a mindset of progress and change, especially when the potential for change was viewed as a method for improving society (Dewey, 1916/2016). Blad (2019) described a form of social groups called advisories, where social emotional learning was the focus of less-structured experiences advised by teachers. These experiences were typically thematic with curricular areas but were led by students, with the objective to legitimize student input and support the development of students' coping strategies to handle more socially-driven constructs.

Social learning, then, forms a layer above rules and order, a layer that promotes social and moral development, with preferences for learner-centered educational decisions (Williams, 2017). This presents a shift in mindset, where teachers begin to lead students as a social group, rather than dictate to a class. Teachers lose the role of external boss and become the leader of social and group activities (Dewey, 1938). Staff members within this setting become coordinators. They see slightly ahead of others, advocate and champion learner opportunities, and are committed that students can learn by contributing to their communities (Pennsylvania Service Learning Evaluation Network, 1996). The

yield of social learning is measured by what students can become in these dynamics. Students who participate in programs with emphasis on community, relationships, and higher-level thinking skills are likely to become critical thinkers and positive contributors to their local communities and society (Williams, 2017).

Over the decades since Dewey, other psychologists and philosophers have worked with the concept of social learning. Very notably, Bandura's (1977) model of social learning, which is more widely regarded in modern research as social cognitive theory, followed a more closely scripted stimulus-response-reinforcement model. For the purposes of this research study, these theories more grounded in scientific models were not as pertinent, as the connection to school climate from a reform perspective was less discernible for individual stimuli. Rather, as Cohen (2006) defined it, learning related to behavior, self-concept, and learning environment involves social, emotional, ethical, and academic education (SEEAE). Intervention requires an assessment of needs, critical analysis, and proper relations where educators recognize that their position in learning dynamics is to design a climate or environment where SEEAE occurs organically (Jacobson, 2010; Cohen, 2006; Dewey 1916/2016).

Dewey's second strand of study to be considered in the conceptual framework was experiential learning. A characteristic of traditional schooling is to place experiences into separate categories, those that channel directly to the curricular lessons to be learned and those that are more frivolous and not to be taken seriously in the school setting (Dewey, 1916/2016). Instead, he continued, all experiences should be lived first, then applied to a construct of critical questions that would allow for further exploration as the learner dictates. As teachers create experiences with social learning in mind, where

students will move toward expert knowledge of a learning community and become legitimate participants, key principles are continuity and interaction, meaning experiences are structured strategically. Intentionally connecting experiences to each other becomes the responsibility of the teachers and school staff, to structure experiences that cede control gradually so that learners gain independence in thought and learning opportunities (Dewey, 1938).

In a community devoted to experiential learning, there is a shared responsibility for those committed to cultivating empowered actor-learners. This results in designing teaching and learning environments where students, staff, and community share value for students becoming full agents of their own and others' learning (Clayton et al., 2014). The Pennsylvania Service Learning Evaluation Network (1996) described this model of experiential learning as service learning, where students learn by doing. This process pushes students to think about the skills and knowledge necessary for learning (Cohen, 2006). Students reflect on the process of learning itself, driving de facto citizenship education, which promotes participation in a democracy.

The design of learning activities for an experiential learning or service learning system, in a model of thinking dating back to Dewey's (1938) work states that experiences layer upon each other. Experiences are stimuli. When a young person chooses to become a lawyer or doctor, experiences that connect to that choice become more impactful than other experiences. The challenge of experiences leading to education is that experiences may not connect to each other. Experiences of automatic or rote control do not promote analysis and capacity to think intelligently (Dewey, 1938).

Clayton et al., (2014) in their application of Deweyan democratic experiential learning principles, designed Terms of Engagement, outlining the roles of students and staff in the learning paradigm. These terms, which include students committing to short-term and long-term learning goals and staff committing to a mutual respect for students and their ideas related to the program, frame the expectations that students have authority and a voice in the teaching and learning process. These ideas echoed Dewey by walking the talk of democratic principles in design of teaching and learning experiences (Clayton et al., 2014).

Henness (2001), through an affiliation with the Corporation for National Service, conducted a study on rural K-12 schools who adopted strategies of service learning to build community awareness and renewal. In the eleven communities surveyed, totaling 145 participants from common school stakeholder groups (students, teachers, administrators, community leaders), service learning activities resulted in students developing stronger ties with their schools and communities and improved relationships between adults and students within the school and larger community (Henness, 2001).

Henness' findings align well with guidance given in the literature about school structures for experiential and service learning. The majority of respondents in Henness' work were high school age and junior high school age students. The Pennsylvania Service Learning Evaluation Network (1996) outlined school structures that value service learning. The Network identified application of service learning structures at the middle school level as highly appropriate, as middle school students value social interactions above academic settings. Students in service learning systems develop improved identity as citizens within their communities, heightened appreciations for collaboration, and

increased tolerance for diversity (Thapa, Cohen, Guffey, Higgins-D'Alessandro, 2013; Cohen, 2006). Additionally, service learning activities are a model of high student agency activities that build habits for legitimate participation in a democratic society (Dewey, 1916/2016).

This heightened level of engagement for students within their school and community crosses over to adult stakeholder groups as well. Evaluation of service-based systems yield feedback that teachers are more invested when managing the learning process rather than dominating it. Administrators demonstrate pride within their communities, and community groups feel motivated to connect with the school (Pennsylvania Service Learning Evaluation Network, 1996). Service learning systems must meet community needs, integrate academic instruction, and include time for reflection (Cohen, 2006).

School climate, as defined earlier, is a construct of embedded values that drive behavioral expectations within cultural norms. When considering a value system that prioritizes experiential learning and service learning, school leaders can capitalize on a learning model that brings into focus the whole child. For Dewey, the curriculum and the child were intertwined, and not compartmentalized (Ozar, 2015). Experiences and areas for learning deserve full treatments to assess their values, and should not be limited to simply those experiences directly related to curricular standards (Dewey, 1916/2016).

This connection between curriculum and child bears out in the research regarding the intentional design of experiential learning. Experiential learning is to be designed to cultivate learner capacities including seeing the dignity of all, including those marginalized and oppressed by traditional structures; working to extend and defend

individual rights; seeking out perspectives that challenge norms and structures; and working to nourish the flourishing of all life and remove obstacles (Clayton et al, 2014). Experiential education has been shown to positively affect at-risk students, contextualize learning, and make learning opportunities more equitable for all learners (Muir, 2003). This approach to valuing all learners allows for a common vision between teacher and students in a classroom setting. Such a shared vision leads to reflection, discussion, and further learning (Cohen, 2006).

As an example of applying the larger philosophical approach to experiential learning, Montgomery-Fate (1990) addressed experiential learning in the learning-writing process. When students have responsibility in the process, they gain a writing voice and self-confidence. With a stronger voice, their personal authority grows. With more personal authority, students gain in identity and self-concept. As this action research continues, the value of students gaining their voice and developing self-concept through their identity within a House system is a result to be monitored and documented further, as research in educational psychology has resulted in conclusions that student identification with their school climate in positive ways has a resulting positive impact on student achievement.

Dewey's vision for schooling resulted in the Dewey University Elementary School, which failed as a school itself but spawned a long history of experience-based educational enterprises in the century-plus since its closure. Ozar (2015) identified key principles that originated in Dewey's experimental school and continued to resonate in the modern educational setting, such as capitalizing upon natural connections to the community and using resources that are relevant to students. These leadership elements

become experiential or service learning opportunities for the school staff serving in an advisory capacity for the reform effort. A strong advisory board supports the collaborative nature of service learning. This group can be informal or formal in structure, but must meet with regularity to promote persistence. Not all collaborative efforts are immediately successful. A strong advisory board persists to make the program as successful as possible (Pennsylvania Service Learning Evaluation Network, 1996).

Freire's *Pedagogy of the Oppressed* (1968/1970/2005) served as a second arm of the conceptual framework for the action research project on implementing a House system as a model of school climate reform. Freire's work, which originated from his life and work in a Brazilian system where class and race inequalities permeated all aspects of society, including education, has become a touchstone for modern applications of social reform in education circles. The concept of critical pedagogy emerged from Freire's work to guide advancement in the field of emancipatory education and student empowerment (Cho, 2010).

Similar to Dewey, Freire (1968/1970/2005) believed that traditional school practices are based on the banking notion, where teacher deposits content into the student. This banking concept means students are expected to receive, memorize, and repeat. This misguided system suppresses student creativity, transformation, and inventive knowledge (Freire, 1968/1970/2005). The resulting frustration of this mindset in a modern context applies to school climate in a culture of standardized testing. White and Levers (2017) conducted focus groups of teachers and parents, with resulting input that their students and children are preparing to take tests rather than preparing to be face the world.

Freire's preferred model for teaching and learning was to liberate those groups of the learner population that have traditionally been oppressed by both societal values and banking concepts of teaching. His libertarian education required that the roles of student and teacher become interchangeable (Freire, 1968/1970/2005). Students have an equal role with teachers regarding learning and dialogue (Shih, 2018). The purpose of critical pedagogy is to recast schooling to focus teaching and learning on a moral project to inform social transformation (Breunig, 2005).

Such a social transformation dictates new cultural norms that become the basis for a new school climate. Critical pedagogy, by the nature of its message of anti-structure and anti-system, prompts its advocates to be inventive in the design of new democratic classroom and cultural models (Cho, 2010). Freire argued that education must be free from oppressive practices, and that education is a cultural forum that promotes democratic practices (Shih, 2018). Breaking from what have become traditional schooling practices is risky in a modern context of accountability, and such risk-taking is rare for school administrators and leadership, as "superintendents and principals learn early to tread gingerly, pursue consensus, get clearance before acting, and abide by established procedures" (Hess, 2009, para. 12). However, critical pedagogical practices may just be the aspect of leadership required to make a school climate reform reflect democratic, experience-based mindsets to maximum effect.

Making this shift toward critical pedagogy meant, according to Freire, that the critical consciousness of students would be taken seriously. The true job of students in a liberated model is to develop critical consciousness, where learners intervene in the world to transform the world. This comes from learners refusing to accept a passive role

(Freire, 1968/1970/2005). Traditional systems promote this passive role, particularly with a student population that has a preponderance of students from low socioeconomic demographics. These working class students, as studied by Chiang (2019), tended to come from families with limited economic flexibility and constrained cultural capital. This, in turn, led to passivity toward academics and initiative to engage critically with school climate. The resulting dynamics between schools and families tended to conflict with each other, with teachers and parents each assigning blame to each other for the passivity of their students and children (White & Levers, 2017).

Freire warned against simply having a passive consciousness, that doing so amounted to just being in the world. Critical consciousness meant being with the world (Freire, 1968/1970/2005). Part of the mission of educators in a system rife with societal pitfalls that limit students' academic and social engagement is to think of people of as being associated with their world in a critical way, where dialogue, freedom, and criticism are crucial, rejecting the "banking method" in favor of problem posing/problem solving inquiry method of teaching and learning (Shih, 2018).

Problem posing education requires the teacher and student to continuously work together. Teachers and students investigate problems, solutions, and each other's input as a means of praxis, where teaching and learning join in a seamless process (Freire, 1968/1970/2005). Glass (2001) noted that this idea, like many of Freire's and most philosophers in general, was a good example of Freire linking an understanding of human nature with an idealistic conception of society. Best practices for teaching and learning have always been known for teaching and learning to be closely intertwined. Madero (2017) noted that education was communication between two people where they share

their lives, not simply content, and that Freire's vision through education was a more complete humanity.

A pragmatic understanding of both Dewey's and Freire's visions for social transformation through democratic principles and valuing the learner's experience creates links supported by the research. Glass (2001) noted that Dewey's naturalistic approach focused on the scientific similarities of all people and Freire's humanistic viewpoint focused on the need to rise up against the discontinuities that create classes of oppressors and oppressed. Either way, there is an exigency to building discourse at the school level on the impact of these practices, as dialogue and the process of education are key to overcoming myths about human and social relations (Madero, 2017).

Freire's development of the concept of praxis, or combining reflection and direct and purposeful action to transform reality (Freire 1968/1970/2005; Breunig, 2005), echoed Dewey's belief that the challenge of experiences leading to learning was that experiences did not connect to each other. Experiences of automatic or rote control do not promote analysis and capacity to think intelligently (Dewey, 1938). When we consider learning as a series of investigations of problems, we develop thematic patterns. We consider people's thinking in these patterns. Change results as we intentionally remain in these thematic patterns of intervention and investigation. Learning occurs most effectively in an experience-driven model when the learner is involved and immersed with a situation, and develops a continuity between the past, present, and future (Wilson & Burket, 1989; Aasebo, Midtsundstad, & Willbergh, 2017).

Connecting Research Framework to Implementing a House System as School Climate Reform

Surveying definitions of school climate as a term revealed ambiguity in the research. A recent review of school climate measures reinforced no clear definition of school climate and only mild consensus regarding grounding the term in concepts of quality and character of school life (Olsen, Preston, Algozzine, Algozzine, & Cusumano, 2018; Wang & Degol, 2016). Cohen (2006) identified eleven factors that define school climate that cover the physical school building, social-emotional education practices, instructional quality, and relationship between students, teachers, parents, and community. Hoy and Hannum (1997) found that school climate, per the research literature, is a loosely gathered construct that holds together studies of school environment, learning environment, school climate, and community, among other similar concepts. Hoy and Hannum's definition of climate boiled down to six areas: academic emphasis, teacher affiliation, collegial leadership, resource support, principal influence, and institutional integrity. Their resulting survey of teachers led to the identification of teacher affiliation and academic emphasis as the most closely correlated elements of a perceived "healthy" school (1997). The concept of affiliation was a subtopic of Bragg and Manchester's (2016) aspect of "consideration," a component of a larger ethos that healthy school climates emanated. Consideration is a less defined area, based on feedback of how students feel and an openness of staff to welcome students to try new things without fear of rejection.

Other researchers have made more definitive claims about what constitutes school climate. A strong climate incentivizes stakeholders who support and espouse positive

organizational values and removes those who deny or do not follow them (Smith & Shouppe, 2018). Four primary areas constitute school climate: safety, relationships, teaching and learning, and the institutional environment (Cohen, Pickeral, & McCloskey, 2009). Even with these more clarified statements, however, the field was still inconclusive to conclude these are the only measures to consider (Olsen, Preston, Algozzine, Algozzine, & Cusumano, 2018). Zullig, Huebner, and Patton (2011) found academic support, positive teacher-student relationships, school connectedness, order and discipline, and academic satisfaction to be the most impactful indicators of school climate on school satisfaction. Their study, a multiple regression model analysis based on survey results of secondary age students on the School Climate Measure, was considered one of the few generalizable climate surveys. What was clear from all research is that systematic diagnosis and monitoring of a school's climate is a best practice for school personnel (Olsen, Preston, Algozzine, Algozzine, & Cusumano, 2018; Hoy and Hannum, 1997).

Rather than the term climate, Freire referenced the concept of culture, when discussed imaginatively and critically among members of the learning group, becomes thematic. The resulting circles of problem posing, dialogue, learning, and new problem posing results in a greater potential for change to the culture (Freire 1968/1970/2005). Ikpeze (2013) outlined a school wide reform effort geared at school climate called Expeditionary Learning. Learning centered on the student experience, where social contact and the school as community were prevailing themes. Regular meetings of the school, complete with music, student performances, and student awards, became part of the cultural fabric of the school.

Application of experiential and problem posing education frameworks to school climate reform efforts was a lightly researched area. Brennan (2012) noted that there was copious research on school climate, but a dearth on House systems, their implementation, and results of their implementation. Examples of House systems are typically found in more mainstream media or Internet sources. These examples help to establish the House program as popular and as potentially positive for impacting school climate, but the data on each example tends to be more circumstantial and solely reflecting the perceptions of the staff members interviewed about such programs.

The implementation of a school reform program like a House system, which has very individualized structures in different settings, can be a disorderly process. The research base demonstrates this point across programs that seek social reform through the construction of experiences. An experientially-based pedagogy promotes distraction, movement, and disorder, with the intention of creating movement, both physical and social, away from the classroom and toward the community (Montgomery-Fate, 1990). This is an effort often at odds with a modern school emphasis on testing and evaluation, which pressures teachers to deliver content and curriculum in the most socially efficient manner possible (Breunig, 2005). Cohen (2006) put forth a belief that this modern emphasis on test scores has an inadvertent negative effect on actual learning, and leaves schools with less time for and reduced expectations to challenge students to become socially aware and active future members of a democratic society. Such practices related to passive educational practices where students are subjected to banking methods of instruction risk leaving students, particularly those with risk factors for not achieving highly in school, as oppressed groups (White & Levers, 2017).

Schools who have implemented House systems need to establish the reasons for considering and adopting the program at the start. This is a challenging process, because there is a need to balance academic pressures in a modern context of standardized test accountability against a program like a House system that does not have a clear-cut academic element or direct connection to the curriculum. When starting their House systems, school teams identified areas of concern such as student and teacher marginalization, limited student interactions, limited relationships between staff and students, poor student behavior, and a lack of a sense of belonging (Brennan, 2012; Buchanan, 2018; Cornwall, 2018; The Bedford School, n.d.; Vidal, 2015). Interventions related to these needs become person-centered rather than variable-centered. Person-centered interventions allow for program changes to differentiate among subgroups of students (Wang & Degol, 2016).

Brennan (2012) references teacher isolation as a specific concern in the development of the House system at Most Holy Trinity Catholic School in rural Arizona. Teacher and staff involvement in the system at Mill Creek Elementary in Madison, Alabama became a highlight of the program's development. All faculty had a role in creation, framing ideas around questions like, "why not?" instead of, "that won't work" (Buchanan, 2018). Building a collaborative approach to addressing school climate is reminiscent of Deweyan practices, charging teachers to become the facilitators of the social group, rather than simply the deliverers of content (Dewey, 1938). This collaborative approach also rings clear in leadership research, with key staff members collaborating with the principal to identify needs and commit to actions (Fullan & Pinchot, 2018). That collaboration must be led with children, not content, as the focus of

education. To introduce content without integrating social context limits learning, and challenges the ethics of teaching (Williams, 2017). A collegial environment has been found to be an important factor in improving school climate, although the creation of and maintenance of that collegiality is more impactful when it is led among the teachers, and not necessarily directed by the principal (Hoy & Hannum, 1997).

As stated earlier, taking on a whole school reform effort related to school climate is not without struggle. Bear, Yang, Pell, and Gaskins (2014) found that there is a paucity of reliable measurement devices for school climate, with very few qualifying as valid and reliable. The uniqueness of each school extends beyond what they all have in common, meaning school leaders may have similar questions to consider in any setting, but may have very different variables to consider for program improvement (Davis & Warner, 2018). Experiential learning and critical pedagogy contain elements of disorder and chaos that threaten the traditional school structures. Montgomery-Fate (1990) described a series of experiences by his college students in a writing assignment on the Chicago Transit Authority. The experiential design made students the subject, rather than the object of the learning/writing process, requiring their whole involvement from the rational and analytical to the emotional, spiritual, and physical. He considered experiential learning a disorderly ordering process. While there are certainly more complex situations to conceive in a whole school effort rather than a writing assignment for a few students, the idea of disorder and struggles in experiential learning at any scale applies.

As a school climate reform effort that relies on students and staff to integrate experiential and service learning ideas within the traditional school structure, a House

system may best be described as a leap of faith for a school principal. Establishing the need to take this leap of faith while still practicing within the understanding that school reform efforts must be coordinated, sustained and intentional, drawing from many formative data sources on school climate to address students' social, emotional, ethical and intellectual abilities (Cohen, Pickeral, & McCloskey, 2009). The structure becomes the staff's responsibility to identify why a House system would match the needs. Brennan (2012) conducted surveys, semi-structured interviews, and focus groups of students and staff at Most Holy Trinity Catholic School before and after implementation of the school house system to assess school climate, sense of community, and Catholic identity. Early findings indicated enthusiasm for the house system by both teachers and students, but limitations in the social interactions desired. Longer-range assessment and evaluation of the system were needed before impact could be fully measured. Positive results related to community spirit and relationships between teachers and students emerged (Brennan, 2012). These findings are consistent with Wang and Degol (2016), who found a limitation of many studies of school climate to be a lack of a time element, either in the amount of time that an intervention had been in place, or a longitudinal variable that tracks the impact of school climate over the course of many years in the life of a student or group of students.

At Lake Canyon Elementary School in Galt, California, the needs of the school related to student behavior and a lack of opportunities for young students to learn from their older peers. Following implementation, students communicate with many different teachers, creating smaller communities within the larger school community (Cornwall, 2018). Deweyan ideas include those focused on community, safe and happy learning

environment, play between students and teachers, celebrating accomplishments, and gaining a sense of belonging (Williams, 2017). This positive focus is often overlooked in the research, as Chiang (2019) notes, highlighting that students who come from working class or otherwise nonacademic backgrounds are still quite capable of positive social interactions with teachers and classmates. A critical pedagogy argument also becomes apt here, that the visionary work of educational settings must not be content with simply adapting individuals to the world of conditions they experienced when they walked in the door, but striving toward liberating learners from their social limitations and create new possibilities (McLaren, 2016). These positive experiences support a positive school climate, creating a platform from which academic growth may emerge.

Goleta Valley Junior High School's House system, in Goleta, California, where 900 seventh and eighth grade students were sorted into six houses, was endorsed by faculty, who note that social houses reduced anxiety as students transitioned to higher grade levels, smaller environments reduced insecurities stemming from rapid physical and psychological changes, and house activities engaged early adolescents' idealism and interests in the world (Green, 2006). Mill Creek's six-house elementary system results indicated significant reduction in disciplinary referrals. Soft data indicated positive staff feelings, family connections, media coverage, and collaborative culture among all staff members (Buchanan, 2018). The House system at Westwood Elementary School, in Westlake, Louisiana, helped to build stronger bonds between staff and students (Vidal, 2015). House systems have proven to foster community among diverse populations, provide for pastoral needs of children, and generate a sense of belonging among students at Most Holy Trinity Catholic School (Brennan, 2012). These strong interpersonal

relationships are crucial for constructive discourse and progress beyond the school walls (Hoy & Hannum, 1997).

The development of smaller communities and creation of smaller social unity among students in a modern era was found to be a method for promoting unity, self-worth, and responsibility in schools (Brennan, 2012). This thematic element is consistent across House systems in school settings. The House system at The Bedford School in Fairburn, Georgia was designed to create smaller communities, foster a sense of belonging, and promote character development (The Bedford School, n.d.). The Bedford School, a private school for students with learning disabilities or dyslexia, serves an enrollment of 150 students in first through ninth grade. The common-sense belief about students with disabilities was that they will be at risk for poor academic achievement and struggles with social interaction. We know from Dewey that experiential education practices are likely to positively impact at-risk student groups (Muir, 2003), and that humans must look beyond their biases to develop inquiry practices to overcome obstacles that limit the liberation opportunities of these groups (Harris, 2017). In order to accomplish this, highly structured activities need to be considered that involve student competencies, while high student agency activities are designed around students developing problem solving and finding their own resources (Clayton et al., 2014). High student agency activities are also representative of aims and qualities of schools that hold dear the values of democratic societies (Dewey, 1916/2016).

For students in the House system at Bedford School, the points system awards the students making the honor roll, displaying good citizenship and behavior, completing service projects, and participating in athletic events and house competitions (The Bedford

School, n.d.). These carefully designed reinforcements and rewards combine elements of academic achievement, social development, and community service that are believed to be indicative of healthy school climate. At Mill Creek Elementary School, the House system was based on the six pillars of the school's character education program: trustworthiness, respect, responsibility, fairness, caring, and citizenship. These values, designed to be the cultural expectations from which school climate emerges, became the basis for the points system, and staff awarded points for students exhibiting any of the six pillar characteristics (Buchanan, 2018). As these were socially constructed values by the staff and leadership of the school, they became the frames of reference for students upon which they reflect when House points were awarded for their accomplishments. This reflection becomes the conjunction of personal and socially inculcated value structures, and becomes the lynchpin of learning in an experiential learning system (Wilson & Burket, 1989).

Another common aspect of House systems in effect is the inclusion of recognition for leadership and service learning. At Goleta Valley Junior High School, students participated in Houses for social and academic competitions, community service activities, and schoolwide leadership activities. Community service opportunities, including helping at shelters and conducting clothing and food drives, were attached to points system, but staff members also recognized the intrinsic value that students gain from the experiences (Green, 2006). In a school with a very diverse population, both ethnically and socioeconomically (California Department of Education, 2017), many students were from working class families, and were likely exposed to very few opportunities to develop cultural capital for leadership or service (Chiang, 2019).

Service learning dynamics require staff and students to continually plan, implement, and evaluate activities to energize the system (The Pennsylvania Service Learning Evaluation Network, 1996). Along with the building of cultural capital for learners to use as experiences for personal growth, the activities implemented by students and staff in the name of service learning become the basis for building personal histories and culture, creating opportunities for liberation and the overcoming of oppressive realities (Glass, 2001). In the spirit of students developing as leaders and service learners, the House system at Most Holy Trinity Catholic School was led by a House Coordinating Committee and House Directors Committee. Both were student groups whose responsibilities included securing administrative and staff buy-in, along with scheduling activities (Brennan, 2012). As these approaches decentralize power by offering students leadership in developing programs, and reconciling their successes and failure without downward pressure, a critical pedagogy emerges where the school staff ascribes to a basic faith in others as human beings, that students will emerge closer to liberated and develop abilities to lead others thusly (Jenlink, 2017).

School climate reform must include results that are consistent with the areas addressed by the reform effort. School climate, due to its malleability based on staff control over behavioral expectations and reinforcement systems, is a prime area to consider intervention (Wang & Degol, 2016). Incentives like House points, which lead to individual and House recognition in all of the researched examples, are manipulated by staff members. This may represent a departure from a true Freirean system, where legitimacy of students as full participants in the system will not be a reality. Staff are accountable for data related to student performance in a modern educational system,

however. At Goleta Valley Junior High School, in an effort to safeguard against the points system becoming too heavily based on competitions or achievement, staff collaborated to balance points on participation, effort, and growth. Suspensions dropped by fifty percent in a two-year period. The University of California at Santa Barbara conducted a study on teasing, harmful rumors, and physical violence over the same time, finding that each decreased over the two-year period (Green, 2006).

At Lake Canyon Elementary School, Principal Judi Hayes attributed mentoring opportunities between older students and younger students with reducing behavioral and disciplinary issues. Causation between House system and reduced suspensions was hard to prove, as the school adopted restorative disciplinary practices at the same time (Cornwall, 2018). There was evidence from school climate research analysis that shows a high correlation for higher academic achievement and improved student behavior in schools where students get along with and care about one another (Bear, Yang, Pell, & Gaskins, 2014). In student mentoring dynamics, protégés who report positive interactions with student mentors were more willing to continue participation in positive school programs, even if results about the impact of student mentoring for student achievement were scarce in the research (Laco & Johnson, 2017).

Staff sought similar results at Mill Creek Elementary, where identified needs included building stronger student-to-student relationships and teacher-to-student relationships, reducing office discipline referrals, and building a sense of belonging (Buchanan, 2018). This focus on relationship building reflects models of risk and resilience, where protective factors are prioritized to minimize the impact of risk factors related to parental support, parental expectations for youth behavior, social supports in

the community, and social supports in the school on student results (Hopson, Schiller, & Lawson, 2014). Additionally, research on adult-initiated contact with students regarding positive behavior and relationships led to improved student behavior and outcomes (Cash, Debnam, Waasdorp, Wahl, & Bradshaw, 2018). Laco and Johnson (2017) found teacher-led mentoring opportunities provided space for students and teachers to engage in discussion of personal themes that enabled mentees to understand their own social and emotional circumstances and growth.

A House system is a sound program to consider for the sake of addressing and improving school climate. It matches up well with experiential education theories and critical pedagogy concepts, and is customizable enough to match diverse educational settings. The House systems profiled each shared a full commitment of staff and students. "Every part of our school culture now flows through the lens of the house system," Judi Hayes, Principal of Lake Canyon Elementary School, said (Cornwall, 2018). This commitment is a prime example of Hoy's and Hannum's (1997) conclusion that teacher (staff) affiliation is a driving force of a healthy school climate. Hayes concluded that, "for a House system to succeed, there has to be something substantive behind it, an underlying ethos being reinforced" (Cornwall, 2018).

The development of a powerful ethos includes the concept of conviviality, where all stakeholders in a school setting live interdependently with democratic ideals in mind, and sharing the consensus to reject deficit discourses, such as those about the disadvantaged or overlooked (Bragg & Manchester, 2016). Cohen (2006) referenced the need for "spread," or the willingness and active commitment of school staff to introduce the active reform effort as well as spread the altered underlying beliefs of the reform

effort. Teacher efficacy, or the belief by individual teachers or a collective staff of teachers that all students will learn no matter their demographic circumstances or background, was shown to be correlated with improved school climate and academic achievement (Mosoge, Challens, & Xaba, 2018).

Impact of School Climate Reform on Academic Achievement

A primary objective of this action research was to improve academic achievement results at the Preston School using a House system as a school climate reform approach. A House system, as framed within the theories of experiential education and critical pedagogy, will be the variable by which change is assessed. Across the examples of House systems reviewed, there was very little evidence or commentary available on the direct impact of such a program on academic achievement. There was, however, much available about the impact of a healthy school climate on academic achievement (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013; Ali & Siddiqui, 2016; Davis & Warner, 2018). As this action research project was based on the process of successfully implementing a House system to yield positive results in both school climate and academic achievement results, identifying evidence that supports both outcomes is possible if the research is to be validated.

Identifying indicators of school climate is a process unique to each school, a process where school staff members assess their needs and develop interventions based on these needs and the resources at their disposal (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). Much of the available research indicates that school climate is difficult to define and assess beyond very general terms. In his action research on the implementation of a House system at Most Holy Trinity Catholic School in rural Arizona,

Brennan (2012) concluded that there was positive momentum among staff and students regarding the areas of need identified to be addressed by a House system. However, results within the first year of implementation were too preliminary to attach to more concrete measures of achievement and needed more time. Only one of the House systems reviewed reported data related to academic achievement, with student performance on Goleta Valley's Academic Performance Indicator rising thirty five points, which was four times the previous year's increase (Green, 2006).

Generalizing the effort a bit, there is evidence in the research that, when controlling for socioeconomic status, positive school climate had a significant impact on student achievement (Maxwell, Reynolds, Lee, Subasic, & Bromhead, 2006). Research conducted through the National School Climate Center concluded that school climate impacted students' physical and mental health significantly, which in turn mitigated risk factors and led to improved student self-esteem, attendance, student engagement, and academic results (Thapa, Cohen, Higgins-D'Alessandro, & Guffey, 2013). Studies reviewed by this group identified outcomes that students who are encouraged via school climate measures to engage in academic learning have greater potential for increased academic achievement results (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). There is evidence that school climate measures designed to support student engagement through efforts like advisories opened up avenues for reluctant and at-risk students to access academic support with fewer obstacles (Blad, 2019).

The setting for this action research project, the Preston Area School in the Wayne Highlands School District, is a small K-8 school in a very rural area of Wayne County, Pennsylvania. Like most rural communities in Northeastern Pennsylvania, the Preston

Area School student population decreased to under 170 students from a high of over 400 in the 1980's, with a majority qualifying for free and reduced lunch. These demographics would indicate a student population much more at risk for lower educational attainment and expectation (Thornton, 2017; Sanders et al. 2018). The historical data for student achievement at Preston far outpaced these modest expectations, buoyed by a core of high-achieving families whose children modeled their parents' distinctive work ethic and career aspirations. In more recent years, however, the school's achievement has more closely aligned with its demographic realities. This downward trend of student achievement to more align with local demographics is consistent with findings from Reynolds, Lee, Turner, Bromhead, and Subasic (2017), whose study of factors of school climate and their impact on academic achievement yielded the strongest correlation for parent education, socioeconomic status, and school identification, or student feelings toward their school. Research findings regarding the impact of school climate on student achievement acknowledged the reality of socioeconomic status and accompanying social risk factors that often resulted from poverty are difficult to overcome without significant reform (Hopson, Schiller, & Lawson, 2014) that focuses on clear solutions with targets and established conditions for success that will last over time (Fullan & Pinchot, 2018).

As stated earlier in this review, positive perceptions of school climate impacts academic achievement, although socioeconomic status is one factor that requires more significant intervention, usually through the specialized staff of such schools who are tasked with second or third tier intervention supports, and special education programs (Maxwell, Reynolds, Lee, Subasic, & Bromhead, 2017; Thornton, 2017). A literature review by Sanders et al. (2018) indicated a lack of research regarding the association

between school climate and students with disabilities or ELL students. This was in contrast to the body of work available regarding school climate and the academic achievement of students from low socioeconomic status or racial minority identification, which was more substantial. Additional intervention areas identified that correlated with increased academic achievement were teacher behavior, curricular improvements, and group procedures related to instructional practices (Ali & Siddiqui, 2016). Proving a correlation between an isolated school climate reform measure like a House system without contextualizing the impact of multi-tiered intervention programs, special education programs, and improvement of instructional practices could be a limited conclusion (Reynolds, Lee, Turner, Bromhead, & Subasic, 2017). This will be an area for consideration during the course of the action research process.

Further research on at-risk student populations reveal conclusions that interventions in isolation may not correlate well with academic achievement, improved student behavior, or improved school climate. In a study conducted by Reno, Friend, Carruthers, and Smith (2018), teachers were surveyed regarding their students receiving Tier II behavioral interventions. In the results and conclusions, no correlation was found between students receiving these interventions and academic growth. Indeed, most beliefs regarding school improvement efforts echo that academics and behavior must be addressed in tandem (Fullan & Pinchot, 2018). These findings and beliefs supported the research that concluded more and more often that student perception of school climate matters as much to academic achievement as which program or intervention is used (Sanders et al. 2018). Aasebo, Midtsundstad, and Willbergh (2017) agreed in principle that the potential of interventions like dialogical teaching communication had the

potential to improve student perception of school culture beyond demographic limitations like parental resources. Effective practices and policies related to school climate that considered student perception as an input source helped clarify an understanding of the relationship between the two (Reynolds, Lee, Turner, Bromhead, & Subasic, 2017).

One conclusion of school climate research is that a strong academic climate yields higher student achievement when individual students develop their self-concept, by knowing and meeting challenges to reach their personal achievement and growth goals (Wang & Degol, 2016). This idea of student self-concept is reminiscent of Freire's critical consciousness, where learner awareness of the pathway toward liberation is both clarified and intentionally constructed. Student self-concept shows itself in different ways, one being a student's willingness to ask for support, which is shown through research to be a notable indicator of a healthy school climate (Fullan & Pinchot, 2018). Developing student self-concept and self-efficacy is a product of dialogical teacher communication practices, where students are empowered and trusted to explore their voice for the sake and benefit of societal participation and building autonomy (Aasebo, Midtsundstad, & Willbergh, 2017). Empowered students, who have high aspirations and expectations for success, and who are supported within healthy school climates where educators value positive relationships, realize high student achievement results (Kirk, Lewis, Brown, Karibo, & Park, 2016).

Additional studies of school climate show correlation to student achievement. Hopson, Schiller, and Lawson (2014) conducted a multilevel modeling analysis of student results on the School Success Profile (SSP) survey, including results from over 37,000 students across over 300 schools. The data yielded conclusions about student

demographics and their impact on student achievement that, when controlling for independent variables, indicate schools with students who have positive perceptions of school climate have higher student achievement and better behavior. Davis and Warner (2018) had similar conclusions after their study of school climate survey results in New York City Schools. Their conclusions included evidence that stakeholder perceptions of school climate were a stronger variable correlating with student achievement than were the composite of students' background variables.

Interestingly, Davis and Warner's results broke from Hopson, Schiller, and Lawson (2014). The latter found stronger correlation of student perception of school climate than teacher perception, while Davis and Warner found teacher and parent perception of school climate to be more aligned with high student achievement than students' perceptions. Elia (2015) also found parent perception of their middle school students' school impacted their relationship and expectations for their children, resulting in academic achievement that outpaced their socioeconomic status. All three sets of researchers agreed that these areas were fodder for future research. As it pertains to school climate reform, however, guidance remains strong that the development of these perceptions in practice requires careful planning and deliberate inclusion of student input, consistent with the types of activities of House systems or advisory programs (Cohen, Pickeral, & McCloskey, 2009; Blad, 2019).

These student perceptions often are reflective of teacher or staff behavior toward elements of school climate. For example, students who view their teachers as treating them fairly, offering them a voice in developing and implementing school climate, and enforcing rules with consistency have higher student achievement scores, particularly in

Math (Cash, Debnam, Waasdorp, Wahl, & Bradshaw, 2018). Analysis of responses given by 5,781 school personnel in 132 schools on the Delaware School Climate Survey-Teacher/Staff demonstrated that teacher-student relations did correlate well with academic achievement, but not as well as student-student relations (Bear, Yang, Pell, & Gaskins, 2014). These results citing the impact of student-student relations as the most impactful on academic achievement are particularly notable as they came from the version of the survey offered specifically to teachers and other school staff. Sanders et al. (2018) also found significant correlations between student perception of school climate and academic achievement. Student perception of the school climate and their involvement in the school to the point that they regard it as a meaningful place of reference for how they define themselves correlates very well with high student achievement (Reynolds, Lee, Turner, Bromhead, & Subasic, 2017).

Fullan and Pinchot (2018) discuss the importance of establishing a sense of urgency to accompany school climate reform as a pivotal leadership component. While this urgency may not mean swiftness to reach the final result, it is an exigency to recognize the need for change and movement. The development of a schoolwide ethos can be a representation of this urgency. As Bragg and Manchester (2016) describe it, an ethos requires staff and leadership to think openly and creatively about how their school is defined by how much we are "considerate," or positive and inclusive; "convivial," or reliant upon each other to act with integrity regarding the vision for the work; and "capacious," or willing and able to expand and grow together. The buy-in of a school-wide ethos represents the type of staff relations effort that researchers like Back, Polk, Keys, and McMahon (2015) recognize have an impact on school climate, and potentially

on academic achievement as well. Harkening back to the theoretical framework of Dewey and Freire, this collegiality and shared value for social, emotional, ethical and academic education is reminiscent of social learning and critical pedagogy, where practitioners become continually reflective of how well the school climate is received by students, and how well the academic climate aligns with the social climate.

Summary

The body of literature supporting school climate reform to effect change in academic achievement is strong, particularly for practices that support democratic theories and critical pedagogy. The difficulties of this reform in a modern context will continue to be the juxtaposition of an educational environment of accountability and standardized testing with school climate reform efforts that decry the dynamics of these suffocating environs. The objective of a House system is to provide opportunities to reinforce student achievement, effort, citizenship, behavior, involvement in school programs, and community service. This literature review provides both theoretical standing and evidence from research that a program like a House system, when implemented with full support from faculty and staff, can affect school climate and academic achievement.

CHAPTER III

Methodology

Introduction

As outlined in the literature review, intervening to improve school climate and academic achievement is inexact science, although there are steps related to stakeholder perception and setting clear targets for students that strongly correlate with success. In a small rural school with obstacles related to socioeconomic status, such as the Preston Area School, intervening with respect to fiscal responsibility has been necessary. The Preston House system has served as the intervention model to improve school climate and academic achievement.

Action research was the model implemented through this study for the purpose of analyzing the impact of the Preston House system on academic achievement and school climate. Through the action research model, quantitative data such as test scores were introduced and analyzed. Qualitative and inquiry data were analyzed through a faculty and staff survey and a focus group that also served as a program leadership committee. The action research model fit well with the intervention program, as the malleable structure of a House system allowed for adaptation based on needs as progressively identified over time by faculty and staff.

Purpose of the Study

The purpose of this action research project was to gain a deeper understanding of social learning theories, experiential educational models, critical pedagogical practices and their relationship to school climate and academic achievement. These concepts

formed the framework of understanding that grounds a whole-school climate reform effort like a House system within traditional research.

A House system involves the establishment of smaller communities of students and staff members within the larger school setting. After the selection of students and staff are considered, the resulting Houses compete with a token economy for recognition and rewards. This token economy, represented by points that all students earn for their academic achievement, citizenship, behavior, community service, or extracurricular participation, becomes the tangible indicator of student success. Connecting the implementation of a House system to academic and behavioral data adds data-driven results to the currently scant research base regarding this particular model of intervention. While the House system, made most popular by the Ron Clark Academy in Atlanta, GA, has very clear aesthetic appeal and the potential to invigorate a school setting with a new identity and energy, connecting this program with academic growth and behavioral improvement has not been the focus of traditional research efforts. A major objective of this research process was to focus the implementation of a House system to a theoretical framework and assess the correlation of this implementation to academic and behavioral data.

The research questions analyzed and considered through this research project include:

1. What impact does a schoolwide points system implemented within a House structure have on academic achievement for grades 3-8?
2. What impact does a schoolwide points system implemented within a House structure have on school climate?

3. What are the perceived benefits to a schoolwide House system as identified?

Setting and Participants

By the time of implementation of the Preston House system in Fall 2017, the Preston School consisted of approximately 165 students in grades Kindergarten through eight. The staff included one homeroom teacher per grade, one reading specialist, two learning support teachers, a nurse, a school counselor, five full-time paraprofessional and office staff, five custodial and kitchen staff, one principal who split time with another school in the district, an assistant principal who spent two half-days weekly at Preston while the principal was at his other school, and nine special area teachers who split time with other schools in the district. This total staff of 33 each selected their House based on the thematic characteristics of each. As staff came and left the school over the subsequent school years, their replacements were assigned House affiliation in order to maintain balanced numbers of staff members to provide supervision and leadership for each House.

The use of a House system as a schoolwide intervention came as a result of analysis of student achievement and school culture during the 2015-16 and 2016-17 academic years. Table 1 displays the percentage of students achieving proficiency in grades 3-8 on the English Language Arts (ELA) and Math PSSA assessments.

Table 1

Percentage of Preston Area School Students Scoring Proficient or Advanced on 2015-16 and 2016-17 PSSA ELA and Math

	Number of Students Tested 2015-16	2015-16 ELA	2015-16 Math	Number of Students Tested 2016-17	2016-17 ELA	2016-17 Math
Grade 3	16	68.8%	37.5%	16	37.5%	25.0%
Grade 4	26	38.5%	26.9%	16	75.0%	43.8%
Grade 5	18	72.2%	50.0%	21	33.3%	14.3%
Grade 6	12	58.3%	41.7%	18	77.8%	55.6%
Grade 7	23	73.9%	47.8%	11	81.8%	36.4%
Grade 8	24(ELA)/ 25(Math)	79.2%	56.0%	21	57.1%	42.9%

In Table 1, the data indicated stronger achievement for students in the higher grades. In 2015-16, the Grade 4 group, for example, scored well below the typical proficiency numbers for Grade 4 at Preston. However, one low-scoring cohort group was not cause for alarm by itself, especially when dealing with such small class numbers at Preston. The difficulty of the new PA Core-aligned PSSA assessment highlighted this as a low-scoring cohort, as the test itself was notably much more difficult in academic complexity and rigor for struggling readers than the preceding version of the PSSA. What became alarming was the 2016-17 Grade 3 class. With two classes in Grades 3-5 testing well below historical data trends for Preston, the need for intervention became

more exigent. Similar data trends emerged in benchmark assessment tools used for universal screening purposes for remedial and intervention purposes at younger grades.

Certain factors start to emerge as noteworthy regarding these two classes. First, the 2016-17 Grade 5 class had been split into two sections during their Kindergarten year, with a first-year teacher coming in to take half of the class. They were then together in one large First Grade section, then split halfway through Second Grade again, with another first year teacher coming in mid-year. This group was then split for third and fourth grade, with a new first year teacher for third grade looping with them into fourth grade. They were then combined in fifth grade after the class reduced to a more manageable size through students moving out of the school. While students typically have new teachers each year in public schools, the number of first-year teachers and transitions during two very important formative years of Kindergarten and Second Grade seemed to have had a negative impact educationally. Teachers and staff who worked with this group of students noticed a very different identity than the academically minded groups that preceded them for many years at Preston. This particular class had a strikingly high number of students identified as socioeconomically disadvantaged. While this number fluctuated a bit from year to year as students move in and out, it maintained at or above 65%, and reached as high as 90%. Preston always had higher percentages of socioeconomically disadvantaged students than other schools in the Wayne Highlands School District, but was always able to overcome that reality when standardized test results came in each year. This was different.

When the 2015-16 third grade looked more normalized compared to other years' achievement numbers, there was a sense of relief, that maybe we were going to be fine

and just needed to focus on the one group of students whose achievement was out of place. However, the 2016-17 third grade was once again a very low-scoring group. When considering the context of this group's instructional background, they had a first-year long-term substitute in third grade, and a long-term half-year substitute in second grade. Additionally, nearly forty percent of this class had been identified as in need of special education services. This much higher percentage of students with learning struggles continued for the next two years of classes.

The school Instructional Support Team evaluated practices related to intervention structure and success. The Team was confident that it had continued to operate correctly as a multi-tiered system of support, with very engaging and exciting young teachers in place who were extremely dedicated to student success. Across the school, there was very little that looked or seemed different from previous years, outside of the frequent long-term leaves of absence of many teachers.

What did seem different was a concern among staff that parents and guardians in the school cared less about their children's academic success. Fewer students were achieving the honor roll in their middle school years, and more students began missing homework assignments. Staff reported parents communicated more frustration about their basic needs and struggles outside of school, and were less willing to push their children to persevere through academic struggles. Fewer parents were apologetic when their student had a behavioral issue, and more parents were contentious and argumentative. Heading into the summer of 2017, an intervention was necessary to reinvigorate the school community.

One teacher at Preston had attended a three-day professional development experience during the spring of 2017 at the Ron Clark Academy in Atlanta, Georgia, where the House system is omnipresent. Through planning sessions in the summer of 2017, this teacher and I developed the Preston House system. Over the following two school years, 2017-18 and 2018-19, the Preston faculty and staff implemented and structured the House system. Amidst successes and growing pains, the program became a part of the school fabric. The 2019-20 academic school year served as the third year of implementation. During the 2019-2020 school year, this action research study was conducted to evaluate the program for its impact. All staff members at the Preston Area School during the 2019-2020 school year were invited to participate in the Preston Area School Faculty and Staff Research Survey (see Appendix A) anonymously as a method for evaluating faculty and staff perception of the program and its impact on academic, school climate, and other areas of influence in the school community. This survey was administered in September 2019 to assess the perceptual impact of the House system on the 2017-2018 and 2018-2019 school years, and in May 2020 to assess the perceptual impact of the House impact on the 2019-2020 school year.

Intervention/Research Plan

The faculty and staff of the Preston School designed the House system to meet objectives that included fostering and maintaining a sense of togetherness and teamwork for all students and staff, reinforcement and celebration of academic achievement and growth, promotion and empowerment of healthy competition, and recognition of prosocial behavior. This set of objectives are reminiscent of Cohen's (2006) version of social, emotional, ethical, and academic education (SEEAE). Implementation in Fall of

2017 was an energetic process, complete with assembly programs for inducting students into Houses. As with any brand new program, initiation involved all the stakeholders. The principal and staff leaders developed literature to share with parents, consulted with the school PTO about partnerships for purchasing items and supporting the program, and spoke with local businesses about sponsoring the program.

During the first year, staff developed and began implementing the House points system, which is the lifeblood and ongoing element of this intervention that drives its success. We developed a method for all staff to report and count House points using a phone and computer application, purchased a screen for the cafeteria to display the running point totals of each House throughout the year, and designed reward trips and activities for Houses that won points competitions.

The points system, serving as a token economy, offers any adult staff member in the building the chance to recognize a student for their behavior, effort, or distinctive achievement. When House points are assigned often enough, students associate them with success. This served as a response to concerns that Preston students had a diminished value for success that needed to be addressed.

In order to reinforce and support community and extracurricular involvement among students, I developed a voucher system and administered it through the principal's office. Upon completion of a program, activity, sport, or community service effort, a student completed a voucher, secured a parent signature, and submitted it for House points. This is a direct response to concerns that Preston students were not interacting with their larger school community, and not thereby becoming legitimate peripheral participants as full agents in their education, which is a Deweyan goal of experiential

learning (Dewey, 1938; Clayton et al., 2014; Lave & Wenger, 1991). The decision to include parent or activity leader signature on each voucher was very intentional, as we wanted to promote our students to practice the seemingly simple step of interacting with adults and seeking permission.

The structure of the Preston House system includes students' selection into Houses, to which they will belong for life. Staff members serve as leaders of the House, but student leadership has emerged over time. The school's House Council has replaced the more traditional Student Council model, and House elections of student leaders have replaced general student elections for leadership. The leadership structure of the House system evolved, evoking Dewey, who promoted the idea that students gain authority through experience, and that leadership decisions become learner-centered over time. Adult House leaders designed and led initial House activities. This was necessary, as students at Preston had been left with very few leadership development opportunities in a remote and rural community where students were largely disconnected except through social media and electronic means.

What emerged over the first months of the House system were conflicts between previous structures for student activity and leadership and the new House activities. House leadership committee members hoped that older students would recognize the energy and potential of this program to reinvigorate their school experience. However, older students in seventh and eighth grade were quite skeptical and took exception to the House system threatening the opportunities they thought they had earned over their many years at Preston. For example, Spirit Games were traditionally organized by grade level. When the Student Council members learned Spirit Games would now be organized by

House instead, there were letters written in protest and petitions signed by students. Interestingly, the resulting discussions, deliberations, and decisions over Spirit Games continuing to be organized by grade for year one were valuable opportunities for social learning theory to emerge. Students, as Dewey (1938) warned they might when change emerges, were questioning the reasons for this new House system, and staff leadership needed to consider whether the ideals of the new system were worth pursuing. While these conflicts were frustrating and challenged the House leadership committee who were seeking investment by staff and student groups in the new House system, they provided very keen insight into the students' mindset. The success of the House system needed to involve student input and feedback in order to be a viable school-wide program. In other words, the House leadership committee needed to fully value students' critical consciousness and regard what students valued going forward and what they no longer valued in their school experience.

These values helped House leadership committee members as educators, as they became very attuned to the importance of layering experiences, a la Deweyan thought, to better structure the Preston House system. At the time there was no guidebook for this program, outside of some basic organization to be copied from existing school efforts. During the first year of implementation, House activities were focused on team-building, bringing each House together to create and rehearse chants, work together to solve puzzles and challenges, and learn more about each other as a group. The group dynamics were quite unusual for typical school activities, with students between Kindergarten and eighth grade all together in House groups of approximately forty students and five staff members. Significant challenges to overcome emerged, specifically how to organize

experiences that fourteen-year-old eighth graders could value alongside five-year-old Kindergarten students. Student response to these first activities was quite tepid, which was frustrating for staff members who invested time and energy into planning these activities.

In a very intentional application of Deweyan democratic educational principles, teachers held open forum conversations with students, which led to open conversations among staff members regarding the House system and establishing direction. My only directive as building principal was that the House system was here to stay, that this would not be a failed initiative because the school community had not yet fully committed to new demographics that the traditional approach to education at Preston was no longer addressing effectively. This became my role as principal, to espouse and champion values for pride for self, school and community. The school climate needed to reflect my values. Because I was split as principal between two buildings, and truly only at Preston two days per week, I needed to rely on the rest of the staff to share these values and practice them daily.

House leadership among staff was assigned when staff members chose their Houses in the fall of 2017. I strategically chose staff members to serve as House leaders who I knew would be committed to the objectives of the program, and who would have the positive energy needed to persevere through the challenges of a new school climate reform. An identified area of concern was the passive attitudes of students and their families in the years leading up to starting this program, particularly in the elementary level classes. Our critical consciousness, as Freire would have demanded, needed a jump-start. The Preston Area School had become very good at the banking methods that

both Dewey and Freire criticized and that research right through Shih (2018) has characterized as taking away from problem-posing learning dynamics and teacher-student relationships that are learner-focused. The new House system needed to be learner-focused, and the House leadership committee needed to be open to responding to feedback to match the system with targets for student achievement, behavior, and citizenship.

As the 2017-2018 school year progressed, additional opportunities emerged to use the House points system to recognize academic achievement beyond the classroom. A concern had emerged that parents were not recognizing their children for their academic performance or accomplishments. Many report cards sat at the office for a long time because of unpaid lunch balances or library fines, which indicated that parents simply were not concerned with how their children fared in school. We decided to use the points system to help in this regard.

I began assigning House points for honor roll achievement and CDT diagnostic assessment performance for winter and spring administrations in grades 3-8, and prompted teachers to make House points available for academic performance on a regular basis. The economy of House points had begun to take shape as follows:

- 1-2 points awarded for citizenship, manners, positive behavior, classroom effort, responsibility, respect, or readiness. Staff assigned points as intermittent reinforcement for individual students as the staff person sees fit.
- 1-3 points for classroom academic accomplishments such as outstanding grades on a test, project, or long-term task.

- 7 points for achieving Honor Roll in a marking period and 10 points for achieving High Honor Roll in a marking period for students in Grades 6-8.
- 5-10 points for reaching achievement or growth targets on Math and Reading benchmark assessments for students in grades 3-8.
- 1-5 points for a student helping with a community service event, such as a community hall dinner or a school litter pick up.
- 10-20 points for a student completing an athletic, music, or educational program. These programs include interscholastic and community sports, school-based chorus or band, the annual school musical, Sunday School, 4H, and other programs as submitted and considered.

A very visible physical element of the Preston House system is the big wheel. The Preston teacher who attended the Ron Clark Academy professional development experience built the Preston House wheel out of used parts, including a table and an old whiteboard frame on wheels. Every two weeks, all students and staff at Preston gather in the school's large group instruction room. Each House sends a student up to spin the wheel for House points. Staff members in each House select the students who will spin the wheel for their accomplishments, behavior, citizenship, or special recognition. Point values on the wheel range from more frequent results between 0-10 points, up to the very rare 50-100 points.

House points by themselves were a nice reward for students, but they began to take on additional meaning when they were incentivized with larger prizes. The resulting competitions, which over the first three years of implementation became the most energized aspects of the Preston House system, required all students in the House to

consider how they contributed to the team effort. This team dynamic was unusual in a school atmosphere, especially stretching across grades K-8. House reward activities included trips to local recreational facilities, picnics in the local town park, the movie theater and restaurant in the nearby town, the nearby YMCA for swimming and recreation, and to the Pocono Raceway for a special presentation of a local charitable effort that Preston students helped complete.

Incorporating a school climate reform effort included financial investment. The Preston House system was no exception. As described in the introduction section, this intervention had largely been cost-neutral, largely due to community partnerships. Fundraising efforts for the Preston Area School PTO began to directly reflect House reward trips and activities. Sales of House shirts shifted from donations to become part of PTO fundraising campaigns. House leadership committee members sought donations for hardware and paint, and repurposed old materials like magnetic chalkboards to construct House point standings boards. Careful branding of this program, which took the first three years, allowed for very strategic purchasing. An important part of this branding effort was my role as principal, and I used public opportunities such as opening parent meetings and school concerts to address parents about the House program, the ideals we sought, and the partnerships we needed within the larger school community to grow. These public presentations, both formal and informal in nature, made a tremendous difference in the willingness of parents, local business owners, and community groups to support the House system.

Just as finding funds to pay for reward trips and marketing materials took time and discipline, and just as repurposing available materials helped mitigate costs, the

House leadership committee faced challenges with building consensus among staff members for the need for the House system. Through the slow development of this program, the best intentions and plans related to school climate reform did not guarantee improvements in staff or student affiliation with school. The examples of House systems highlighted in the review of the literature for this project yielded a conclusion that school climate reform is more likely influential with a person-centered focus rather than a variable-centered focus. The Preston House system was no different. This project sought to demonstrate the possibilities to connect the implementation of a House system to variables that traditionally measure school success while acknowledging that such a connection has been difficult to quantify in available research.

Methods of Data Collection

This action research project includes both quantitative and qualitative data analysis. This mixed methods approach, as Hendricks (2017) notes, allows the researcher to concentrate on the data that best leads to conclusiveness regarding whether the action led to the desired outcome. The researcher submitted the proposal for this action research project to the Institutional Review Board, or IRB, of California University of Pennsylvania on July 26, 2019. The IRB approved this research project proposal via email and attachment on September 4, 2019, with an expiration date of September 3, 2020 (See Appendix B). Due to the statewide closure of schools for the time period covering March 13, 2020 until the close of the 2019-2020 school year as a result of the COVID-19 Pandemic, the research proposal was updated via addendum letter to reflect modified data collection procedures for the Preston Area School Faculty and Staff Research Survey on April 10, 2020 (See Appendix C). The IRB granted an updated

approval for the research project to continue as amended, with a revised expiration date of April 9, 2021 (see Appendix D).

The first research question considered in this action research project was how the implementation of a House system impacts academic achievement in grades 3-8. Academic achievement was measured using summative and diagnostic assessment instruments. In accordance with federal and state laws regarding required assessment in Math and English Language Arts for students in grades 3 through 8, the Pennsylvania System of Standardized Assessment (PSSA) was administered at the Preston Area School annually. Student performance on these assessments at Preston was represented in raw scores, which translate to the scoring categories of Advanced, Proficient, Basic, and Below Basic. These scores were also represented in Normal Curve Equivalent, or NCE, units, which were used to measure student growth from year to year in the Pennsylvania Value Added Assessment System, or PVAAS.

For this action research project, the use of NCE units was the most relevant way to measure student performance, as individual student performance was measured against all other students who took the same test, rather than analyzing raw scores and their relationship to proficiency, which were numerical data that shift from year to year depending on the student's grade level assessment. Approximately one hundred students at the Preston Area School took the PSSA assessments in each academic year in grades 3-8.

Due to the COVID-19 Pandemic, the Pennsylvania Department of Education canceled administration of the Spring 2020 PSSA assessments. For that reason, analysis of NCE scores included scores from the two implementation years of 2017-2018 and

2018-2019 as compared to the two pre-implementation years of 2015-2016 and 2016-2017.

The Classroom Diagnostic Test, or CDT, is a diagnostic assessment system developed and maintained by Data Recognition Corporation, or DRC, and is freely available for use in Pennsylvania schools. Beginning in the 2015-2016 school year, students at the Preston Area School, students have taken the CDT as a diagnostic assessment multiple times annually in Reading and Math in grades 3 through 8. While these tests were not designed as direct preparation for the PSSA assessments, they served as indicators of student readiness for Eligible Content used by PSSA at grade level (Pennsylvania Department of Education, 2020). Student scaled scores indicating strengths at grade level on CDT logically projected to proficiency on PSSA.

Student scores on CDT were reported in scaled scores. In 2015-2016, students took CDT two times, in November and in March. Beginning in 2016-2017, students took a baseline CDT within the first two weeks of the school year. A second administration of the CDT followed in early December, with a third in late February or early March. Beginning in 2017-2018, House points were awarded for students maintaining a score in the highest scoring range, achieving the next scoring range or for closing at least half the gap between their most recent score and the next scoring range.

A primary characteristic of action research is that causal relationships are difficult and cumbersome to prove using typical quantitative methodology in the field (Dick & Swepson, 2013). A challenge of analyzing the positive or negative impact of a House system on student achievement was that the system may not appear to act as a direct catalyst for change. Rather, the attachment of House points to PSSA and CDT served as

a more global indicator of student and teacher affiliation with the Preston Area School. If students were motivated by House points for academic achievement on summative and diagnostic assessments, the results would demonstrate perseverance and improved results.

Action research may not be easy to generalize, as the relationship between researcher and setting is typically quite personal (Dick & Swepson, 2013). The Preston House system research is likely to be unique to the setting, and will certainly inform future school climate decisions as well as instructional decisions. Having made these disclaimers, there is value to be gained through quantitative analysis of PSSA and CDT assessment data to answer the research question.

Other data collected to help answer the first research question regarding the impact of the Preston House system on academic achievement included survey results from the Preston Area School Faculty and Staff Research Survey, displayed in Appendix A. This survey asked staff members to rate their opinion of the impact of the Preston House system using a Likert scale on various topics reflecting student achievement as well as school climate. Questions 1-4 of this survey referenced student achievement on PSSA Reading, PSSA Math, CDT Reading, and CDT Math. Analysis of this data served to triangulate student achievement data.

The second research question considered through this research was to analyze and measure the impact of the Preston House system on school climate. This question was answered through quantitative analysis of school records like attendance rate and student discipline. According to Hendricks (2017), archived artifacts can be useful sources of data for the sake of action research at the school level.

Attendance rate was calculated by the total number of days present divided by the total number of days enrolled for all students during a school year. As stated in the review of the literature, positive school climate yielded positive returns in measurements such as attendance (Thapa, Cohen, Higgins-D'Alessandro, & Guffey, 2013). The baseline years of 2015-2016 and 2016-2017 were compared with the implementation years of 2017-2018, 2018-2019, and 2019-2020. Due to the COVID-19 Pandemic and the closure of all Pennsylvania schools from March 13, 2020 through the close of the 2019-2020 school year, attendance data for 2019-2020 was truncated and considered as an incomplete data set. The analysis of attendance data reflected this unfortunate predicament.

Student discipline data was treated similarly to student attendance data, as holistic indicators of school climate. The review of the literature accentuated many characteristics associated with positive school climate, including orderly student conduct in line with institutional values that promote both discipline and a sense of community (Zullig, Huebner, & Patton, 2011). Baseline data for 2015-16 and 2016-2017 were compared with the implementation years of 2017-2018, 2018-2019, and 2019-2020. Due to the COVID-19 Pandemic and the closure of all Pennsylvania schools from March 13, 2020 through the close of the 2019-2020 school year, discipline data for 2019-2020 was truncated and considered as an incomplete data set. The analysis of discipline data reflected this unfortunate predicament.

Answering this research question about the impact of the Preston House system on school climate by using only holistic measures may not have reflected the full complexity of the many concepts and components of school climate. To better reflect the

more qualitative elements of school climate, such as social awareness and espousing organizational values, the Preston House leadership committee served as a focus group. As Hendricks (2017) described the use of the focus group as a data collection strategy, the rich discussion between group members in a more informal setting allows for inquiry that is more authentic. Focus group members agreed to participate in the research study via the informed consent form referenced in Appendix E. Focus group data was kept by the researcher in journal form, documenting the monthly meetings, the topics discussed, general input and consensus from the group, and individual standpoints and quotes where appropriate. Focus group data does not contain personally identifying characteristics and was presented through the data findings anonymously.

The authenticity of the data collected was crucial when assessing the Preston House system for its impact on school climate. A strong advisory board is a crucial element of school-based programs that focus on service learning or experiential learning (Ozar, 2015; Pennsylvania Service Learning Evaluation Network, 1996). The Preston House leadership committee served in the capacity of advisory board. The committee met monthly to discuss and plan upcoming events and competitions, contribute feedback from recent events and activities, and consider how best to structure the program related to the current climate of the building. As described earlier, the Preston House system is a loosely structured program, with opportunities for staff to adjust direction based on the current feedback and needs of the school. Due to the COVID-19 Pandemic, the Preston House Leadership Committee met during the months of August 2019 through February 2020, ceasing activity in March 2020 due to the statewide school closure. As a result, the

data for this focus group represented the seven months during which school was in session for the 2019-2020 school year.

Examples of how the House leadership committee used the House system to address the needs of the school were plentiful. In response to a lack of community service opportunities for our students, the committee designed a House activity to contribute to a local charitable effort. Due to concerns over students' passive attitudes in the classroom, a House points challenge was organized to encourage teachers to recognize student engagement and effort more regularly, with the winning House earning a reward trip to a local pool. Team-building activities, student leadership opportunities, and even public speaking and peer mentoring have all been topics addressed through the House system that originated through the adult advisors. Inquiry data collected through focus group discussions documented the evolution of the Preston House system and the impact it had on school climate over the implementation years of 2017-2018, 2018-2019, and 2019-2020. Inquiry data was collected via a journal kept by the principal that loosely transcribed the meeting, referencing input from focus group members, and resulting actions based on that feedback.

A final data component for analysis of the impact of the Preston House system on school climate represented the responses of faculty and staff members on the Preston Area School Faculty and Staff Research Survey, displayed in Appendix A, for items related to the topic. Survey items 5 and 6 dealt directly with the perception of staff members of the influence the Preston House system has had on student attendance and student discipline, specifically for students in grades 3 through 8. The decision to focus on staff perception of the impact of the House system for students in grades 3 through 8

was based on the importance of standardized testing that occurs for students in these grades. This data provides triangulation with the attendance and student discipline introduced earlier.

The third research question, which addresses the perceived benefits of the Preston House system as identified by staff members, was a qualitative inquiry. Data was collated and analyzed from the previously identified Preston House leadership committee focus group and from the Preston Area School Faculty and Staff Research Survey, displayed in Appendix A.

Preston Area School Faculty and Staff Research Survey items 7 through 12 addressed topics and ideas that intertwined with academic achievement and school climate, but that also represented areas of the larger school community that may have benefited from the Preston House system over the first three years of implementation. Brennan (2012) concluded that the impact of the House system he researched was premature when assessed after only one year of implementation. His findings did include energy for the program by staff and students and positive community awareness for the program.

At Preston, I had the advantage of having three full years of implementation data to consider as a part of this research study. Consequently, the data on the impact of the Preston House system on the school and community reflected this longer history. Survey item 8, for example, asked staff for their perception of the positive, neutral, or negative impact of the Preston House system on Community Service. By the third year of the system, I had publicized the voucher system for students to complete for House points for community service at great length throughout the local community. The depth of faculty

and staff opinions was more significant and meaningful due to the three years' implementation experience.

As the researcher, my primary interest was to gauge the perceptions of the primary stakeholders in the Preston House system, who are the Preston Area School staff. As the Preston Area School principal, my interest was that my staff members were invested in our House system to best facilitate improvements. The nexus between these roles as researcher and principal in the school setting was where my personal investment in the data needed reconciliation.

Hendricks (2017) explains the advantages of the action research model for principals as both researchers and practitioners. Principals can "encourage and evaluate action research by their teachers and conduct their own school improvement studies related to school climate, professional development, school-community relations, working with parents, curricular programs, student achievement, attendance, and discipline" (p.5). A whole-school reform effort such as a House system has the potential to reach and influence all of these stated areas.

Focus group data served to triangulate staff survey data and either support or refute survey input. The Preston House Leadership Committee served as a representation of the staff, but not all staff members participate with this group. All staff members, however, were invited to participate on the staff survey. The survey data yielded staff input and feedback on the House system that went unvoiced in the general course of the school year as well as in the focus group.

The Preston Area School Faculty and Staff Research Survey was administered twice over the scope of this research project. The first administration of the Survey was in the Fall of 2019, and served as baseline data to encapsulate the first two years of implementation, 2017-2018 and 2018-2019. The second administration was near the close of the 2019-2020 school year and served to measure the impact of the Preston House system during this respective school year. Due to the COVID-19 pandemic, the May 2020 administration of the survey was completed electronically using the Survey Monkey program. This process allowed for anonymity of responses.

The third research question is the question where the fiscal implications of the Preston House system was explored and analyzed. The focus group considered the partnerships we at the school have in our community to plan and pay for House reward trips. These partnerships included the Preston Area School Parent Teacher Organization, or PTO, as well as local businesses who have offered support for House events as well as support for PTO events that have led to support of the House system. Other costs for this program included marketing materials and displays around the school for House points and House legacy. The focus group provided inquiry data and discussion data related to these costs, as well as working to secure the donations of materials, money, and finished products received over the years for the House system.

The Preston Area School Faculty and Staff Research Survey, Appendix A, provided for feedback on survey item 12 that sought opinion on the impact of the House system as it related to the image of the Preston Area School in the community. This data was supportive of the larger discussion of the Preston Area School community as it continued to change and evolve demographically.

Validity

Hendricks (2017) offered four criteria for demonstrating validity in action research, including credibility, transferability, dependability, and confirmability. The purpose of this section was to demonstrate the research plan to establish these criteria in relation to the data collection for the Preston House system and to lead toward conclusiveness regarding the program's impact on academic achievement, school climate, and other benefits as identified by staff.

This action research was conducted under the guidance of an external committee, who served in support, editing, and peer debriefing roles. These supporters were not biased regarding the project, as they were not employees of the Wayne Highlands School District and, thus, had no personal investment in the Preston House system. As such, their editing and research feedback served to help me reconcile my roles as both principal of the Preston Area School and researcher for this study.

As this intervention program was in its third year of implementation at the time of the research study, the Preston House system withstood many of the questions that emerged about similar yet younger programs highlighted in the review of the literature. This prolonged data set served to demonstrate dependability of the information. The Preston House Leadership Committee became a valuable source of member checks, which Hendricks (2017) identified as a strategy for increasing credibility in the study. This group, in its role as a focus group, had a three-year history with this program. Opinions, feedback, and memories of previous events and activities were plentiful with this group, and served well to confirm current input and data. Additionally, this group helped to support checks and balances for the use of the points system. Discussions

about various staff members' use of the points system and the evolution of the voucher system to fairly reward community and extracurricular student participation were ongoing, ensuring an authentic and rewarding system for staff and students to continuously implement.

Perhaps the most visible strategy for supporting the use of the Preston House system as a whole-school intervention was the continuous, ongoing reflective planning that continued to occur with this program. In my role as action researcher and principal of the school, I was able to make adjustments regularly to how this system was being used by faculty and staff, as well as increasing communication with external school stakeholders at strategic times. This strategy contributed to the dependability of the inquiry data.

Summary

This section summarized the process of action research to respond to the research questions posed regarding the impact of the Preston House system. When considering the complexity of researching a program designed to address whole school cultural reform, action research emerged as a design process that allowed for the necessary praxis, which Freire (1968/1970/2005) termed as the joining of teaching and learning in a seamless process, encouraging staff to collaborate to continuously identify needs and solve problems without concern for the strict fidelity of an intervention that may require more structure.

As documented throughout this chapter, the global COVID-19 pandemic brought a premature close to the 2019-2020 school year in the physical sense. Although review

and enrichment activities continued for students and staff at the Preston Area School through the close of the 2019-2020 school year, data related to this action research project was impacted for the affected school year. Despite these obstacles, the implementation years of 2017-2018 and 2018-2019 yielded substantial data to support analysis and conclusions based on the identified research questions.

CHAPTER IV

Data Analysis and Results

Introduction

Action research data analysis was described by Sagor (2000) as a process of sorting, sifting, ranking, and examining data to develop answers regarding what happened as a result of the intervention and why these results may have occurred. Riel (2019) placed the process of data analysis within the iterative cycles of the action research process, after the phases of studying, planning, and taking action, and before the reflection step. Mertler (2019) described the action research process as a series of cycles where the researcher or research team proceeds through the planning stage, acting stage, developing stage, and reflecting stage. These steps repeat themselves over time, with the results shared progressively from informal sources to the broader academic community.

The analysis that follows aligned with Sagor's approach to using data in the action research methodology; practitioners need the flexibility to accumulate and allow the data to indicate the effectiveness of an intervention in stages. Additionally, the data used to respond to the research questions represents the strategic sorting and culling necessary to isolate potential effectiveness of the Preston House system apart from other interventions occurring simultaneously in the school setting designed to address more specific areas.

The following data collection and analysis addresses these research questions:

1. What impact does a schoolwide points system implemented within a House structure have on academic achievement for grades 3-8?

2. What impact does a schoolwide points system implemented within a House structure have on school climate?
3. What are the benefits to a schoolwide House system as identified?

Data Analysis and Results of the Research Questions

Research Question 1: What impact does a schoolwide points system implemented within a House structure have on academic achievement for grades 3-8? The context of this question was that the Preston Area School had achieved extremely well historically on the Pennsylvania System of Standardized Assessment, or PSSA, in Reading and Math for grades 3-8 until the eligible content for the tests shifted to the PA Core Standards in 2015. From that time forward, while other schools in the Wayne Highlands School District saw achievement at or above most other schools in the region, the Preston Area School lagged. Table 1 in Chapter 3 demonstrated specific concern for cohorts in third and fifth grade after Spring 2017 PSSA results were considered. The Spring 2017 PSSA results represented the last PSSA results before implementation of the Preston House system.

A primary concerns identified facing these cohorts, as well as student groups that followed, was the numerous long-term substitutes assigned to their classrooms due to faculty leaves of absence. Additionally, the Preston Area School is very far from the school district town center, and numerous teachers seek transfers to the town schools as soon as they become available. This led to frequent teacher turnover, which strained the strong building culture.

The Preston House system arose as an intervention strategy to address school needs related to climate. As described in previous chapters, this effort began in the

summer of 2017. The House leadership committee formed soon afterward, and the House system started in full in the fall of 2017. The original vision of the House system was that students would learn, practice, and celebrate skills related to achievement, behavior, and citizenship in a fun and exciting fashion.

The points system serves as the token economy designed to reinforce all aspects of student achievement, behavior, and citizenship that teachers and staff members deem important and worthy of recognition. As discussed in Chapter 3, this points system was a diverse model of intermittent reinforcement that evolved in application over the three years of implementation under study. Students earned House points for their performance on the diagnostic CDT tests, and Houses earned points collectively each year for PSSA achievement. Teachers used the points system individually within the classroom to reinforce student behavior, academic achievement, or effort was at their discretion.

Data sources to analyze in regard to the research question included Pennsylvania System of Standardized Assessment (PSSA) results, reported in National Curve Equivalency (NCE) units to consider student achievement in comparison to other same-grade peers. This summative assessment is administered in accordance with the federal Every Student Succeeds Act (ESSA) annually in English Language Arts and Math for students in grades 3-8. For the purposes of this research study, the typical score reports of Advanced, Proficient, Basic, and Below Basic were eschewed for the more user-friendly NCE scores.

Table 2 displays the average NCE of each cohort of Preston Area School students who took all of their PSSA tests at Preston since third grade. The research question

required consideration of how these students performed before and after implementation of the House system. The data was further isolated to represent just those cohorts of students who took PSSA at Preston before and after the House system was implemented in the fall of 2017, with at least one data point before implementation and one data point post-implementation. As a result of this winnowing, five cohorts were included in the data set.

Due to the COVID-19 global pandemic, all Pennsylvania schools were closed as of March 13 for the duration of the 2019-2020 school year. The federal government subsequently canceled all standardized assessments for spring 2020. This resulted in no PSSA data for consideration in this study for spring 2020. Although this data would have certainly been helpful to better judge the impact of the House system on academic achievement, as well as other instructional intervention efforts, there were other data sources available to further that analysis.

Analysis of NCE cohort performance in Table 2 required significant context. The data is sorted by cohorts representing graduation years. The 2022 cohort, for example, represents those students whose final year as eighth grade students at Preston was in 2018. These cohorts, as indicated by the *n* count in Table 2, were very small, consistent with the small enrollment at Preston. Therefore, the data analysis was limited by privacy and anonymity concerns, where identifying demographic factors such as disability status, mental health concerns, and socioeconomic status could be too revealing in such small numbers.

Table 2

Cohort PSSA National Curve Equivalency (NCE) Data, Preston Area School, 2016-2019

Graduating Year	*n*	Subject	2016 Mean NCE	2017 Mean NCE	2018 Mean NCE	2019 Mean NCE	M	SD
2022	11	Math	55	53.3	54.4	--	54.2	0.70
		ELA	47.1	58.5	59.1	--	54.9	5.52
2023	10	Math	55.5	65.1	58	54.8	58.4	4.07
		ELA	55.5	58.8	60.7	57.3	58.1	1.91
2024	17	Math	47.6	45.8	49.4	46.5	47.3	1.33
		ELA	41.5	44.2	43.1	47.4	44.1	2.15
2025	12	Math	46.5	53.6	47.8	60.7	52.1	5.61
		ELA	51.4	50.8	47.2	53.3	50.7	2.21
2026	15	Math	--	44.7	48.3	53.3	48.8	3.50
		ELA	--	42.1	45.4	45.2	44.2	1.50

Note: NCE, or National Curve Equivalency, is measured on 0-100 scale. Raw data retrieved from *PVAAS Pennsylvania* (2020).

When analyzing the data in Table 2 from the perspective of an action researcher, there were numerous data points that compare favorably to the mean (M) of each cohort's composite performance. The class of 2025 saw performance gains in 2019 that outpaced their previous achievement dating back to 2016. This was notable because the class of 2025 had some of the largest standard deviation (SD) spread in the data. Putting these two factors in juxtaposition, the House leadership committee considered whether this was a group that potentially would respond academically to the competitive nature of the House system.

Conversely, the class of 2024 had both a very low average NCE and a small standard deviation. Not surprisingly, school leadership and instructional support teams considered numerous interventions at the individual and the group level for this class over their years at Preston. While no interventions seemed to have an impact on PSSA achievement in a strongly positive direction, there was positive data that average NCE mildly improved or remained stable, while the standard deviation remained low. This indicated consistent student effort, regardless of results.

The two classes who were in the oldest grades when the House system was implemented, the classes of 2022 and 2023, came into this study with stronger histories of academic performance. Their resistance to change regarding the House system is discussed later in chapter 5, but the data indicated that their performance was not adversely impacted by the systemic change. Rather, their Math achievement remained stable, while their ELA achievement improved.

The youngest class in the sample, the class of 2026, was among the classes whose early learning results were impacted by the number of long-term substitute teachers and first-year teachers, as well as a concern over a lack of early childhood education opportunities in the local community. Table 2 indicated their performance slowly improved over time. As stated earlier, the number of individually identifying factors in such a small group make analysis of demographics problematic. This class, along with the class of 2024, typify the performance and demographics that spurred the adoption of the House system.

A second data set used in analysis of the impact of the Preston House system on academic achievement was the Classroom Diagnostic Test, or CDT. This diagnostic

assessment was administered each school year since the 2015-2016 school year at the Preston Area School. In the first year of administration, students in grades 3 through 8 took the respective grade level Reading and Math test twice, in November and February. In subsequent years, students in grades 3 through 8 took the respective grade level Reading and Math tests three times. These three administrations occurred during the first weeks of the school year, again in early December, and again in late February or early March.

The CDT was designed to provide data regarding student weaknesses and strengths related to test questions that reflected the same eligible content as the PSSA (Pennsylvania Department of Education, 2017). While the most useful student score data for teachers was within the eligible content categories, as this data more specifically drove instructional planning for future interventions, the overall scale score provided important data that reflects overall student achievement and progress. Available resources that defined and explained CDT stated that the purpose of the overall scale score was not to predict success on the PSSA, but that both assessments were based on the same eligible content, and that there was a logical connection between success on the CDT and proficiency on PSSA (Pennsylvania Department of Education, 2017; Pennsylvania Department of Education, 2020).

Technical reports released by the Pennsylvania Department of Education provided Scale Score Mean data for each test, organized by grade level (Pennsylvania Department of Education, 2018). This data, designed by the corporation administering the test to improve reliability when determining standard error by increasing the *n* count, provides an interesting comparison point to analyze student results at the school level. As of the

writing of this chapter, technical reports were only available through the 2017-2018 CDT administration. For the sake of this study, all CDT data analysis for the 2018-2019 and 2019-2020 school years were measured against scale score means presented in the 2017-2018 CDT Technical Report.

Preston CDT data was organized by the same cohorts measured in the PSSA data analysis. The only students included in each cohort were those who had accumulated all of their CDT data beginning in Grade 3 at Preston. Cohorts with at least three years of data were included in Tables 3 and 4, reflecting the pre-implementation years of 2015-2016 and 2016-2017 and the post implementation years of 2017-2018, 2018-2019, and 2019-2020. Unlike the PSSA data, which was canceled due to the COVID-19 pandemic in the Spring of 2020, the CDT was administered at Preston in early March, providing a third data point for the 2019-2020 school year.

Table 3 displays Reading CDT data for each cohort. Cohorts were identified by their graduation years and were comprised of students whose entire CDT testing history beginning with Grade 3 was completed at Preston. Students were included in each cohort if their individual CDT data is complete for the years included in the table. For example, students in the graduating class of 2022 completed their final year, eighth grade, at Preston in 2017-2018. Their CDT data includes two tests taken in grade 6 in 2015-2016, three tests taken in grade 7 in 2016-2017, and three tests taken in grade 8 in 2017-2018. Each successive cohort is listed vertically, with their grade level for each year and scale score mean listed chronologically over the years they accumulated CDT scores.

Columns labeled as “% of State Mean” reflect each cohort’s mean score as a percentage of the state scale score mean found in the CDT Technical Report. A mean

score of 100% indicated that the cohort's average performance was equivalent to the state scale score for that grade level for that academic year. Percentages below 100% meant the cohort's mean score was below the state scale score mean, while percentages above 100% meant the cohort's mean score was above the state scale score mean.

Table 4 displays Math CDT data for the same years and student cohorts. Each test taken within an individual academic year was based on the same eligible content, serving as a diagnostic assessment where student performance is measured against the same scale of performance. Hence, student performance typically improves with each test administration.

Both Table 3 and Table 4 demonstrate this improvement of performance. For example, during the 2017-2018 school year, the Graduation Year 2024 cohort took the CDT in Reading three times, at the Grade 6 level. Their performance as a percentage of the state scale score improved from 90.7% to 95.3% to 96.8%. There were examples in both Table 3 and Table 4 where cohorts performed at their highest level in relation to the state scale score mean on a CDT other than the final attempt for the academic year. These instances were the minority of the sample.

Table 3

Preston Area School Cohort CDT Reading Data 2015-2020 Measured by Percentage of State Scale Score

		Graduation Year											
		2022		2023		2024		2025		2026		2027	
School Year	Test Administration	Grade Level	% of State Mean	Grade Level	% of State Mean	Grade Level	% of State Mean	Grade Level	% of State Mean	Grade Level	% of State Mean	Grade Level	% of State Mean
2015-2016	Reading 1	6	94.4%	5	104.2%	4	84.8%	3	100.1%	-	-	-	-
	Reading 2	6	97.9%	5	105.4%	4	87.5%	3	106.1%	-	-	-	-
2016-2017	Reading 1	7	100.7%	6	94.1%	5	84.0%	4	95.6%	3	87.2%	-	-
	Reading 2	7	104.0%	6	93.8%	5	91.1%	4	98.8%	3	92.0%	-	-
	Reading 3	7	106.9%	6	100.9%	5	91.7%	4	98.8%	3	97.0%	-	-
2017-2018	Reading 1	8	105.5%	7	102.7%	6	90.7%	5	93.0%	4	85.5%	3	83.7%
	Reading 2	8	106.2%	7	105.7%	6	95.3%	5	96.0%	4	95.3%	3	91.7%
	Reading 3	8	106.7%	7	105.8%	6	96.8%	5	99.9%	4	96.9%	3	93.1%
2018-2019	Reading 1	-	-	8	97.5%	7	93.6%	6	95.0%	5	91.9%	4	84.2%
	Reading 2	-	-	8	102.6%	7	94.7%	6	98.0%	5	97.9%	4	91.5%
	Reading 3	-	-	8	99.4%	7	94.7%	6	99.3%	5	98.4%	4	92.9%
2019-2020	Reading 1	-	-	-	-	8	92.1%	7	94.0%	6	91.7%	5	90.0%
	Reading 2	-	-	-	-	8	95.6%	7	96.5%	6	94.2%	5	97.5%
	Reading 3	-	-	-	-	8	93.7%	7	100.0%	6	99.0%	5	98.8%

Note: 2015-2016, 2016-2017, and 2017-2018 mean score data taken from respective Pennsylvania Department of Education CDT Technical Report (2016, 2017, 2018). 2017-2018 mean score data was used for subsequent years, as 2018-2019 and 2019-2020 mean score data was unavailable at the time of the study.

Table 4

Preston Area School Cohort CDT Math Data 2015-2020 Measured by Percentage of State Scale Score Mean

		Graduation Year											
		2022		2023		2024		2025		2026		2027	
School Year	Test Administration	Grade Level	% of State Mean	Grade Level	% of State Mean	Grade Level	% of State Mean	Grade Level	% of State Mean	Grade Level	% of State Mean	Grade Level	% of State Mean
2015-2016	Math 1	6	98.1%	5	104.6%	4	91.7%	3	93.4%	-	-	-	-
	Math 2	6	101.9%	5	104.0%	4	94.4%	3	101.4%	-	-	-	-
2016-2017	Math 1	7	102.9%	6	97.1%	5	94.6%	4	93.2%	3	81.4%	-	-
	Math 2	7	105.3%	6	103.0%	5	97.4%	4	96.6%	3	91.4%	-	-
	Math 3	7	107.5%	6	106.0%	5	100.3%	4	104.3%	3	103.8%	-	-
2017-2018	Math 1	8	101.9%	7	101.9%	6	92.0%	5	96.0%	4	92.5%	3	88.0%
	Math 2	8	104.9%	7	106.8%	6	98.5%	5	101.9%	4	99.0%	3	97.9%
	Math 3	8	106.2%	7	109.8%	6	102.4%	5	106.4%	4	102.9%	3	103.7%
2018-2019	Math 1	-	-	8	104.1%	7	99.1%	6	95.5%	5	95.4%	4	90.0%
	Math 2	-	-	8	107.9%	7	99.7%	6	99.8%	5	98.2%	4	98.3%
	Math 3	-	-	8	107.7%	7	103.9%	6	105.8%	5	100.7%	4	102.4%
2019-2020	Math 1	-	-	-	-	8	92.8%	7	99.7%	6	90.4%	5	96.3%
	Math 2	-	-	-	-	8	97.7%	7	101.1%	6	97.6%	5	99.3%
	Math 3	-	-	-	-	8	101.0%	7	104.7%	6	103.2%	5	105.3%

Note: 2015-2016, 2016-2017, and 2017-2018 mean score data taken from respective Pennsylvania Department of Education CDT Technical Report (2016, 2017, 2018). 2017-2018 mean score data was used for subsequent years, as 2018-2019 and 2019-2020 mean score data was unavailable at the time of the study.

When reviewing Table 3 Reading data, the purpose of the research question was to determine whether the House system had an impact on academic achievement over the years of implementation. Hypotheses that I considered for each cohort that would reflect a positive result when analyzing CDT Reading or Math data included:

1. Greater increases: cohort CDT Reading or Math data would increase at a greater pace from the first score to the peak score as a percentage of the state scale score mean during years when the House system was implemented at the start of the 2017-2018 school year than during the pre-implementation years of 2015-2016 and 2016-2017.
2. Higher peak scores: cohort CDT Reading or Math data would reflect higher peak scores as a percentage of the state scale score mean during years when the House system was implemented at the start of the 2017-2018 school year than the pre-implementation years of 2015-2016 and 2016-2017.
3. First test performance: cohort CDT Reading or Math data would reflect improvement on first test scores as a percentage of the state scale score mean over the course of successive schools years during years when the House system was implemented at the start of the 2017-2018 school year than the pre-implementation years of 2015-2016 and 2016-2017.

The Graduation Year 2022 cohort Reading data displayed in Table 3 included one year of CDT data during the House system era at Preston, 2017-2018. This data showed an increase of 1.2% of change from 105.5% to 106.7% from first test score to peak score as percentages of the state scale score mean. This was not as great an increase as compared to previous years, when the increase was as high as 6.2% of improvement from

first test to peak score during the 2016-2017 school year. The cohort peak score in 2017-2018 106.7% of the state scale mean was extremely close to their 2016-2017 peak of 106.9%, while they demonstrated improved first test scores of 105.5% as compared to previous first test scores of 94.4% in 2015-2016 and 100.7% in 2016-2017. Considering the first test score was so much higher in 2017-2018 for this cohort, matching the percentage of improvement of the previous academic year may not have been a realistic expectation.

The Graduation Year 2022 cohort Math data displayed in Table 4 includes one year of CDT results in the House system era at Preston, 2017-2018. The increase from first test to peak score 2017-2018 was 4.3%, from 101.9% of the state scale score mean to the peak score of 106.2%. This was less than the 2016-2017 of 4.6%. The peak score of 106.2% of the state scale score mean in 2017-2018 was near but below the previous peak of 107.5% in the final test of 2016-2017. The first test data for 2017-2018 reflected a score of 101.9% of the state scale score mean, also just below the previous year's opening score of 102.9%.

The Graduation Year 2022 cohort did not reflect significant growth, peak performance, or first test improvement on CDT performance in Reading or Math for the 2017-2018 year, which was their last year at Preston and the first year of the House system. However, as stated earlier, this cohort's performance was not of great concern regarding their academic ability, participation socially, or affiliation with their school.

The Graduation Year 2023 cohort Reading data displayed in Table 3 included two years of CDT results in the House system era at Preston, 2017-2018 and 2018-2019. This data showed percentage increases from first test to peak score of 3.1% in 2017-2018 and

5.1% in 2018-2019, slightly below the peak increase in 2016-2017 of 6.8%. This cohort achieved its highest peak score of 105.8% of the state scale score mean in 2017-2018, although their peak score in 2018-2019 fell back to 102.6% of the state scale score mean. This cohort's first test performance as was inconsistent over the entire set of data, from 104.2% of the state scale score mean in 2015-2016 to 94.1% in 2016-2017 to 102.7% in 2017-2018 to 97.5% in 2018-2019.

The Graduation Year 2023 cohort Math data displayed in Table 4 included two years of CDT results in the House system era at Preston, 2017-2018 and 2018-2019. This data showed a similar percentage increase of 7.9% in 2017-2018 from first test to last test as the 2016-2017 increase of 8.9%. The cohort achieved their highest peak scores as compared to the state scale score mean during 2017-2018 and 2018-2019, at 109.8% and 107.7%. First test performance data also improved in both 2017-2018 and 2018-2019 as compared to 2016-2017, with opening test scores improving from 97.1% to 101.9% to 104.1% of the state scale score mean.

The Graduation Year 2024 cohort Reading data displayed in Table 3 included three years of CDT results in the House system era at Preston, 2017-2018 through 2019-2020. This data showed a similar percentage increase from first test to peak score for 2017-2018 of 6.1% as compared to their previous high increase during 2016-2017 of 7.3%. The percentage increase in 2018-2019 of 1.1% and 3.5% for 2019-2020 were smaller. This cohort did reach its highest peak score at 96.8% of the state scale score mean on the final test of 2017-2018. This cohort's first test performance improved over the years of the House system, as their first test scores of 90.7%, 93.6%, and 92.1% of the

state mean were significantly improved over their 2015-2016 and 2016-2017 first test scores of 84.8% and 84.0% of the state mean, respectively.

The Graduation Year 2024 cohort Math data displayed in Table 4 included three years of CDT results in the House system era at Preston, 2017-2018 through 2019-2020. This data showed higher percentage increases of 10.2% from first test score to peak score in 2017-2018 and 8.2% in 2019-2020 as compared to their highest increase in 2016-2017 of 5.7%. This cohort scored its three highest peak scores as compared to the state mean during the three years of the House system at 102.4% of the state scale score mean in 2017-2018, 103.9% in 2018-2019, and 101.0% in 2019-2020. This cohort's first test score performance was only notably improved in one of the three House years, with a first test cohort mean performance at 99.1% of the state mean in their seventh grade year of 2018-2019. The other two years were similar to the years before the House system.

The Graduation Year 2025 cohort Reading data displayed in Table 3 included three years of CDT results in the House system era at Preston, 2017-2018 through 2019-2020. This data showed percentage increases from first test score to peak score of 6.9% in 2017-2018, 4.3% in 2018-2019, and 6.0% in 2019-2020. These increases were very similar to the 6.0% and 3.2% increases for this cohort in 2015-2016 and 2016-2017, respectively. Peak performance for this cohort was achieved in their third grade year of 2015-2016 with a score of 106.1% of the state scale score mean. Peak scores in the House system years were not close to that level, with a high of 100.0% of the state scale score mean in the final test of 2019-2020, although peak scores outside of 2015-2016 were very consistent, which indicated that the peak score of 2015-2016 may have been an outlier. First test performance data showed a progression from 100.1% in 2015-2016,

95.6% in 2016-2017, 93.0% in 2017-2018, 95.0% in 2018-2019, and 94.0% in 2019-2020. This progression did not demonstrate an increase in performance over the years of the House system.

The Graduation Year 2025 cohort Math data displayed in Table 4 included three years of CDT results in the House system era at Preston, 2017-2018 through 2019-2020. This data showed percentage increases from first test to peak score of 10.4% in 2017-2018, 10.3% in 2018-2019, and 5.0% in 2019-2020. These percentages were consistent with the 2015-2016 and 2016-2017 increases of 8.0% and 11.1%, respectively. More impressively, this cohort achieved its three highest peak scores as a percentage of the state scale score mean in 2017-2018, 2018-2019, and 2020. Additionally, this cohort achieved its three highest first test scores as a percentage of the state scale score mean in 2017-2018, 2018-2019, and 2019-2020

The Graduation Year 2026 cohort Reading data displayed in Table 3 included three years of CDT results in the House system era at Preston, 2017-2018 through 2019-2020. This data showed percentage increases from first test to peak score of 11.4% in 2017-2018, 6.5% in 2018-2019, and 7.3% in 2019-2020. These last two figures were not as large as the 9.8% increase in 2016-2017. Peak scores for this cohort as a percentage of the state mean were 96.9% in 2017-2018, 98.4% in 2018-2019, and 99.0% in 2019-2020. These peak scores were slightly above the 2016-2017 peak score of 97.0%, but not significantly. First test performance data as measured by percentage of the state scale score mean in successive years showed increases from 87.2% in 2016-2017 and 85.5% in 2017-2018 up to 91.9% in 2018-2019 and 91.7% in 2019-2020.

The Graduation Year 2026 cohort Math data displayed in Table 4 included three years of CDT results in the House system era at Preston, 2017-2018 through 2019-2020. This data showed percentage increases from first test to peak score of 10.4% in 2017-2018, 5.3% in 2018-2019, and 12.8% in 2019-2020. These increases were not as large as the 22.4% increase of 2016-2017. The 2016-2017 data for this cohort was noteworthy because it had the lowest first test score and the highest peak of any years in the study for this cohort. As a result of such a low first test score in 2016-2017, this cohort's first test performance data appears significantly improved, to 92.5% of the state scale score mean in 2017-2018, 95.4% in 2018-2019, and 90.4% in 2019-2020. The three years of data during the House system at Preston are grouped more closely, which may indicate that more consistent student effort may have resulted in more predictable and meaningful data.

The Graduation Year 2027 cohort was included in the data table to analyze potential patterns that may be emerging at Preston based on the volatility of the Graduation Year 2026 data, specifically in Math. The much lower first test scores in third grade are particularly troubling. In my role as school principal and as researcher, I made the decision to include this cohort. The Reading data for this cohort in Table 3 included three years of data, all during the House system era at Preston. Percentage increases from first test to peak test were 9.4% in 2017-2018, 8.7% in 2018-2019, and 8.8% in 2019-2020. Peak scores for this cohort were very similar to the cohort before, topping out at 98.8% of the state scale score mean on the last test of 2019-2020. First test performance did not appreciably improve until the 2019-2020 school year, with scores of

83.7% of the state scale score mean in 2017-2018, 84.2% in 2018-2019, and 90.0% in 2019-2020.

The Graduation Year 2027 cohort Math data in Table 4 included three years of data, all during the House system era at Preston. Percentage increases from first test to peak test were 15.7% in 2017-2018, 12.4% in 2018-2019, and 9.0% in 2019-2020. These are large percentage increases, and this cohort demonstrated the potential for strong academic performance with a peak cohort score of 105.3% of the state scale score mean on the last test of 2019-2020. First test performance also improved for this group, from 88.0% of the state scale score mean in 2017-2018 up to 96.3% in 2019-2020.

The cohorts in the sample only included students who attended Preston for the entirety of the years tested. Students who moved in or moved out of the school were not included, although some of these students attended the school for nearly the entire time period in the study. During the compilation of this data, there were times when I, as the action researcher interested in the complexity of how factors impact school climate, noticed that there were some individual students within cohorts who experienced increases in CDT performance that may have resulted from new students who moved into the school and created positive academic competition among the class. There were also examples of student performance remaining stagnant or even decreasing after high-achieving peers moved away from the school or experienced family-related or mental health struggles. Members of the House leadership committee, in consistent reflection over the years of the study, noted the positive impact of the House system had on welcoming new students, and also in coping with the impact of losing students who moved away on remaining peers.

Another contextual factor when analyzing CDT scores was the consideration of other interventions in the school during the same time period. In both Math and ELA, the school adopted new editions of curriculum or entirely new curriculum. As a result, teacher training and focus sharpened to match these new instructional efforts. As the school principal as well as the action researcher, I could not judge academic data as a sole result of school climate reform without acknowledging these instructional interventions along concurrent timelines. From a positive perspective, first test performance from school year to school year improved for most cohorts and most cohorts achieved their peak performances as a percentage of the state scale score mean during the 2018-2019 and 2019-2020 school years when these curricular updates were implemented.

At the Principal of the Preston Area School, I developed the reinforcement structure of House points for students achieving growth or performance benchmarks on CDT in the Fall of 2017, and have applied House points for students in each academic year of the study. Students have earned up to ten House points for successfully achieving at higher score levels within the test, or for closing the gap between their score and the next scoring range across test administrations in the same academic year. This, like many aspects of the House system, does not reflect the effectiveness of curricular interventions, but has the objective of ensuring consistent best effort by students, some of whom found CDT to be a long and frustrating assessment.

The House leadership committee, in function and form as a focus group, spent many meetings discussing the perception of the House system by individual staff members, students, and the local school community. This perception regarding how student achievement may be impacted through the use of the points token economy

evolved over the course of the three years of implementation studied. In focus group discussions in September 2019, for example, there was agreement among many of the House leadership committee that those teachers who most frequently awarded House points in everyday classroom situations reaped the benefits in increased student effort on CDT, as students would be more "tuned in" to the House points available for achievement and growth. Students who cared about the rewards that resulted from earning House points, the committee reasoned, would show more consistent waver despite the difficult assessment.

This perception by House leadership committee members is one of the many areas in this action research where the numerical data does not complete the narrative regarding the research question. As a method of triangulating the PSSA and CDT data as well as situating the narrative data from the House leadership committee, the Preston Area School Faculty and Staff Research Survey was administered to gauge the perceptions of this stakeholder group. Combining this Likert scale instrument with the achievement data and the narrative focus group data, there should be increased reliability regarding conclusions for the measurement of the House system on student achievement.

Tables 5 and 6 display the results of the Preston Area School Faculty and Staff Research Survey, organizing responses by their ordinal categories. Through the survey, respondents identified their perception of the type of impact they feel the Preston House system has had on many academic and cultural aspects of life in schools. The survey was administered in September of 2019 to collect data on staff perception of the House system related to the first two years of implementation, 2017-2018 and 2018-209. The survey was administered a second time in May of 2020 to collect similar data on the

impact of the House system during the 2019-2020 school year. Due to the COVID-19 pandemic and resulting state-mandated school closure during the spring of 2020, the survey was administered electronically instead of the paper version that had been administered in September of 2019. Confidentiality and anonymity was maintained through the use of an internet-based survey application. Because state standardized assessments for the Spring of 2020 were canceled as well due to the pandemic, survey questions related to the impact of the House system on PSSA Reading and Math for grades 3-8 were omitted for the May 2020 survey.

Table 5

Results of Preston Area School Faculty and Staff Research Survey, 2017-2018 and 2018-2019

Survey Prompt	Perception of House system regarding impact on:	*N*	Significant Positive Impact	Some Positive Impact	No Impact	Some Negative Impact	Significant Negative Impact
1	PSSA Reading	18	0%	22%	61%	6%	11%
2	PSSA Math	18	0%	22%	61%	6%	11%
3	CDT Reading	18	0%	28%	61%	0%	11%
4	CDT Math	18	0%	28%	61%	0%	11%
5	Attendance	18	6%	44%	44%	0%	6%
6	Discipline	18	22%	44%	28%	0%	6%
7	School Spirit	18	33%	39%	6%	17%	6%
8	Community Service	18	17%	17%	56%	0%	11%
9	Extracurricular Participation	18	22%	17%	56%	6%	0%
10	Attitude toward Learning	18	17%	39%	33%	6%	6%
11	Attitude toward School	18	17%	44%	22%	11%	6%
12	Image in Community	18	17%	33%	28%	11%	11%

Note: Survey results from first survey administration during September 2019.

Table 6

Results of Preston Area School Faculty and Staff Research Survey, 2019-2020

Question	Perception of House system regarding impact on:	*N*	Significant Positive Impact (%)	Some Positive Impact (%)	No Impact (%)	Some Negative Impact (%)	Significant Negative Impact (%)
1	CDT Reading	21	14%	38%	38%	10%	0%
2	CDT Math	21	19%	38%	43%	0%	0%
3	Attendance	21	5%	38%	52%	5%	0%
4	Discipline	21	10%	38%	48%	5%	0%
5	School Spirit	21	33%	43%	5%	19%	0%
6	Community Service	21	5%	52%	38%	5%	0%
7	Extracurricular Participation	21	10%	48%	33%	10%	0%
8	Attitude toward Learning	21	10%	62%	19%	10%	0%
9	Attitude toward School	21	14%	62%	14%	5%	5%
10	Image in Community	21	10%	52%	24%	10%	5%

Note: Survey results from second survey administration in May 2020, administered electronically due to state-mandated COVID-19 school closure.

Results from Table 5, representing faculty and staff perceptions of the House system on academic and school life at Preston for the first two years of implementation highlighted the lack of impact felt in most areas from respondents. As the Preston House leadership committee considered these results following the survey administration in September 2019, there was frustration among many members. These members identified the work done to that point, including the financial resources gathered and spent for promotional materials and reward activities, the work done to promote the House system among students and families, and the many assemblies and efforts to further the vision of the program as supportive of student achievement, behavior and citizenship. To see the high percentages of staff members identifying no impact or even negative impact of the program on student achievement markers like PSSA and CDT, along with the committee's analysis of PSSA and CDT data that reinforced the lack of significant progress in student achievement, forced the House leadership committee to engage in a new action research cycle.

For the 2019-2020 school year, the House leadership committee met monthly, serving as both a group devoted to the implementation of the House system and as a focus group to assess and analyze the success or direction of the system. A new mathematics intervention program adopted and used across the entire school allowed for House points to be focused on its use. CDT administration was accompanied by more focused reminders about House points available for student achievement and growth. Faculty meeting agendas included discussions about assigning House points more consistently in classroom settings where students would benefit from intermittent reinforcement for demonstrating characteristics of good learners. Most notably,

assemblies and efforts to hold House competitions with non-academic themes were reduced, as the House leadership committee agreed with some input from the September 2019 survey that returning focus to the classroom setting may be beneficial.

Table 6 results demonstrate more favorable impressions of the House system in many areas, and specifically identify improved perception of the impact on survey items related to CDT performance in Reading and Math, attitude toward learning, and attitude toward school. Commentary from the House leadership committee meetings that occurred through the 2019-2020 school year reflects the success of this more academically-focused reinforcement structure. For example, in January of 2020, one faculty advisor who is also an elementary teacher noted that the House points she had started giving for students meeting their daily, weekly, and monthly classroom goals were having a significant impact on her students' positive attitude and progress. Another House leadership committee member noted that the House points faithfully awarded for student progress on the schoolwide mathematics intervention program were very incentivizing for students who benefited from a tangible reward structure. Earlier in the school year, a House leadership committee meeting included a conversation about the importance of continuing House wheel spin assemblies and focusing the students nominated by each House to spin the wheel around themes that included academic areas. The pattern of adding focus to our House activities at Preston drove the action research process during the 2019-2020 school year, and became the basis for better defining and executing the cycles of action research.

Survey items related to student effort and attitude were pertinent to this analysis, as positive perceptions by students and staff of school climate were noted in the literature

review as having positive correlation to student achievement. In Table 5, survey items 10 and 11 showed a small majority of staff members responding with a favorable perception of the impact of the Preston House system on student attitude toward learning or attitude toward school. In Table 6, following year 3 of implementation, these two items, shifted to survey items 8 and 9, yielded a much larger majority of staff members responding favorably.

In sum, data sources compiled to consider the impact of the Preston House system on academic achievement for students in grades 3-8 for the three years of implementation indicated more consistent student effort that resulted in more consistent summative data. Cohorts realized greater leaps in performances year over year in diagnostic assessment results. Faculty and staff indicated improved perception of student attitudes toward learning and school in year three of implementation.

Research Question 2: What impact does a schoolwide points system implemented within a House structure have on school climate? The research base around school climate, including attempts at definition and characterization, proved quite ambiguous, and formed a very complex backdrop for addressing this research question with measurable data. The data sources for this research included specific data on student attendance and student discipline, focus group data, and survey response data related to markers of school climate.

Students upholding the behavioral expectations of a school was found to be an indicator of a healthy school climate by Smith and Shouppe (2018). Regular student attendance is a commonly agreed-upon indicator of student achievement and performance. Tracking attendance data is an annual practice for school leaders, both for

compliance with state and federal data tracking, but also for assessing local school climate. Preston Area School attendance has been historically very good. Figure 1 displays the two years of attendance data for K-8 students before implementation of the Preston House system as well as the first two years of implementation. Due to the COVID-19 pandemic, attendance data for 2019-2020, the third year of implementation of the House system, was truncated to the point that it was not applicable as a data point. The regular flu season had been particularly hard on Preston students, and with the shortened school year, along with many parents choosing to keep their children home in the days leading up to the school closure, the resulting attendance rate was too affected to be considered relevant for 2019-2020.

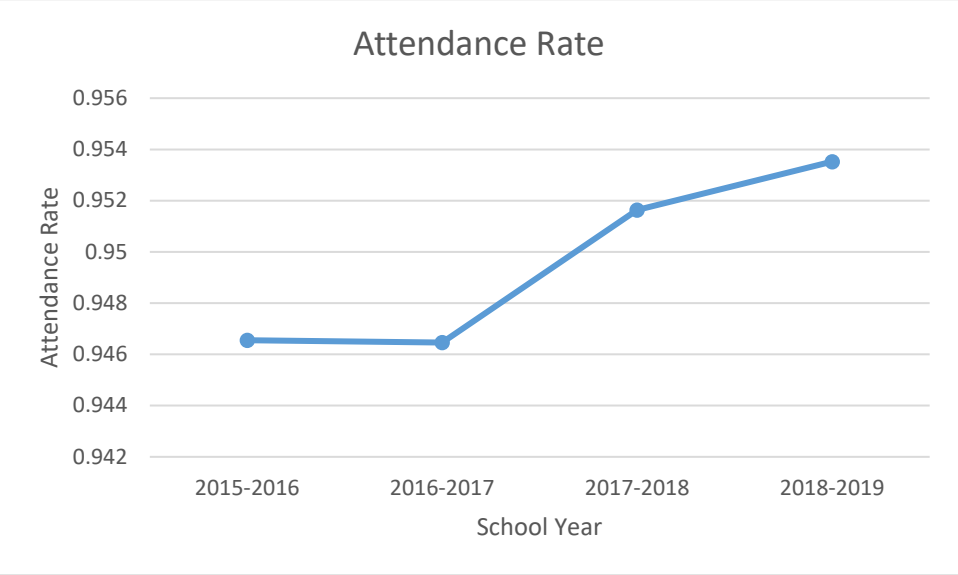

Figure 1. Attendance rate for Preston Area School. This figure displays attendance rate from 2015-2019.

Attendance rate, calculated by dividing Average Daily Attendance into Average Daily Membership, is a common data point compiled through the district's student

information system. Pre-implementation data indicates nearly identical attendance rates for 2015-2016 and 2016-2017 that round to 94.7% and 94.6%, respectively. Post-implementation data reflects improvement to 95.2% in 2017-2018 and 95.4% in 2018-2019.

Contextually, the attendance rates for the pre-implementation years were outstanding figures well above targets for state and federal performance plans. The growth from the outstanding numbers pre-implementation to the even greater attendance rates for 2017-2018 and 2018-2019 is evidence of a continued strong school climate at Preston.

There is irony in this growth when considering focus group data regarding House points given to students for attendance. The House leadership committee agreed upon a monthly points total to be assigned to each House depending on their rank for that month in attendance rate, behavior infractions, and a teacher-assigned rating for each student for their effort in the classroom. Over the first year of implementation, this was kept faithfully. At the start of 2018-2019, year two of the program, the House leadership committee discussed the amount of work that went into compiling this data and juxtaposed it against the lack of student awareness regarding this points reward and decided to stop the monthly award. Notes from these meetings reflect that individual students could only minimally impact the data for the entire House of 30-40 students, and because the data was shared with the entire school periodically and not with individual students, it was ineffective. Despite not maintaining each House's monthly attendance and awarding House points, the attendance rate for the school continued to increase through 2018-2019. According to the House leadership committee meetings from

December 2019, this was noted as a strength of the school climate, that the consistent message of high expectations for attendance and the student affiliation with their school continued to result in high rates of attendance.

Faculty and staff perceptions of student attendance were collected through participation in the Preston Area School Faculty and Staff Research Survey. Table 5 shows staff perception regarding the impact of the House system on student attendance to be considered positive on 50% of responses. Interestingly, this same question on the May 2020 administration of the survey, given in the midst of the school closure due to the COVID-19 pandemic yielded a smaller positive response, with only 44% identifying a positive impact on student attendance because of the House system. The Preston House leadership committee, in its final meeting of the year in February, reflected on reasons for attendance being affected during the 2019-2020 school year. The consensus from the meeting notes indicated that no matter the effectiveness of the House system or any other incentives for good attendance, the flu season had been devastating at Preston, leading to mass absences in January and February. The survey data reflecting a more neutral response served to validate this interpretation.

Student discipline data was compiled as well for the pre-implementation school years of 2015-2016 and 2016-2017 and the implementation years of 2017-2018, 2018-2019, and the COVID-19 pandemic-shortened 2019-2020. Additional consideration needed to be taken to protect student identity in the presentation of discipline data, as the small number of incidents could easily lead to identification of individual students when type of infraction or consequence were included. Table 7 reflects discipline data for the years in the study, with emphasis placed on the total number of students referred to

administration for behavioral infractions and the number of students with multiple offenses. In order to consider a context under which 2019-2020 data could be included, a column was added to indicate the school year was shortened to 124 school days instead of the customary 180.

Table 7

Discipline referrals by year at the Preston Area School, 2015-2020

School Year	Average Daily Membership	Total Students Referred to Administration	Students Referred Multiple Times	Total Referrals	School Days
2015-2016	180	32	13	66	180
2016-2017	174	25	7	37	180
2017-2018	168	29	11	49	180
2018-2019	162	23	7	35	180
2019-2020	164	13	3	16	124

Note: 2019-2020 shortened due to COVID-19 pandemic.

Discipline data for the two pre-implementation years of 2015-2016 and 2016-2017 did not indicate significantly higher numbers of discipline referrals or students referred multiple times than the first two implementation years of 2017-2018 and 2018-2019. Referring back to research on school climate, this would support the Preston Area School faculty and staff committing to reinforcing the rules and expectations of the school and classroom setting with the same consistency as previous years, despite the addition of the House points system. This consistency resulted in reductions that are more significant across the categories in 2019-2020, shortened school year notwithstanding. The annual average of 46.75 discipline referrals for 2015-2016 through 2018-2019 resulted in a rate of one referral every 3.85 school days. That rate in 2019-2020 had slowed considerably, to one referral every 7.75 school days.

Regarding staff responses to the impact of the House system on student discipline, the data mellowed from more robust 66% positive responses in the survey administration regarding the 2017-2018 and 2018-2019 school years to the 48% positive responses in the May 2020 survey that referenced the 2019-2020 school year. Focus group notes from the Preston House leadership committee in October and November reflects discussion around the idea that teachers who most consistently rewarded positive and prosocial behavior with House points had fewer behavioral issues that required administrative intervention. One House leader noted that, thanks to the frequent House points she was giving out, other students acted more interested in imitating the behavior of the students she awarded than in acting out to receive negative attention. As a result, she felt, her classroom climate had improved because the points system became a common bond. The House leadership committee decided at their November 2020 meeting to address the entire faculty about the importance of consistently awarding House points to support strengthening classroom climate. Disciplinary data continued to trend toward lower numbers of referrals through the March 2020 school closure.

School climate, as was covered extensively in the review of the literature and restated in this section, is diverse in definition and in study. The application of attendance data and discipline data, along with the triangulation data of the staff survey provides quantitative measures that served the action research process well. The House leadership committee reviewed this data, allowing for greater depth of discussion and reflection on the implementation of the House system, and constructed more refined understandings of the school climate at Preston as a result of the resulting conversations.

Research Question 3: What are the benefits to a schoolwide House system as identified? The Preston House system, beyond the academic and behavioral points token economy, also addresses community service, extracurricular participation, and affiliation with a House and the school community. These areas of influence are reinforced formally through a voucher system overseen by the principal, where students submit parent-signed vouchers for their participation in extracurricular activities or community service programs.

Tracking student involvement in community service or extracurricular activities via the voucher method was problematic, as students only received the House points if they submitted the parent-signed voucher. This was an intentional decision by the House leadership committee, who identified the role of the parent as part of the school community and a stakeholder group to be involved in building stronger connections between home and school. There were feelings that parents had become less involved at Preston among the classes coming of middle school age. As a K-8 school, parents spend many years with the school, and the pattern of non-involvement by those cohorts coming through the elementary years was a major concern.

Rather than rely on the voucher system, which proved to be more an exercise in parent involvement than in actual tracking of student participation in community service or extracurricular activities, the data used to interpret the impact of the House system was taken from the Preston Area School Faculty and Staff Research Survey (Appendix A), specifically the final five response prompts. These prompts, referenced in Table 5 and Table 6 for each administration of the survey, ask for respondents to indicate their perception of the impact of the House system on school spirit, community service,

extracurricular participation, attitude toward learning, attitude toward school, and the image of the Preston Area School in the community.

Figure 2 displays the percentages of faculty and staff responses for each of the six prompts considered for the third research question from the first survey administration, grouped into categories representing positive impact, no impact, and negative impact. As the survey was administered twice, responses are displayed related to the September 2019 survey administration regarding the perception of the impact of the Preston House system for the 2017-2018 and 2018-2019 school years, represented as 2017-2019 in the charts, and for the May 2020 survey administration regarding the perception of the impact of the Preston House system for the 2019-2020 school year, identified in each chart as 2019-2020. The charts in Figure 2 demonstrate increases in perceptions of positive impact of the Preston House system in all six prompts. There is also a reduction in negative responses regarding staff perception for the survey administration addressing 2019-2020 for nearly all of the six prompts considered for the third research question, with extracurricular participation the lone exception.

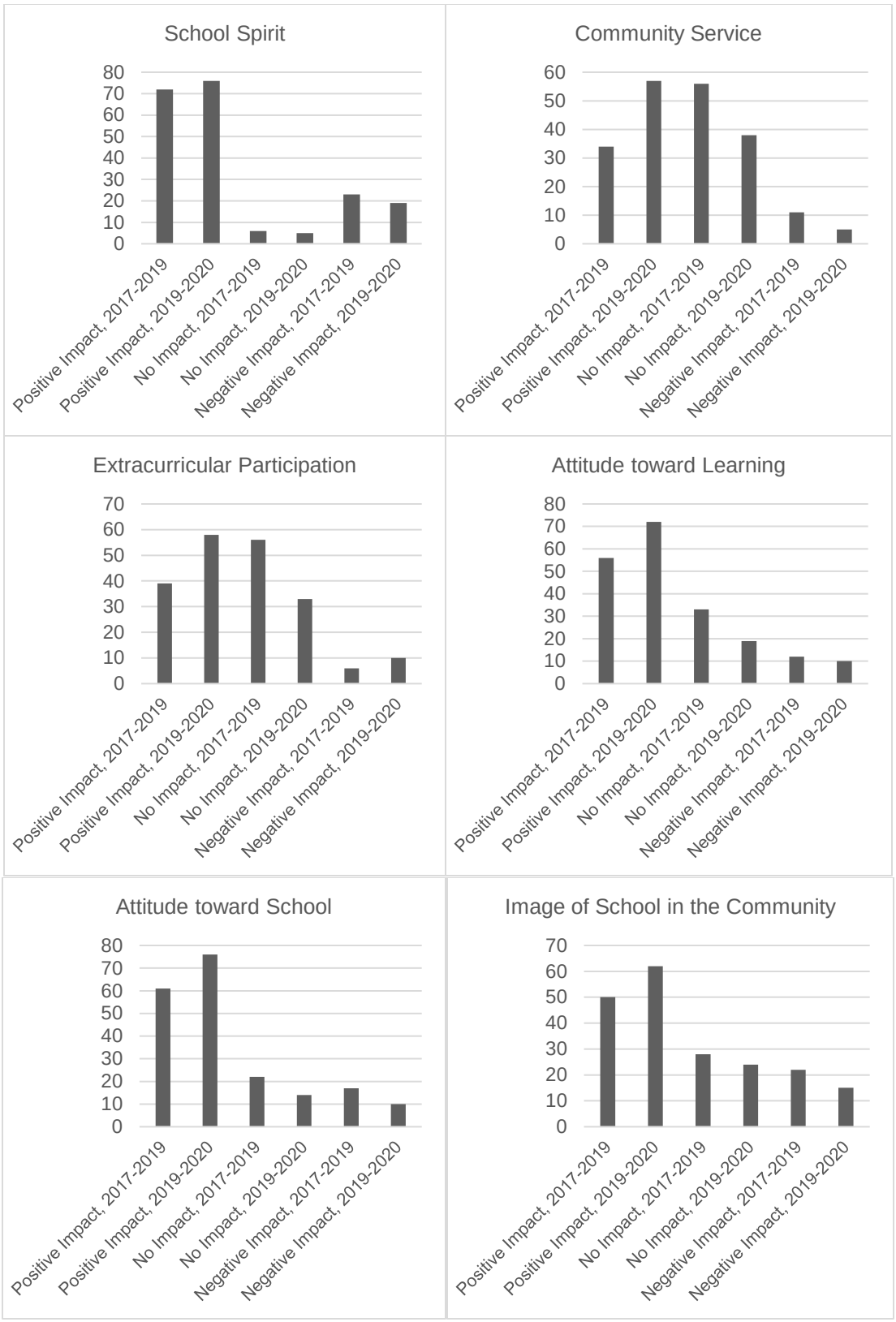

Figure 2. Faculty and Staff Survey Responses Regarding House System Impact

Through analysis of the survey data included in Table 5 and Table 6 and displayed in Figure 2, a benefit of the House system could be inferred that faculty and staff felt more invested in the school during the 2019-2020 school year and that the system was more beneficial to nearly all the areas where its influence reached during the 2019-2020 school year. Faculty and staff perception of the House system impact was more positive in 2019-2020 for school spirit, community service, extracurricular participation, attitude toward learning, attitude toward school, and the image of the Preston Area School in the community.

I used the House leadership committee as a focus group to seek triangulation and validity for data regarding perception of the impact of the House system on these areas of focus. Discussing school spirit, for example, involves evaluating the role of student leadership as it evolved via the House system. By 2019-2020, the Preston Student Council had been reorganized into the House Council, where student leadership positions were chosen by individual Houses, with the four Houses selecting a senior and a junior member to comprise the school Student Council. This change was a major subject of discussion and reflection by the leadership committee. The discussion about continuing the House Council format or reverting back to the more traditional Student Council format was quite contentious and was a major topic in the August 2019 opening meeting.

Notes from that meeting identified the current student leadership advisor stating that the House Council format meant some Houses had very strong competition for representation, while some Houses simply did not have strong leadership candidates. Others at the table noted this was one of the points of adopting the House system, to embolden more students to strengthen their connection to their school. The decision was

to stay with the House Council format and build school spirit around it rather than find ways that the student sorting process may have led to unbalanced Houses.

House events had become a way to build connection among students and staff and connect with the local community as well. The House leadership committee noted in the November notes that events over the first two years such as the Bus Driver Breakfast sponsored by the Reveur House, the Altruismo House making thank you cards for local veterans, and the Isibindi House Lunches were all effective for increasing the profile of the House system locally and for building student awareness of their role in their community.

There was dissension within the October 2019 House leadership committee notes regarding the effectiveness of the House system to convince students to change their actions, and that it serves as a reward system that only certain students in the school care about accessing. This mindset, seen in the faculty and staff survey data through the No Impact responses, shrank from the first survey administration to the second. This indicated that the House system had reached more students positively in year three of implementation. House leadership committee notes from February reflected that the system was in a better place serving as an accessible token economy with simplified goals, rather than a driver of systemic change.

This mindset, that the House system might serve the Preston students better in a more streamlined, less complex model, seemed to be the direction the House leadership committee was dedicated to developing when the March COVID-19 pandemic closed schools for the duration of the 2019-2020 school year. Reward trips for Houses winning academic challenges, wearing House clothing and demonstrating House spirit through

scheduled opportunities, and continuing the Wheel Spin assemblies were priorities going forward for the committee. Priorities for large-scale team-building events were lessened. The system, in short, was finding a comfortable place among the fabric of the school. The survey data from May 2020 reflected that improved standing of the system.

Summary

The action research methodology provided school staff a framework to continuously evaluate and address aspects of the House system over the course of the three years of implementation in the study. The process of analyzing data in real-time, adjusting plans, sharing and communicating results with a team of practitioners, and reflecting on the results became a platform for professional growth and collegial collaboration among the House leadership committee.

Evaluating the effectiveness or the impact of a whole-school reform effort like a House system was challenging for any research process, but the action research method fit the amorphous House system well. This chapter started with a reference to Sagor (2000), who described action research data analysis as sorting, sifting, ranking and evaluating. The execution of the data analysis for this project was consistent with the earlier literature review findings that school climate is difficult to pin down and crystallize for the sake of assessment, and that school climate reform does not easily correlate to academic achievement data. At the same time, the action research process allowed for a wide view of what data is, allowing for the researcher to regard many avenues for effectively answering the research questions. A more limited quantitative or qualitative research format may have resulted in data that became obsolete as the House system changed over time. The very close marriage between the action research

methodology and framework and the work done by the Preston faculty and staff to implement and evolve the House system over the first three years of the program are worth further discussion and conclusion in the following chapter.

CHAPTER V

Conclusions and Recommendations

Introduction

The purpose of this action research study was to apply the framework and methodology of the practical action research model to the evaluation of the effectiveness of implementing a House system as a driving influence for school climate reform in a K-8 setting. The study involved academic, behavioral, and staff survey data from multiple years, in an effort to make plain the need to consider school climate or cultural reform at Preston in the fall of 2017, while offering a longer-range analysis of effectiveness than was readily available in the research regarding implementing this type of reform effort.

This chapter contains my conclusions and recommendations applied to the research questions considered throughout the study, the action research process as the framework for analysis of the study, the fiscal impact of investing in and executing the House system at the Preston Area School, and overall impressions of the House system from the practitioner standpoint as they connect to the theoretical framework presented in the review of the literature. The House system model, as introduced through largely popular media resources and popularized at the Ron Clark Academy in Atlanta, Georgia, has been implemented in many schools by personnel seeking to spark new energy into their school communities. The depth of implementation varied in many cases, and the data available to measure the success of these efforts is scant in both academic and popular media research. Conclusions and recommendations from this research project

may be useful for future efforts to consider and implement a House system in the K-12 setting.

The following research questions were considered throughout the study:

1. What impact does a schoolwide points system implemented within a House structure have on academic achievement for grades 3-8?
2. What impact does a schoolwide points system implemented within a House structure have on school climate?
3. What are the benefits to a schoolwide House system as identified?

Research Question 1: What impact does a schoolwide points system implemented within a House structure have on academic achievement for grades 3-8? Preston faculty and staff implemented the House system in the fall of 2017 in response to growing concern about academic achievement data that was not consistent with the historical tradition of high performance of the students at the school. Students were observed to be quiet and obedient, with less energy and outward signs of affiliation with their school. The academic environment was similar to the model that Dewey (1938) and Freire (1968/1970/2005) each identified as representing the passive, teacher-driven model problematic for innovation or improvement to take hold. Many reasons were identified as contributing factors, including a shift in family dynamics and socioeconomic demographics for the student body. Regardless of the underlying reasons staff could identify, the need to change how students connected with each other, their teachers, and their school were worthy of addressing. The House system was selected as the vehicle, led by a small group of teachers and I who had recently visited the Ron Clark Academy and were introduced to the program.

Multiple academic and curricular interventions were in place concurrently with the implementation of the House system. During these years, a new English Language Arts curriculum was adopted. A more current copyright of the K-6 Math curriculum was purchased. Additional after-school programming designed to promote PSSA achievement occurred during the 2018-2019 school year. All of these efforts, plus more focused interventions in Title I Reading, Special Education, and Instructional Support, would all accompany the House system as potentially impacting academic achievement. School climate reform conducted in isolation without regard for accompanying academic and curricular interventions is not typically effective (Reynolds, Lee, Turner, Bromhead, & Subasic, 2017).

Achievement data from PSSA and CDT, as presented in Chapter 4, revealed little in the way of conclusive growth or progress that could be attributed to the House system for the majority of the cohorts in the study. The first two classes aging out of the Preston School in the study, the cohorts identified in the data as Graduation Year 2022 and Graduation Year 2023, continued their strong academic performance in the 2017-2018 and 2018-2019 school years using data from PSSA and CDT. From a practitioner standpoint, these were not the cohorts who presented concern when the House system was designed and implemented. However, they did not suffer from the implementation of the House points token economy, and the opportunities to recognize their academic distinctions and strengths encouraged individual students to emerge as leaders within their Houses. This was not an opportunity offered in many avenues previously.

The cohorts in the data of more concern were the Graduating Year 2024, 2025, and 2026 groups. Treating the PSSA separately from CDT, the 2024 group did not

demonstrate significant improvement in average NCE over the 2018 and 2019 tests. As has been noted, the COVID-19 pandemic that closed all Pennsylvania schools in March 2020 also resulted in cancelation of the 2020 PSSA assessments. Regardless, the notable conclusion to be drawn from the 2024 cohort is the consistency of their performance over the years in both ELA and Math. Despite that performance being below the 50th percentile collectively, there is evidence from both this data and CDT data that this group persevered over their academic years and realized small gains through their eighth grade year. This would reflect a school climate that maintained high expectations for student academic effort.

This cohort was the main target for improvement when the House system was implemented. If this group could improve with the injection of a points token economy and with more attention and rewards for academic achievement, then this system would be a smash hit. As the PSSA data shows, however, directly connecting school climate to summative achievement can be a frustrating approach. Similarly, isolating the cohort of 2024 in the CDT data, there is not strong evidence that gains in achievement occurred as a result of school climate.

I do not think this is the entire story here, however. This cohort, largely known for mediocre performance, continued to reach similar or slightly better achievement results in both PSSA and CDT formats through their eighth grade year. This reflects consistent or improved effort, and with more attention paid by teachers to reinforcing this effort and building reward structures through the House system, an argument is there to be made for this cohort learning perseverance through an academic environment made much more difficult through the adoption of PA Core Standards and resulting

assessments that many struggling students become reluctant to face as they progress through eighth grade.

As both the researcher and principal throughout the study, I have personal knowledge of the students in these cohorts. Through the analysis of the data for the Graduation Year 2025 cohort, I recognized the diversity of this class regarding both their academic ability and their work ethic. This cohort seems to have responded most strongly of any in the study to the entire slate of academic interventions, including the reward structure and competitive nature of the House system. They demonstrated improved first test performance as measured over successive school years, and accelerated their CDT achievement in Math more rapidly in the years of the House system.

The cohorts of 2026 and 2027 have a troubling pattern of rather poor first test performance from school year to school year, but have improved this starting point in the years of the House system. These cohorts respond particularly well to House points in the classroom, as noted in House leadership committee notes.

As researcher, I can identify some positive momentum in the academic achievement data and can rely upon my experience as practitioner and upon the focus group data to validate that data. As such, I can support a conclusion that the House system has been at best a tool by which academic achievement can be supported and accelerated with frequent use of the points system, and at worse has caused no harm to academic achievement for cohorts or staff members who do not see great value in the program.

Research Question 2: What impact does a schoolwide points system implemented within a House structure have on school climate? This question cuts a bit straighter to the heart of the House system's implementation. Referring back to the research framework presented in the review of the literature, school climate reform engages social learning theories and principles of democratic philosophies, and includes definitions with varied characteristics, factors, and areas of focus. The review of the literature highlighted the diverse approaches taken by researchers to develop these definitions, with some overlap that emerges. After conducting the research related to the implementation of the House system and its impact on school climate, there are connections to this research base that emerge.

Measuring school climate is an exercise in gauging the quality and character of school life, best monitored systematically through regular diagnostic measures (Olsen, Preston, Algozzine, Algozzine, & Cusumano, 2018). The most impactful indicators of school climate on school satisfaction include academic support, positive teacher-student relationships, school connectedness, order and discipline, and academic satisfaction (Zullig, Heubner, & Patton, 2011). The data sources in this study addressed these areas, including the compilation and analysis of attendance and discipline data, and the analysis of faculty and staff survey data regarding the impact of the House system.

The resulting data that the House leadership committee considered in their focus group meetings, and that I used for this study, reveal that there is positive momentum after year three of implementation of the House system at the Preston Area School. Attendance remained strong and improved through the first two years of the program.

The third year attendance from 2019-2020 was not included, as the school was affected greatly by the seasonal flu, followed by the COVID-19 pandemic.

Student discipline data demonstrated significant improvement in year three of the House system, COVID-19 pandemic notwithstanding. By maintaining the high standards for student conduct at Preston and implementing the House system simultaneously, the staff demonstrated the ability to consider student experiences where social contact and the school as community prevail as themes, similar to Ikpeze's (2013) Expeditionary Learning. The cultural fabric shifted under the House system to be more student-focused, and student conduct improved. This, among all the data analyses in this project, may be the most intriguing for the potential it holds to understand the role a House system can have in school settings.

Struggles with the implementation of school climate reform efforts is consistent in the research base. The disorderly nature of implementation found through much of the research was no exception at Preston, where points rewards shifted from a complex formula where many aspects of student responsibility were assigned points values to the simpler mindset of intermittent reinforcement and clear rewards. This experientially-based process brings Dewey's (1938) urgings to promote analysis of social interactions and learn together fully into focus, while the emergence of solutions and targets that are agreed-upon by the diverse stakeholders in the school should benefit the staying power of the program (Fullan & Pinchot, 2018). The House system at Preston led to collaboration and collegiality among staff that had become muted over years of teacher leaves of absence, transfer, and the pace of modern education.

The Preston Area School Faculty and Staff Research Survey data squarely centers the importance of perception on the success of a school climate reform effort like a House system. Davis and Warner (2018) concluded that stakeholder perception of a school's climate, particularly teacher perception, had a significant positive correlation on academic achievement. Elia (2015) found similar results, concluding that parents' positive perception of their children's middle school led to academic achievement results that were higher than their socioeconomic status may have predicted.

Establishing the exigency and the ethos to undertake such a sprawling program that pushes influence into every aspect of school life requires staff members to agree that there is a problem. Staff and leadership who commit to an ethos of open and creative collaboration about improving school climate build school climates that are considerate, convivial, and capacious (Bragg & Manchester, 2016). Back, Polk, Keys, and McMahon (2015) concluded that school-wide ethos and the buy-in of staff has powerful influence on school climate, and may positively impact academic achievement. Living through the disorderliness of implementation resulted in data that looked different based on staff perception of years one and two as measured in September 2019 as compared to year three data as measured in May 2020. A significant conclusion to be supported is that once staff members agree to both the need for the reform effort and the method by which they will tackle the effort, true collaboration emerges. The resulting collaboration allows students to be brought back as the central focus of the effort, which is integral to a successful school climate (Wang & Degol, 2016; Williams, 2017), and empowers teachers and staff members to lead the effort without reliance on the principal to make the only leadership decisions (Hoy & Hannum, 1997).

Research Question 3: What are the benefits to a schoolwide House system as identified? The design of the Preston House system included House points to be awarded for student participation in community service efforts, extracurricular activities, and other organized events and programs that we saw in decline in the school and local community. Structuring the Preston House system to focus on concepts like service learning and community service originated from findings presented in the review of the literature. When school personnel prioritize service learning, values for social interactions are heightened, appreciation for collaboration increases, and tolerance for diversity grows (Henness, 2001; The Pennsylvania Service Learning Evaluation Network, 1996; Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013; Cohen, 2006).

Data analysis related to efforts to reinforce community service, extracurricular participation, and program participation demonstrates that faculty and staff perception of the role the House system has had on these topics is generally positive, particularly for year three of the program, 2019-2020. This data is supported by House leadership committee focus group data. Contextually, I would have liked to have an additional method to collect student participation data that I could have connected more closely to the House system. The House leadership of the school has maintained that parent signatures are required for students to receive House points via the voucher system for participation in these extracurricular or community programs. This is a value of the staff, that parents are continuously prompted to remain involved in the school community. Keeping this connection retains a focus on relationship building, and helps support the parental expectations students need to maintain positive and academic outcomes

(Hopson, Schiller, & Lawson, 2014; Cash, Debnam, Waasdorp, Wahl, & Bradshaw, 2018).

Because of the voucher system operating in this format, where student participation in extracurricular programs, community service, and other programs is not automatically tabulated and requires students and parents to submit for House points, the data is limited to these more qualitative measures to assess impact. Creating a data presentation that would strictly measure student participation against the total number of students in the school would not necessarily help measure impact of the House system, as some of the reasons for implementing the House system dealt with concerns about families becoming more reluctant to engage in the school community in the years leading up to 2017-2018. Accentuating participation, rewarding students who do participate, and prompting parents to become more involved with the school community created positive energy in the school and in the local community about these programs.

This last point was largely supported in the data analysis through the survey results of the last prompt, where faculty and staff responded with their perceptions of the House system as it impacted the image of the Preston Area School in the community. The Fall 2019 survey results indicated fifty percent of the staff identifying a positive or very positive response to this pertaining to the school years of 2017-2018 and 2018-2019, while the May 2020 survey results were slightly better, showing sixty two percent of staff identifying a positive image of the Preston Area School in the community as a result of the House system. The small reduction of negative responses from September 2019 to May 2020 was noted, but is not significant due to the small *n* count.

Fiscal Implications

In the introduction to this capstone, I discussed measures that had been taken to minimize the fiscal impact of implementing the House system on the operations of the Preston Area School. These actions included:

- Securing support from the Preston Area School Parent Teacher Organization, or PTO, to purchase display items around the school like House banners and to financially support the costs of House reward trips offered periodically throughout the school year to Houses who won points competitions.
- Working with local businesses to secure donations of painting supplies to decorate areas in the school for each House.
- Working with local businesses such as restaurants and recreational facilities to lower costs for House reward trips and activities.
- Writing a grant that a local charitable foundation funded that allowed me to purchase drums for each House to use to develop their distinctive rhythms and patterns for school assemblies, purchase House T-Shirts for each student and staff member, and provide for after-school programming and the development of a student leadership program for the 2018-2019 school year.

Taking steps like these helped us to accelerate the growth of the House system and increased my purchasing power. I found that, unlike academic or curricular reform where textbooks or materials are the product to be purchased and used, the development of the House system required significant belief in a conceptual idea by the staff, and a faith that it could be something tangible. As Houses developed their logos, their themes,

their crests and coats of arms, and their identities, they needed physical reminders to help reinforce their hard work. In a modern educational context, where funds for ancillary programs are severely limited in principals' budgets, convincing partners to work with the school to pay for conceptual ideas is no small feat. From an action research cycle standpoint where I identified the fiscal shortcomings of my building budget, sought solutions through community partnerships, found funds to fill the gaps, and added value to the overall project and to the school climate, solving the fiscal challenges of addressing school climate reform through a House system was a successful aspect of this project.

Future Directions for Research

The action research process to evaluating the effectiveness of a House system has proven to be a good marriage of methodology and intervention. The action research process requires continuous address by the researcher or research team to identify the problem and plan, act and collect data, further develop the action plan based on that data, and reflect on the results and begin the process again (Mertler, 2019). These action research cycles naturally fit the approach taken at Preston to implement the House system.

The complex topics to address included student and family demographics that ranged from socioeconomic struggles to mental health and addiction affecting expectations for students from home. From the school perspective, the increased number of teachers on extended leaves of absence and the continued practice of teachers transferring from Preston to teach closer to their homes created concerns about the ability of faculty and staff to maintain high expectations for academics and behaviors. From a community perspective, the local economic opportunities had dwindled and left few

reasons for young families to come to the area, and aging local business owners whose children were no longer at Preston and were thus less prone to support the school as they had before. This landscape of concerning issues had placed downward pressure on student achievement and staff morale. The decision to implement the House system was as much about infusing energy to distract from these realities as it was about rejuvenating academic success and improved morale.

Numerous school personnel contributed to the articles I referenced through the literature review about reasons for implementing House systems. These reasons included student and teacher marginalization, limited student interactions, limited relationships between staff and students, poor behavior and a lack of a sense of belonging, isolation of teachers in a small rural school, and a need to build collaboration and collegiality among staff (Brennan, 2012; Buchanan, 2018; Cornwall, 2018; The Bedford School, n.d.; Vidal, 2015).

Throughout the action research process, I found both comfort and a sense of inspiration that many other schools struggle with similar pressures regarding climate. Many of these House systems addressed similar goals and themes through implementation to what we sought at Preston. The steps taken at Preston were very similar to the many House systems included in the literature review regarding the planning stages of action research.

Future projects might reference my data and results to add a measure of validity to school climate reform as it pertains to House systems. The data collection and analysis of the connection between the House system and academic achievement represents the effort of the entire school community to promote a healthy academic pressure on students

to give their best effort and set academic achievement goals on summative and diagnostic achievements with a tangible reward connected. The House leadership committee developed reward trips and activities, both in-house and outside the school, that became very appealing motivators for students to work their hardest to achieve target scores.

Future research efforts regarding school climate and implementing House systems should consider more clear connection between the consistent application of House points in the classroom setting to formative and benchmark assessment goals. This is an area for improvement in the Preston system. The concerns about teacher turnover and the frequency of long-term substitute teachers over the years at Preston were addressed by the energy of new teachers using the points system to reinforce academic effort, behavioral excellence, and citizenship, but the tracking system used for points did not allow for the breaking down of points earned into these categories. This was an original intention of the Preston staff, but quickly became too time-consuming to manage for staff members who wanted to award as many points as possible. A future research effort might be valuable to identify the impact on individual or small group achievement, behavior, or citizenship by indicating the frequency with which students earn points in these areas and the resulting data.

While there were connections in the design of the Preston House system to Dewey's social learning theory and Freire's democratic philosophy of school, these connections were more clearly executed in House leadership committee's work to mold and fix the system to best fit the school environment. These frameworks did not fully blend into teaching and learning systems at Preston. A future research effort might

consider how to connect student mentoring opportunities or student leadership frameworks within House systems to data related to school climate.

A final recommendation for future research on implementing a House system as an approach to school improvement lies in the statement made by Judi Hayes, the Principal of Lake Canyon Elementary School, who concluded that, “every part of our school culture now flows through the lens of the House system” (Cornwall, 2018). To truly assess the impact of a House system, qualitative research would reference the most complete list of school climate or culture indicators and analyze changes and results after many years of the House system in place.

Recommendations for Principals and Educational Leaders

Implementing a House system in the school setting is a potentially rewarding opportunity to infuse energy among the school staff, students, parents, and school community. As this paper has covered, the investment in a House system can certainly lead to benefits, both tangible and unseen. Realizing these benefits requires careful planning and a willingness to remain flexible throughout the implementation and execution of the system. I would suggest the following recommendations to principals or educational leaders seeking guidance on implementing a House system.

Set priorities and values for how the school should look and feel after implementation. In my case, this meant reflecting upon my own commitment to social learning theories, service and experiential learning concepts, democratic principles, and critical pedagogy.

Assemble a House leadership committee to serve in the crucial advisory role and ensure that the advisory group can commit a common set of priorities and values. Throughout this study, there were many references in the research literature and in my data analysis to the importance of an advisory group to lead school climate reform. As a principal, I made an error when forming this group assuming that all the members had the same priorities and values I had. This was mostly true, but a more firm foundation of agreed-upon priorities and values from the leadership core becomes a powerful model to take to the faculty and staff as a whole.

Prepare for a flexible approach to the token economy or points system, particularly in a building with a large grade span, such as K-6 or 7-12. A more homogenous set of expectations for how a points system can be executed is reasonable in a building covering a small set of grades, regardless of age group. Just as with any token economy, however, individual teachers and staff members will need latitude to best apply the points system in their setting.

Spend time on marketing materials and securing community and parent partnerships early. These practices, which included formal presentations by the principal at parent assemblies, informal discussions at parent-teacher association meetings, and distributing prepared flyers offering sponsorship for reward trips to local businesses were major successes in the Preston House system that ensured staying power despite the changes to the system under the surface.

Plan to mold the student leadership in the school around the House system. This became the vehicle for securing student input, and empowered student council members to become more visible and vocal leaders than in the previous traditional model. This

will vary in buildings with different age groups, but is a practice that builds credibility in the student body.

Balance the initial energy of the House system with the establishment of long-term goals. Making the goals public, assigning House points for reaching short-term and long-range targets, and remaining consistent with rewards for winning Houses help build longevity to the program. These strategies also help the principal address faculty and staff who seem reluctant or even oppositional to the points system. Assigning House points for positive achievement, behavior, and citizenship is always a chance for staff member and student to build connection and reinforce affiliation with both House and school.

Summary

School climate is a complex concept with many diverse approaches taken by researchers and practitioners to define and address. Over the course of many years analyzing the school climate at the Preston Area School, determining the scope of the problem and the areas in need of change became clear. Implementing a House system as a means of changing school climate has been a slow and arduous process for a few major reasons.

In a very traditional school setting, where success academically and behaviorally was the norm for many years, I found resistance to change. The underlying belief that the same approaches to teaching and learning should continue to work despite the changing landscape of the school community persisted. While faculty and staff recognized the same concerning data that I did, there was not an overwhelming consensus that systemic

change was necessary. This became apparent over the course of the first two years of the House system implementation. General feelings were that the program was well-structured and that the energy for students receiving awards for doing well was a nice addition to the school. However, the need to truly immerse the school within the House system became more apparent as the third year of implementation occurred.

The momentum gathered during the 2019-2020 school year becomes the basis for the future of this research. Growing the House system at Preston to be a powerful vehicle for positive academic growth is a very desirous goal of the House leadership committee. Passive acceptance of a House system as a possible motivator for students is not a pattern of behavior I want for my teachers. Landing at this spot would be a compromise for the House leadership committee at a juncture of opportunity to reinvigorate and reinforce the critical pedagogical elements that have emerged and have the potential to drive further change.

Those faculty and staff who truly buy into to the ideal educational setting where a House system can thrive are those who demonstrate a willingness to build students as leaders who recognize where change is needed and possible. These educators commit to equipping their students to become leaders who can make that identified change happen. The teachers at the Preston Area School who view the House system as a vehicle for reinforcing the best of academic effort, behavior, and citizenship are those who also tend to traffic in the mindset of social learning and critical pedagogy.

Realizing academic growth for students within the CDT data has been rewarding for teachers and students, although significant concerns about student achievement at Preston for the intermediate grades 3-5 remain. This is an area for much more focus and

attention beyond this project. I do feel much more confident about the collaborative nature and willingness to seek improvement among teachers, and the House system has been a significant part of that professional growth.

Attendance and discipline data have improved over the years of the House system at Preston. The COVID-19 pandemic that closed schools in March 2020 certainly impacted and in some ways tainted the data in these areas, but there were positive changes to be recorded. The House leadership committee, as a focus group and as a steering committee, needed this data. A House system, as I stated early in this paper, can be considered a leap of faith, as its structure may be very fluid in the formative stages. This research serves as a more longitudinal approach to climate reform, analyzing three years of implementation data. The perseverance of faculty and staff to get to a point where the House system has value in the present and for the future required patience and flexibility. Blending the firm targets of academic achievement, attendance, and discipline with a schoolwide approach to reinforcing and rewarding accomplishments was laborious. Keeping an open approach to faculty and staff input, as well as student feedback and opportunities for parent and community support, was integral to school climate reform.

Elements of service learning and community connection within the framework of the House system have solidified in the implementation years. The data reviewed throughout this project supports that statement, but the establishment of a new vision for the Preston Area School that includes the House system has reached beyond the limits of this project. Interacting with parents at Open House, developing a student leadership program that includes House logos and themes, and marketing the program through local

media and school social media outlets have all been additional steps taken to build the Preston House system as a brand. The largest implications of this work that stretches beyond the school walls has been to mitigate the costs of operating the program at a full level with meaningful rewards for students.

A House system is a model worth consideration for those educational leaders who recognize the need for an infusion of energy and a change of pace to traditional school structures. Building that House system into a brand that impact school climate, academic achievement, and the image and partnerships of the school in the community becomes a sustained effort that stretches beyond the initial vision. The models of House systems in the K-12 setting indicate there is a pathway for success regardless of age level, and that the right combination of leadership and staff commitment can lead to long-term improvements. Impacting school climate positively is a starting point for change through a model like a House system. Changing teaching and learning dynamics to reflect social learning theories and critical pedagogical concepts is an attainable long-term result.

References

Aasebo, T. S., Midtsundstad, J. H., Willbergh, I. (2017). Teaching in the age of accountability: Restrained by school culture? *Journal of Curriculum Studies, 49*(3), 273-290. doi:10.1080/00220272.2015.1072249

Ali, Z., & Siddiqui, M. (2016). School climate: Learning environment as a predictor of student's academic achievement. *Journal of Research & Reflections in Education, 10*(1), 104-115. Retrieved from http://www.ue.edu.pk/jrre

Back, L. T., Polk, E., Key, C. B., & McMahon, S. D. (2016). Classroom management, school staff relations, school climate, and academic achievement: Testing a model with urban high schools. *Learning Environments Research, 19,* 397-410. doi:10.1007/s10984-016-9213-x

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bear, G., Yang, C., Pell, M., & Gaskins, C. (2014). Validation of a brief measure of teachers' perceptions of school climate: Relations to student achievement and suspensions. *Learning Environments Research, 17*(3), 339-354. doi:10.1007/s10984-014-9162-1

Blad, E. (2019, March 13). Schools explore ways to forge student bonds. *Education Week, 38*(25), 6-8. Retrieved from https://www.edweek.org/ew/articles/2019/03/13/how-schools-can-make-advisories-meaningful-for.html

Bragg, S., & Manchester, H. (2017). Considerate, convivial and capacious? Finding a language to capture ethos in 'creative' schools. *Discourse: Studies in the Cultural Politics of Education, 38*(6), 864-879. doi:10.1080/01596306.2016.1227302

Brennan, M. C. (2012). Fostering community through the house system at Most Holy Trinity Catholic School. *Catholic Education: A Journal of Inquiry and Practice, 15*(2), 325-356. Retrieved from https://files.eric.ed.gov/fulltext/EJ970006.pdf

Breunig, M. C. (2004). Developing peoples' critical thinking skills through experiential education theory and practice. In Roberts., N. S., & Galloway, S., Editors. *32nd Annual International Conference of the Association for Experiential Education: Selected Papers & Abstracts.* Paper presented at Association for Experiential Learning's 32nd Annual International Conference, Norfolk, VA (16-27). Boulder, CO: Association for Experiential Learning. Retrieved from files.eric.ed.gov/fulltext/ED491747.pdf

Breunig, M. C. (2005). Turning experiential education and critical pedagogy theory into praxis. *Journal of Experiential Education, 28*(2), 106-122. Retrieved from http://www.aee.org

Buchanan, C. T. (2018, June 14). The sorting: A six-house system unites Mill Creek Elementary's expanding community. Retrieved from https://aplusala.org/best-practices-center/2018/06/14/the-sorting-a-six-house-system-unites-mill-creek-elementarys-expanding-community/

California Department of Education. (2017). *School performance overview: Goleta Valley Junior High*. Retrieved from https://www.caschooldashboard.org/reports/42767866060032/2018

Cash, A. H., Debnam, K. J., Waasdorp, T. E., Wahl, M., & Bradshaw, C. P. (2018). Adult and student interactions in nonclassroom settings. *Journal of Educational Psychology*. Advance online publication. doi: 10.1037/edu0000275

Chiang, T. (2019). How do underachieving working class students survive in the classroom? Critiques on the perspective of resistance. *International Journal of Educational Research, 96*, 32-40. https://doi.org/10.1016/j.ijer.2019.03.007

Cho, S. (2010). Politics of critical pedagogy and new social movements. *Educational Philosophy and Theory, 42*(3), 310-325. doi:10.1111/j.1469-5812.2008.00415.x

Clayton, P., Hess, G., Hartman, E., Edwards, K. E., Shackford-Bradley, J., Harrison, B., & McLaughlin, K. (2014). Educating for democracy by walking the talk in experiential learning. *Journal of Applied Learning in Higher Education, 6*, 3-35. Retrieved from https://files.eric.ed.gov/fulltext/EJ1188587.pdf

Cohen, J. (2006). Social, emotional, ethical, and academic education: Creating a climate for learning, participation in democracy, and well-being. *Harvard Educational Review, 76*(2), 201-237. doi:10.17763/haer.76.2.j44854x1524644vn

Cohen J., Pickeral T., & McCloskey, M. (2009). Assessing school climate. *Education Digest, 74*(8), 45-48. Retrieved from http://www.eddigest.com/index.php

Cornwall, G. (2018, May 14). How being part of a 'House' within a school helps students gain a sense of belonging. *KQED*. Retrieved from https://www.kqed.org/mindshift/50960/how-being-part-of-a-house-within-a-school-helps-students-gain-a-sense-of-belonging

Davis, J. R., & Warner, N. (2018). Schools matter: The positive relationship between New York City high schools' student academic progress and school climate. *Urban Education, 53*(8), 959-980. doi:10.1177/0042085915613544

Dewey, J. (1938). *Experience and education*. New York, NY: Kappa Delta Pi.

Dewey, J. (2012). Education and democracy in the world of today. *Schools: Studies in Education, 9*(1), 96-100 (original work published 1938). doi:10.1086/665026

Dewey, J. (2016). Excerpts from democracy and education (1916). *Schools: Studies in Education, 13*(1), 127-139 (original work published 1916). doi:10.1086/685806

Dick, B., & Swepson, P. (2013). Action research FAQ: "frequently asked questions: file [On line]. Retrieved from http://aral.com.au/resources/arfaq.html

Elia, M. S. (2015). *Parenting practices of lower socioeconomic status parents of high achieving students* (Unpublished doctoral dissertation). Walden University. Retrieved from https://pdfs.semanticscholar.org/ac5b/b25cbd9e9b2d30f84e505246511a87ef4792.pdf?_ga=2.48772517.24503023.1572356097-297027700.1570639369

Freire, P. (2005). *Pedagogy of the Oppressed: 30th Anniversary Edition* (M. B. Ramos, Trans.). New York, NY: The Continuum International Publishing Group, Inc. (Original work published 1968).

Fullan, M., & Pinchot, M. (2018, March). The fast track to sustainable turnaround. *Educational Leadership, 75*(6), 48-54. Retrieved from http://www.ascd.org/publications/educational-leadership/mar18/vol75/num06/The-Fast-Track-to-Sustainable-Turnaround.aspx

Glass, R. D. (2001). On Paulo Freire's philosophy of praxis and the foundations of liberation education. *Educational Researcher, 30*(2), 15-25. doi:10.3102/0013189X030002015

Green, D. G. (2006, April). Welcome to the house system. *Educational Leadership, 63*(7), 64-67. Retrieved from http://www.ascd.org/publications/educational-leadership/apr06/vol63/num07/Welcome-to-the-House-System.aspx

Harris, F. (2017). Dewey's and Freire's popular philosophies of education in a capitalist context. *Encounters in Theory & History of Education/Rencontres en Theorie et Histoire de l'Educacion, 18*, 100-118. doi:10.24908/eoe-ese-rse.v18i0.6387

Hendricks, C. (2017). *Improving schools through action research: A reflective practice approach* (4th ed.) [Kindle iOS edition]. Retrieved from amazon.com

Henness, S. (2001, July). *K-12 service learning: A strategy for rural community renewal and revitalization*. Washington, DC: Corporation for National Service. Retrieved from https://files.eric.ed.gov/fulltext/ED461466.pdf

Hess, F. M. (2009, October). Cages of their own design: Five strategies to help education leaders break free. *Educational Leadership, 67*(2), 28-33. Retrieved from http://www.ascd.org/publications/educational-leadership/oct09/vol67/num02/Cages-of-Their-Own-Design.aspx

Hopson, L. M., Schiller, K. S., & Lawson, H. A. (2014). Exploring linkages between school climates, behavioral norms, social supports, and academic success. *Social Work Research, 38*(4), 197-209. doi:10.1093/swr/svu017

Hoy, W. K., & Hannum, J. W. (1997). Middle school climate: An empirical assessment of organizational health and student achievement. *Educational Administration Quarterly, 33*(3), 290-311. doi:10.1177/0013161X97033003003

Ikpeze, C. (2013). Increasing urban students' engagement with school: Toward the expeditionary learning model. *Journal of Urban Learning, Teaching, and Research, 9,* 55-64. Retrieved from https://files.eric.ed.gov/fulltext/EJ1027016.pdf

Jacobson, R. B. (2010). Moral education and the academics of being humans together. *Journal of Thought, 45*(1/2), 45-53. Retrieved from http://journalofthought.com/wp-content/uploads/2015/04/11jacobson.pdf

Jenlink, P. M. (2017). Critical praxis as socialization of teachers: Paulo Freire's *conscientizacao*. *Teacher Education & Practice, 30*(1), 6-15. Retrieved from https://mytacte.org

Kirk, C. M., Lewis, R. K., Brown, K., Karibo, B., & Park, E. (2016). The power of student empowerment: Measuring classroom predictors and individual indicators.

Journal of Educational Research, 109(6), 589-595. doi:10.1080/00220671.2014.1002880

Laco, D., & Johnson, W. (2017/2019). I expect it to be great…But will it be?: An investigation of outcomes and mediators of a school-based mentoring program. *Youth and Society, 51*(7), 934-960. https://doi.org/10.1177/0044118X17711615

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. New York, NY: Cambridge University Press.

Madero, C. (2017). Changing society, changing humanity: Freirian goals of education. *Educational Policy Analysis and Strategic Research, 12*(1), 17-31. Retrieved from https://files.eric.ed.gov/fulltext/EJ1127556.pdf

Maxwell, S., Reynolds, K. J., Lee, E., Subasic, E., & Bromhead, D. (2017). The impact of school climate and school identification on academic achievement: Multilevel modeling with student and teacher data. *Frontiers in Psychology, 8*(2069). doi:10.3389/fpsyg.2017.02069

McLaren, P. (2016). Revolutionary critical pedagogy: Staking a claim against the macrostructural unconscious. *Critical Education, 7*(8), 1-41. Retrieved from http://ojs.library.ubc.ca/index.php/criticaled/article/view/186144

Mertler, C. A. (2019). *Introduction to education research* (2nd ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Montgomery-Fate, T. (1990, March). *Wading in: John Dewey, Paulo Freire, the Chicago Transit Authority*. Paper presented at the Annual Meeting of the Conference on

College Composition and Communication, Chicago, IL. Retrieved from https://files.eric.ed.gov/fulltext/ED319052.pdf

Mosoge, M. J., Challens, B. H., & Xaba, M. I. (2018). Perceived collective teacher efficacy in low performing schools. *South African Journal of Education, 38*(2), 1-9. doi:https://doi.org/10.15700/saje.v38n2a1153

Muir, M. (2003, December 8). *Experiential Learning* (Research Brief). Educational Partnerships, Inc. Retrieved from www.educationpartnerships.org

Olsen, J., Preston, A. I., Algozzine, B., Algozzine, K., & Cusumano, D. (2018). A review and analysis of selected school climate measures. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas, 91*(2), 47-58. doi:10.1080/00098655.2017.1385999

Ozar, R. (2015). Sharing a room with Emile: Challenging the role of the educator in experiential learning theory. *Philosophical Studies in Education, 46,* 90-100. Retrieved from https://files.eric.ed.gov/fulltext/EJ1076609.pdf

Pennsylvania Department of Education. (2016). *2015-2016 CDT Technical Report*. Retrieved from https://www.education.pa.gov/K-12/Assessment%20and%20Accountability/CDT/Pages/default.aspx

Pennsylvania Department of Education. (2017). *2016-2017 CDT Technical Report*. Retrieved from https://www.education.pa.gov/K-12/Assessment%20and%20Accountability/CDT/Pages/default.aspx

Pennsylvania Department of Education. (2018). *2017-2018 CDT Technical Report*. Retrieved from https://pa.drcedirect.com/default.aspx?leapp=General+Information

Pennsylvania Department of Education. (2020). *Classroom Diagnostic Tools (CDT) Frequently Asked Questions*. Retrieved from https://www.pdesas.org/Page/Viewer/ViewPage/9

Pennsylvania Service Learning Evaluation Network. (1996, February). *The Essentials of Service Learning* (Position paper). Harrisburg, PA: Pennsylvania State Department of Education. Retrieved from https://files.eric.ed.gov/fulltext/ED391953.pdf

Reno, G. D., Friend, J., Caruthers, L., & Smith, D. (2017). Who's getting targeted for behavioral interventions? Exploring the connections between school culture, positive behavior support, and elementary student achievement. *The Journal of Negro Education, 86*(4), 423-438. Retrieved from http://www.jstor.org/stable/10.7709/jnegroeducation.86.4.0423

Reynolds, K. J., Lee, E., Turner, I., Bromhead, D., & Subasic, E. (2017). How does school climate impact academic achievement? An examination of social identity processes. *School Psychology International, 38*(1), 78-97. doi:10.1177/0143034316682295

Riel, M. (2019). *Understanding collaborative action research*. Center For Collaborative Action Research, Pepperdine University. Retrieved from http://cadres.pepperdine.edu/ccar/define.html.

Roberts, T. G. (2003). *An interpretation of Dewey's experiential learning theory*. Educational Resources Information Centre. Retrieved from https://files.eric.ed.gov/fulltext/ED481922.pdf

Sagor, R. (2000). *Guiding school improvement with action research*. ASCD. Retrieved from http://www.ascd.org/publications/books/100047/chapters/What-Is-Action-Research%C2%A2.aspx

Sanders, S. M., Durbin, J. M., Anderson, B. G., Fogarty, L. M., Giraldo-Garcia, R. J., & Voight, A. (2018). Does a rising school climate lift all boats? Differential associations of perceived climate and achievement for students with disabilities and limited English proficiency. *School Psychology International, 39*(6), 646-662. doi:10.1177/0143034318810319

SAS Institute Inc. (2020). *PVAAS Pennsylvania*. Retrieved from https://pvaas.sas.com/

Shih, Y. (2018). Some critical thinking on Paulo Freire's critical pedagogy and its educational implications. *International Education Studies, 11*(9). doi:10.5539/ies.v11n9p64

Smith, T., & Shouppe, G. A. (2018). Is there a relationship between schools' climate ratings and student performance data? *National Teacher Education Journal, 11*(1), 15-21. Retrieved from https://ntejournal.com/

Thapa, A., Cohen, J., Guffey, S., & Higgins-D'Alessandro, A. (2013). A review of school climate research. *Review of Educational Research, 83*(3), 357-385. doi:10.3102/0034654313483907

The Bedford School. (n.d.). House system. Retrieved from http://www.thebedfordschool.org/student-life/house-system.cfm

Thornton, F. (2018). Counselors and special educators in rural schools working together to create a positive school community. *International Electronic Journal of Elementary Education, 10*(3), 385-389. doi:10.26822/iejee.2018336197

Vidal, O. (2018, August 30). *'House system' at elementary school promotes good behavior*. KPLC TV. Retrieved from https://www.kplctv.com/2018/08/30/house-system-elementary-school-promotes-good-behavior/

Wang, M., & Degol, J. (2016). School climate: A review of the construct, measurement, and impact on student outcomes. *Educational Psychology Review, 28*(2), 315-352. doi:10.1007/s10648-015-9319-1

White, C. P., & Levers, L. L. (2017). Parent-teacher engagement during child-centered pedagogical change in elementary school. *Children & Schools, 39*(1), 15-24. https://doi.org/10.1093/cs/cdw044

Williams, M. K. (2017). John Dewey in the 21st century. *Journal of Inquiry & Action in Education, 9*(1), 92-101. Retrieved from https://files.eric.ed.gov/fulltext/EJ1158258.pdf

Wilson, A. L., & Burket, L. (1989, October 4). *What makes learning meaningful?* Paper presented at the Annual Meeting of the American Association for Adult and Continuing Education, Atlantic City, NJ. Retrieved from files.eric.ed.gov/fulltext/ED313586.pdf

Zullig, K. J., Huebner, E. S., & Patton, J. M. (2011). Relationships among school climate domains and school satisfaction. *Psychology in the Schools, 48*(2), 133-145. doi:10.1002/pits20532

APPENDICES

Appendix A

Preston Area School Faculty and Staff Research Survey

You are being invited to participate in a research study titled *Implementing a House System in Elementary and Middle School: Using action research to analyze cultural and academic change after systemic reform.* This study is being done by David Jagger from California University of Pennsylvania.

The purpose of this research study is to gather feedback regarding the House system at the Preston Area School for the first two years of implementation, and will take you approximately ten minutes to complete. The research project dates are from August 25, 2019 through June 1, 2020. Your participation in this study is voluntary and you can withdraw at any time. You are free to omit any question.

We believe there is minimal risks associated with this research study. To the best of our ability, your answers in this study will remain confidential and anonymous. We will minimize any risks by maintaining all data on password-protected computer drives and destroying raw data within two weeks of the completion of the research project.

Should you have any questions regarding this survey or the research project described, you may contact David Jagger at jag8889@calu.edu or Dr. Mary Wolf, Doctoral Capstone Committee Chair for this project, at wolf@calu.edu.

Survey

Setting: The House system at Preston has been implemented for two school years, 2017-18 and 2018-19. Please indicate your opinion regarding the impact the House system has had on the following topics by circling your response to the following survey questions per the following scale:

5- Significant positive impact
4- Some positive impact
3- No impact
2- Some negative impact
1- Significant negative impact

1. **PSSA Reading Achievement (Grades 3-8)**

5 4 3 2 1

2. **PSSA Math Achievement (Grades 3-8)**

5 4 3 2 1

3. **CDT Reading Benchmark Assessment (Grades 3-8)**

5 4 3 2 1

4. **CDT Math Benchmark Assessment (Grades 3-8)**

5 4 3 2 1

5. **Student Attendance (Grades 3-8)**

5 4 3 2 1

6. Student Discipline (Grades 3-8)

5 4 3 2 1

7. School Spirit

5 4 3 2 1

8. Community Service

5 4 3 2 1

9. Extracurricular Participation

5 4 3 2 1

10. Attitude Toward Learning

5 4 3 2 1

11. Attitude Toward School

5 4 3 2 1

12. Image of Preston Area School in the Community

5 4 3 2 1

13. In your opinion, how can the House system be implemented in the 2019-20 school year to increase its impact on student achievement and school culture?

_____

_____

_____

Approved by the California University of Pennsylvania Institutional Review Board. This approval is effective 09/04/19 and expires 09/03/20.

Appendix B

September 2019 IRB Approval Letter

Institutional Review Board

California University of Pennsylvania

Morgan Hall, 310

250 University Avenue

California, PA 15419

instreviewboard@calu.edu

Melissa Sovak, Ph.D.

Dear David,

Please consider this email as official notification that your proposal titled “Implementing a House System in Elementary and Middle School: Using action research to analyze cultural and academic change after systemic reform” (Proposal #18-072) has been approved by the California University of Pennsylvania Institutional Review Board as amended.

The effective date of approval is 9/4/19 and the expiration date is 9/3/20. These dates must appear on the consent form.

Please note that Federal Policy requires that you notify the IRB promptly regarding any of the following:

(1) Any additions or changes in procedures you might wish for your study (additions or changes must be approved by the IRB before they are implemented)

(2) Any events that affect the safety or well-being of subjects

(3) Any modifications of your study or other responses that are necessitated by any events reported in (2).

(4) To continue your research beyond the approval expiration date of 9/3/20 you must file additional information to be considered for continuing review. Please contact instreviewboard@calu.edu

Please notify the Board when data collection is complete.

Regards,

Melissa Sovak, PhD.

Chair, Institutional Review Board

Appendix C

Addendum to IRB Proposal

April 10, 2020

Due to the COVID-19 global pandemic, all Pennsylvania schools were closed for the remainder of the academic year by order of Governor Tom Wolf on April 9, 2020. This closure extended initial closures that began on March 13, 2020.

Regarding the approved proposal "Implementing a House System in Elementary and Middle School: Using action research to analyze cultural and academic change after systemic reform" (**Proposal #18-072**), the data collection for the 2019-2020 school year will be truncated due to the school closure. Some data will be complete, such as CDT testing. Some data will be missing entirely, such as the canceled PSSA testing. Some data will be incomplete, such as attendance data and discipline data, due to the shortened school year.

The purpose of this addendum deals with a revision to the administration of the staff survey, designed to collect staff member impressions of the Preston House system. Due to the COVID-19 school closures, I will not be able to administer a hard copy survey, as proposed, at the close of this academic school year. I am seeking approval to transition this survey to an electronic version, using a platform such as Survey Monkey, with the same purpose, questions, data collected, and anonymity.

Thank you for your consideration. I look forward to hearing from you.

Sincerely,

David A. Jagger

Appendix D

April 2020 IRB Approval Letter

Institutional Review Board

California University of Pennsylvania

Morgan Hall, 310

250 University Avenue

California, PA 15419

instreviewboard@calu.edu

Melissa Sovak, Ph.D.

Dear David,

Please consider this email as official notification that your proposal titled “Implementing a House System in Elementary and Middle School: Using action research to analyze cultural and academic change after systemic reform” (Proposal #18-072) has been approved by the California University of Pennsylvania Institutional Review Board as amended.

The effective date of approval is 4/10/2020 and the expiration date is 4/9/21. These dates must appear on the consent form.

Please note that Federal Policy requires that you notify the IRB promptly regarding any of the following:

(1) Any additions or changes in procedures you might wish for your study (additions or changes must be approved by the IRB before they are implemented)

(2) Any events that affect the safety or well-being of subjects

(3) Any modifications of your study or other responses that are necessitated by any events reported in (2).

(4) To continue your research beyond the approval expiration date of 4/9/21 you must file additional information to be considered for continuing review. Please contact instreviewboard@calu.edu

Please notify the Board when data collection is complete.

Regards,

Melissa Sovak, PhD.

Chair, Institutional Review Board

Appendix E

Informed Consent Form for Participation in Research, House leadership committee

You are being invited to participate in a research study titled *Implementing a House System in Elementary and Middle School: Using action research to analyze cultural and academic change after systemic reform.* This study is being done by **David Jagger** from California University of Pennsylvania.

The purpose of participating on the House leadership committee is to oversee implementation of the House system for the 2019-2020 school year. This committee will gather feedback from staff and students, consider data regarding the program's impact on academic achievement and school culture, and make decisions regarding the program's implementation based on these data. Discussions, input, and feedback from this committee will be considered an integral part of the action research process for this project. The research project dates are from August 25, 2019 through June 1, 2020. Your participation in this study is voluntary and you can withdraw at any time.

We believe there is minimal risks associated with this research study. To the best of our ability, your answers in this study will remain confidential and anonymous. We will minimize any risks by **maintaining all data on password-protected computer drives and destroying raw data within two weeks of the completion of the research project.**

Should you have any questions regarding this survey or the research project described, you may contact David Jagger at jag8889@calu.edu or Dr. Mary Wolf, Doctoral Capstone Committee Chair for this project, at wolf@calu.edu.

Approved by the California University of Pennsylvania Institutional Review Board. This approval is effective nn/nn/nn and expires mm/mm/mm.

I volunteer to participate in a research project conducted by Mr. David A. Jagger from California University of Pennsylvania. I understand that the project is designed to gather information about House System at the Preston Area School. I will be one of approximately five members of the House Leadership Committee.

1. My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty.

2. I understand that most committee members will find the discussions interesting and thought-provoking. If, however, I feel uncomfortable in any way during meetings or discussions, I have the right to decline to answer any question or to leave the meeting without penalty.

3. Participation involves attending regular meetings with other staff members from the Preston Area School who are part of the leadership committee for the House System. The meetings will last approximately 20-25 minutes. Notes will be written during the meetings. An audio recording of the meetings will not be made.

4. I understand that the researcher will not identify me by name in any reports using information obtained from these meetings, and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

5. Other than the other members of the leadership committee, faculty and administrators from my campus will neither be present at the meetings or discussions nor have access to raw notes or transcripts. This precaution will prevent my individual comments from having any negative repercussions.

6. I understand that this research study has been reviewed and approved by the Institutional Review Board (IRB) for Studies Involving Human Subjects at the California University of Pennsylvania. For research problems or questions regarding subjects, the Institutional Review Board may be contacted through [information of the contact person at IRB office of Century University].

7. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

8. I have been given a copy of this consent form.

_____ _____

My Signature My Printed Name

Date _____

Signature of the Researcher _____

For further information, please contact: Mr. David A. Jagger, jag8889@calu.edu, 570-396-5810