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Leadership in the Age of Blended Learning: A Mixed Methods Comparative Case Study of Four Middle Schools

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Leadership in the Age of Blended Learning:

A Mixed Methods Comparative Case Study of Four Middle Schools

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by

Xianhui Grace Dong

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ABSTRACT OF THE DISSERTATION

Leadership in the Age of Blended Learning:

A Mixed Methods Comparative Case Study of Four Middle Schools

by

Xianhui Grace Dong

Doctor of Education

University of California, Los Angeles, 2020

Professor William A. Sandoval, Chair

This study examined the school-wide implementation of one blended learning program, Acceleration, at four middle schools in the Greater Los Angeles Area. Implementation was examined in the context of adoption and performance, with a focus on challenges and resolutions. The sample was comprised of 30 teachers and administrators at four middle schools serving students in grades 6-8. This mixed methods study was in two phases. For the first phase, I analyzed quantitative data on Acceleration adoption and performance at 73 public and public charter K-12 schools during the 2018-2019 school year. For the second phase, I selected four middle schools serving students in grades 6-8 from my phase one sample. These four middle schools had contrasting low and high *a*doption and *p*erformance levels (L*a*L*p*, L*a*H*p,* H*a*L*p*, H*a*H*p*). Then, I identified challenges and

resolutions across low and high adoption schools. I also determined how a school's leadership structure influenced how challenges were defined and resolved. My findings show that while low and high adopter schools did not vary by the type of challenge or by the type of resolution, high adopter schools tended to resolve blended learning challenges systematically while low adopter schools tended to resolve blended learning challenges on a case-by-case basis. Across the four schools, adoption challenges tended to be at the teacher level and infrastructure level. Adoption resolutions tended to be at the administrator level and teacher level. Across the four schools, performance challenges were primarily at the student level. Performance resolutions tended to be at the teacher level and administrator level. I found that high adopter schools tended to have interconnected leadership cultures that facilitated the creation of systems and structures, ensuring that adoption and performance resolutions occurred at the system-wide, school-wide level. Low adopter schools tended to have disjointed leadership cultures with limited facilitation of systems and structures, ensuring that adoption and performance resolutions occurred on a case-by-case basis.

The dissertation of Xianhui Grace Dong is approved.

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2020

DEDICATION PAGE

I dedicate this manuscript to my parents, Li Xia and Zhijiang Dong, and to my younger brother, Fred Haishan Dong. I would not be who I am today without their unconditional love for me and their unwavering support of my personal and professional aspirations. As the product of three generations of educators, I am deeply grateful to my family for instilling in me a love for teaching and learning. My identity is deeply shaped by my Chinese roots, my passion for education, and my commitment to equity and diversity.

I also dedicate this manuscript to my early mentors at the University of California, Berkeley: Professor John Hurst and Professor Richard McCallum. John showed me that the purpose of education was to create a more democratic society. Rest in power, John. During one of the darkest periods of my life, Rick encouraged me to get back on my feet and pursue "a place where I could sing." Both professors are strong testaments to the transformative power and reach of education.

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I would also like to thank the teachers and administrators who participated in my study. I couldn't have completed this dissertation without them.

Finally, I would like to thank my partner, Dr. Jason Shen, for his encouragement and support during the final stretch of my dissertation journey.

" The unexamined life is not worth living."

– Socrates

VITA

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Chapter One

Technology has radically changed the landscape of K-12 education in America. Blended learning, a program that combines online learning with traditional, face-to-face instruction, is one way that K-12 schools have integrated technology with pedagogy. Research on blended learning models indicate significant advantages for differentiation, data-monitoring, student engagement, and learning outcomes (Al-Qahtani & Higgins, 2013; Luna & Winters, 2017; Melton et al., 2009; Riffell & Sibley, 2005; U.S. Department of Education, 2010). Despite blended learning's wide use in K-12 schools, there is little to no research conducted on blended learning in the K-12 context. There is also little to no research on the role of school leadership in the implementation of blended learning. Given this significant gap in the literature, the goal of my mixed methods research study is two-fold: understand how schools resolve blended learning challenges during the school-wide implementation of blended learning and understand how a school's leadership culture influences how challenges are defined and resolved. My research will look at four middle schools in their first four years of school-wide blended learning implementation.

In this first chapter, I begin with how technology has changed the landscape of K-12 education in America. Next, I present blended learning as one of the ways schools have integrated technology with pedagogy and describe four models for blended learning. Then, I describe the advantages of blended learning for student engagement and student achievement. Then, I discuss the challenges to facilitating school-wide change and the role of administrators and teachers as leaders and change agents. I conclude with a

justification for my study on how a school's leadership culture influences how blended learning challenges are defined and resolved.

The Changing Landscape of American K-12 Education

In 2015, Congress passed the Activities to Support the Effective Use of Technology Clause in Title IV Part A of the Every Student Succeeds Act (ESSA). The purpose of the Activities Clause was to "effectively [utilize] technology to improve the academic achievement, academic growth, and digital literacy of all students, increase community engagement, foster safe and healthy environments, and enable well-rounded educational opportunities" (U.S. Department of Education, 2017). The Activities Clause not only dedicates funding for technology infrastructure in the form of devices and digital learning resources, but also allocates funding for professional development to "support and develop educators' identities as fluent users of technology, creative and collaborative problem solvers, and adaptive experts in the effective selection and implementation of educational technology" (U.S. Department of Education, 2017).

At the federal level, the US Department of Education has, since 2010, published a National Education Technology Plan (NETP) to enable "equity of access to transformational learning experiences enabled by technology" (U.S. Department of Education, 2017). In 2011, The U.S. Department of Education Office of Special Education Programs (OSEP) created a Center for Online Learning and Students with Disabilities to "research how online learning can be made more accessible, engaging, and effective for K-12 learners with disabilities" (U.S. Office of Special Education Programs, 2018).

State laws have also reflected the changing of times. Some states are now requiring online learning experiences as part of the standard curriculum. Other states offer virtual schools, mandatory online courses, and online offerings at all grade levels (LaFrance & Beck, 2014). Five states- Florida, North Carolina, Michigan, Montana, Idaho, and Alabama- have committed to state funding for online programs (LaFrance & Beck, 2014).

Blended Learning

Blended learning is one of the ways K-12 schools have integrated technology with pedagogy. Although there is no consensus around the definition of "blended learning," there are clear distinctions between face-to-face learning, online learning, and blended learning (Bernard et al., 2014; Chigeza & Halbert, 2014; Nortvig et al., 2018). Face-to-face learning is a traditional, instructional format that involves a physical classroom and the physical presence of students and teachers (Bernard et al., 2014). Online learning is an instructional format that involves a web-based classroom where students and teachers enjoy freedom of time, place, and pace (Bernard et al., 2014). Blended learning is, in simple terms, the combination of face-to-face learning with online learning (Bernard et al., 2014). Blended learning is, in more complex terms, a formal program where a student learns: (1) at least in part through online learning, with some element of student control over time, place, path, and/or pace; (2) at least in part in a supervised brick-and-mortar location away from home; and (3) through modalities within a course or subject that are connected to provide an integrated learning experience (Maxwell, 2016). The term "blended learning" is often used interchangeably with the term "hybrid learning" (Ryan et al., 2016).

The Four Models of Blended Learning

The four most commonly used blended learning models are station rotation, lab rotation, individual rotation, and flipped classroom (Maxwell, 2016). The station rotation model is the most popular of the four models. Teachers utilizing the station rotation model assign students to different tasks at the various table stations. Students work independently, in pairs, or with a teacher through online learning and face-to-face instruction. In a lab rotation, students engage in traditional, face-to-face instruction with the teacher before rotating to a computer lab for additional online support and instruction. In an individual rotation model, students follow an individualized online curriculum that is assigned to them by the teacher or a computer algorithm. This online curriculum gives students the opportunity to work on different core subjects and addresses the individual student's needs within these core subjects. In a flipped classroom, students watch videos the day before class and spend class in discussion with peers or working on hand-on activities to apply their learning.

The Advantages of Blended Learning

The four blended learning models provide significant advantages for students and teachers: increased differentiation, access to supplementary online content, access to student achievement data, and increased student engagement (Al-Qahtani & Higgins, 2013; Luna & Winters, 2017; Melton et al., 2009; Riffell & Sibley, 2005; U.S. Department of Education, 2010). Teachers are able to differentiate curriculum for students from the lowest to highest achieving ends of the classroom, increase rigor for all subject areas, and analyze student data more precisely and effectively (Al-Qahtani &

Higgins, 2013). Blended learning also offers students a stronger sense of community, as compared to face-to-face instruction or fully online learning (Rovai & Jordan, 2004).

Al-Qahtani and Higgins (2013) found a statistically significant difference in student achievement between online learning, blended learning, and traditional classrooms. The results of their study indicate that classes using the blended learning method supported student learning more effectively than online learning or traditional, face-to-face methods (Al-Qahtani & Higgins, 2013).

Luna and Winters (2017) conducted a quasi-experimental study comparing the same sociology class taught in two separate formats- one section using blended learning methods and the other using traditional, face-to-face lecture. They found that the blended class had significantly greater academic improvement from pretest to posttest results. They also found that students of color and non-first year students had significantly greater improvement on the pretest to posttest as compared to their counterparts in the lecture course (Luna & Winters, 2017).

Melton et al. (2009) conducted a quasi-experimental research study that compared 251 students' achievement in three blended learning health courses and one traditional health course. Through a pre and posttest method, the researchers found that blended students' overall grades were significantly higher than those of their traditional student counterparts (Melton et al., 2009).

Challenges to Implementing School Change

In the last decade, school districts have had to adopt three major policy levers: the Common Core Standards (CCSS), a standards-based teacher and principal evaluation system known as the Annual Professional Performance Review (APPR) and Data-Driven

Instruction (DDI) (Durand et al., 2016). Despite considerable discretion and autonomy in the implementation of CCSS, district and school leaders faced significant implementation challenges. These challenges include: (1) leaders' preparation, readiness, and competency for innovation adoption and implementation, (2) sense-making around the policy features, policy requirements, and contingencies for local implementation (Cobb et al., 2012), and (3) sense-making of the professional capacity and "buy-in" of school leaders and teachers (Fullan et al., 2015; Packard & Shih, 2014).

Durand et al. (2016) conducted a mixed methods study around district leaders' orientations and strategies as their nine elementary schools implemented the Common Core State Standards (CCSS). The researchers utilized a multiple case study method and statistical regressions for sampling and interviews. They found that district leaders for schools achieving above-predicted outcomes ("odds-beaters") anticipated the state's policy innovations and developed organizational capacity. These district and school leaders employed bridging, brokering, and buffering strategies to craft coherence and facilitated organizational learning and improvement (Durand et al., 2016).

Some school organizations may not meet the above-mentioned criteria for staff readiness and capacity. This is due to a variety of reasons. First, the school leader is only able to affect change through their presence and influence. It is up to the teaching staff to sustain the change process (Calabrese, 2003). Secondly, the principal-mandated change may only be temporarily modifying the behavior of the staff and it is likely that staff behavior will return to the original pattern of behavior (Calabrese, 2003). Thirdly, it is possible that the school organization itself is too rigid for change; newer school organizations tend to have more flexibility and receptiveness to change (Calabrese,

2003). Fourth, the cultural values and beliefs of an organization are so deeply embedded in the operational structures that the former go unquestioned and stand in direct opposition to the new school initiative (Calabrese, 2003).

School Leadership

According to Northouse (2016), leadership is a "process whereby an individual influences a group or individuals to achieve a common goal" (p.6). Defining leadership in this way means that 1) leadership is a process or interactive event that occurs between the leader and the followers, 2) leadership involves influence or how the leader affects followers, and 3) leadership occurs in groups to meet a common goal (Northouse, 2016). In the context of this study, a leader is a district leader, school leader and/or teacher leader who influences a group of teachers to achieve the common goal of implementing Acceleration, a blended learning program, school-wide.

A review of the literature shows that K-12 school leaders are one of the most important levers to improving instruction and student achievement (Leithwood et al., 2004). The role of the school principal includes setting a clear vision of teaching and learning, evaluating strategic plans, advocating for funding, building a culture of student learning and professional growth, managing the organization, operation, and resources at the school, and collaborating with faculty and the larger school community to address diverse needs, interests, and mobilization of resources.

As change agents, school principals must demonstrate clear communication and coordination with staff, especially during the early stages of institutional change (Liu & Tourtellott, 2011). Change requires interpersonal trust and an environment that encourages innovation (Zepeda, 2006). Principal leaders need to empower and work in

tandem with teaching staff through effective work flows and clear communication channels. Issues need be addressed immediately and best practices must be disseminated quickly. Examples of formal and informal systems for effective work flows and clear communication include scheduled review meetings, formal meetings around changes to be implemented, 1:1 communication, inquiry-based meetings, and creative meetings (Liu & Tourtellott, 2011). Teaching staff may also experience high levels of cognitive dissonance, the tension that occurs when beliefs and assumptions are contradicted by new information or when two or more ideas or values compete with each other (Zepeda, 2006). School principals must assist in reducing their staff's cognitive dissonance to in order for successful innovation and change processes to occur (Zepeda, 2006).

Challenges Around Blended Learning Implementation

Given the current and future influx of technology in K-12 schools, the challenge for this generation and the next generation of school principals is to understand and tap into the power of technology-driven learning (Watson et al., 2011). In many schools across the United States, little to no guidance or support for technology leadership exists (LaFrance & Beck, 2014; Mackey et al., 2015; McLeod & Richardson, 2011). Research is critically needed for assist principals in the challenges and opportunities of online and blended learning.

A clear vision establishes the level of sustainability of online learning and the success of the change initiative (Abrego & Pankake, 2010). A clear vision allows comprehensive integration of technology at the site. School leaders need to carefully consider a complex set of values, traditions, and assumptions when building a culture of learning in online and blended schools because a virtual environment calls for different

work patterns, levels of discourse, sources of knowledge, and skills (LaFrance & Beck, 2014). For effective management, leaders also need to consider the school schedule, current state of technology, available curriculum, teacher's instructional behaviors, and their staff's technology skills. Online collaboration allows principals and teachers to have a cloud-based location to share the most current files, comments, and conversations. The collective data from these collaborative efforts can be utilized to inform curriculum and instruction. Beyond the typical model of ethical behavior and high expectations for student achievement, principals must meet the ethical responsibilities of identifying high-quality online programs, equitably training teachers on these programs, and ensuring financial and academic accountability.

Facilitating Change Through School Culture

Changing the culture of an institution is one of the most difficult steps in the change process (Fishman, 2005). Culture is defined as the "deeper level of basic assumptions and beliefs that are shared by members of an organization, that operate unconsciously, and that define in a basic taken for granted fashion an organization's view of itself and its environment" (Schein, 2017). School leaders and teachers play an important role in the creation and development of culture. The change process requires organizational members to leave behind and/or challenge the previously held culture of assumptions, norms, beliefs, and values. Because it is a risk to leave the status quo in favor of a new set of assumptions and beliefs, the existing culture of the organization must be risk tolerant. Without a healthy dose of risk tolerance, urgency, and entrepreneurship, organizational members will not be able to change their culture (Calabrese, 2003). Further, clear communication is necessary at all levels of the

hierarchy, and professional development must prepare staff for the new change to take root into the organizational culture (Fishman, 2005). School leaders need to carefully consider a complex set of values, traditions, and assumptions when building a culture of learning in online and blended schools because a virtual environment calls for different work patterns, levels of discourse, sources of knowledge, and skills (LaFrance & Beck, 2014).

Justification For This Study

Literature on blended learning focuses on the higher education context and not at the K-12 level (Carbonell et al., 2013; Liu & Tourtellott, 2011). Despite blended learning's wide use in K-12 schools, there is little to no research conducted on blended learning in the K-12 context and little to no research on the role of K-12 leadership in the implementation of blended learning. Given this significant gap in the literature, the goal of my mixed methods research study is two-fold: understand how schools resolve blended learning challenges during the school-wide implementation of blended learning and understand how a school's leadership culture influences how challenges are defined and resolved.

This research study is designed to answer the following two research questions:

Research Question 1: How do schools resolve blended learning challenges?

Research Question 2: How does the school's leadership culture influence how challenges are defined and resolved?

Research Design

This mixed methods research study was in two phases. The first phase was quantitative and the second phase was qualitative. The results of the quantitative phase

determined the selection of sites for the qualitative phase. For the first phase, I collected quantitative data on 73 schools' blended learning adoption and performance on Acceleration[1] during the 2018-2019 school year. The 2018-2019 was the most recent full year of school-wide data. The 2019-2020 school year was in progress at the time of this study so I could not include it in my selection criteria. I defined "adoption" as the average number of reading activities completed per student per week on Acceleration. I defined "performance" as the average score on students' completed reading activities on Acceleration. I also collected 2018-2019 school-level student demographic data from the California Department of Education's Data Quest website for all 73 schools. After analyzing these two data sources, I categorized the 73 schools by "levels of adoption" and "levels of performance."

For the second phase, I selected four middle schools, L*a*L*p*, L*a*H*p*, H*a*L*p*, and H*a*H*p*, from my original sample of 73 schools, to conduct multiple case studies. These schools represent the contrasting *a*doption and *p*erformance levels, with the first letter indicating a school's *a*doption level and the second letter indicating its *p*erformance level. Adoption always comes before performance. These four middle schools were all in their first four years of school-wide blended learning implementation and used Acceleration during the 2018-2019 and 2019-2020 school year. I interviewed 30 participants across the four middle schools.

The second phase of my study was applied qualitative research, undertaken to understand the leadership culture of a school and how a school's leadership culture impacts blended learning challenges and resolutions. I am interested in understanding

[1] Pseudonym for blended learning program used for anonymity.

how administrators and teachers construct their own experiences through a discussion of challenges and resolutions, their own identities as leaders, and the meanings they attach to their experiences. Because my research questions center around processes, systems, and beliefs, this calls for a qualitative approach as it cannot be properly captured in a survey format. Also, given my study's emphasis on open-ended questioning and understanding the lived experiences of teachers and administrators, a qualitative approach was most appropriate. The comparative case study method was utilized to understand how and why a blended learning program like Acceleration was able to be adopted or not adopted successfully. The case study method was an appropriate impact evaluation design because there is a need to explain how the context of the school influences the success of the implementation.

Chapter Two

In this literature review, I first discuss the changing landscape of K-12 education and the change management process. Next, I present a brief history of blended learning and describe four models for blended learning. Then, I describe the advantages of blended learning for student engagement and student achievement. Then, I discuss the challenges to facilitating school-wide change and the role of administrators and teachers as leaders and change agents. Through this literature review, I build a case for my research questions on how schools resolve blended learning challenges and how the school's leadership culture influences how challenges are defined and resolved.

The Changing Landscape of K-12 Education

The American K-12 educational system today is impacted by a variety of societal factors: globalization of the economy, a new information landscape, the prevalence of transformational technologies, and increased hyper-connectivity (McLeod, 2011). These societal factors are impacting schools in the most profound ways, the likes of which have not been seen since the last global, economic, and educational restructuring more than a century ago (Leithwood et al., 2004). The old model of schools, which was designed to match the demands of a manufacturing and industrial society, is proving itself obsolete in a post-industrial world (Leithwood et al., 2004). The world that we live in now requires schools to adopt different ways of thinking about education.

The Changing Standards for K-12 Education

The schools of today are increasingly digital in scope. While more research is needed on how the learning sciences, or the scientific study of how people learn, can inform how technology is developed and used in school settings, technology is becoming

an important part of federal and state mandates (US Department of Education, 2017). In 2015, Congress passed the Activities to Support the Effective Use of Technology Clause in Title IV Part A of The Every Student Succeeds Act (ESSA). The purpose of the Activities Clause is to "effectively [utilize] technology to improve the academic achievement, academic growth, and digital literacy of all students, increase community engagement, foster safe and healthy environments, and enable well-rounded educational opportunities" (U.S. Department of Education, 2017). The Activities Clause not only dedicates funding for technology infrastructure (devices, digital learning resources), but also allocates funding for professional development to "support and develop educators' identities as fluent users of technology, creative and collaborative problem solvers, and adaptive experts in the effective selection and implementation of educational technology" (U.S. Department of Education, 2017).

Since 1996, the US Department of Education has published a National Education Technology Plan (NETP) to enable "equity of access to transformational learning experiences enabled by technology" (U.S. Department of Education, 2017). In 2011, The U.S. Department of Education Office of Special Education Programs (OSEP) created a Center for Online Learning and Students with Disabilities to "research how online learning can be made more accessible, engaging, and effective for K-12 learners with disabilities" (U.S. Office of Special Education Programs, 2018).

In 2016, the US Department of Health and Human Services co-released the Early Learning and Education Technology Policy Brief with the US Department of Education's Office of Educational Technology. The Early Learning and Education Technology Policy Brief supports a vision that 1) all young children will have adults in their lives who are

well-informed on how to use technology to support learning at all ages; and 2) all young children will have opportunities to learn, explore, play, and communicate through a multitude of approaches, including the use of technology. Four principles guide this vision: (1) technology-when used appropriately- can be a tool for learning, (2) technology should be used to increase access to learning opportunities for all children, (3) technology may be used to strengthen relationships among parents, families, early educators, and young children, and (4) technology is more effective for learning when adults and peers interact or co-view with young children (US Department of Education, 2017).

State laws have also reflected the changing of times. Some states are now requiring online learning experiences as part of the standard curriculum; still others are allowing virtual schools, mandatory online courses, and online offerings at all grade levels (LaFrance & Beck, 2014). Five states- Florida, North Carolina, Michigan, Montana, Idaho, and Alabama- have committed to state funding for online programs (LaFrance & Beck, 2014). In order to conceptualize the changing landscape of K-12 education, it is helpful to understand the change management process.

The Change Management Process

Theories of change management abound in education. As a whole, the literature on change theory and school reform states that change is a process that requires time and persistence (Hergert et al.,1988). Given the different stages in the change process, change strategies need to meet people's needs, accumulate a critical mass of support, and be clear about the purpose for reform. Successful change is planned and managed (Hergert et al., 1988).

The Knoster (1991) Managing Complex Change Matrix model, a commonly used framework, contends that there are five necessary components to successful change: vision, skills, incentives, resources, and an action plan. If any of the five elements is missing, change efforts will fail as a result of confusion, anxiety, resistance, frustration, or false starts. In the Knoster model, missing change components are matched with a subsequent outcome. If a school lacks vision, there will be confusion. If a school lacks skill, there will be anxiety. If a school lacks incentive, there will be gradual change or resistance. If a school lacks resources, there will be frustration. If a school lacks an action plan, there will be false starts. The Knoster framework (1991) borrows from Lippitt (1987) Managing Complex Change model.

Fetters et al. (2002) discuss their findings using Knoster (1991) framework. Fetters et al. (2002) conducted a qualitative study on the Toledo Area Partnership in Education: Support Teachers as Resources to Improve Elementary Science (TAPESTRIES) change initiative. A movement towards activity-based (and away from textbook-based) science curriculum, TAPESTRIES was a district-wide initiative to adopt three nationally developed, standards-aligned K-6 science curriculum: Full Option Science System (FOSS), Science and Technology for Children (STC), and Science Place.

Utilizing Knoster (1991) five components for change, Fetters et al. (2002) found that although the vision of TAPESTRIES was well planned and clearly articulated in the NSF grant, it was not clearly communicated to all stakeholders due to the large scale of the project. To equip teachers with the necessary skills for science teaching, TAPESTRIES enlisted a system of educators including Full-Time Support Teachers, Scientists, and Science Teachers, as well as provided sustained professional development

over the course of the project. At the beginning of the project, teachers described themselves as lacking in science content knowledge (skills); after attending the summer institute, they described themselves as more confident in their skills.

Incentives included hourly stipends, graduate credit hours, and free e-mail accounts from participating universities. Fetters et al. (2002) noted that in hindsight, these incentives were too short term-focused for such an intensive project. The resources were the kit-based science curricula (FOSS, STC, Science Place), the Full-Time Support Teachers' coaching and modeling, Scientists and science educators' resources for teaching and assessment, and a web site for resources. Two resource challenges were not having a clear system for sharing and returning used science kits, and the absence of supplemental science software at many school sites. A detailed action plan was also created, including the initial summer institute, and monthly meetings for the three academic years following.

Given these findings, Fetters et al. (2002) recommended that (1) systemic reform projects should build elementary teachers' confidence to teach science; (2) systemic change projects must provide elementary teachers with an opportunity to work directly with scientists and engage in hands-on inquiry science curriculum; and (3) systemic change programs must confront teachers' beliefs about effective curriculum materials and science instruction. Fetters et al. (2002) also noted that "all education stakeholders, including teachers, principals, parents, and community members, need to be involved in the decision making and implementation of change" (Fullan & Miles, 1992; Hirsh & Sparks, 1997). However, the specific roles and responsibilities of the 50 principals and assistant principals in Fetters et al. (2002) were not identified. Principals are a critical

piece of the change process, and yet are often left out of the conversation regarding systemic reform projects, which primarily focus on the role of the teacher.

In Fetters et al. (2002), the role of principal is only noted three times. First, the authors note that they offered a one –day retreat for principals to learn about the scope and nature of the project with follow up sessions through the year. Second, the authors note that principals received a monetary incentive to participate in the retreat. Third, the authors state that principals lacked a clear process for returning used science kits, with some complaining about the budgetary expense for these kits exceeding that spent on other core subject areas. There was no discussion about what precisely detailed the one-day retreat or the subsequent follow-up sessions. Fetters et al. (2002) is not alone in its implementation challenges around vision, skills, incentives, resources, and an action plan.

Historical Examples of Change Management

Historically, large scale K-12 change initiatives such as the Common Core State Standards (CCSS) and Data-Driven Instruction (DDI) have posed implementation challenges for schools. The challenges for these two change initiatives have largely fallen under two domains: (1) school principal leadership functions (a leader's preparation, readiness, understanding of the initiative and the needs of the school site, management competency for adoption and implementation) and (2) staff capacity (organizational structures that allow for or hinder progress, professional knowledge around the initiative, buy-in/ownership of the change) (Durand et al., 2016).

Given the first challenge around school principal leadership functions, it is vital more than ever to understand the role of the principal in the implementation of current and future change initiatives. The second challenge of staff capacity is one that is also

well documented in the literature on change management. Top-down change initiatives often fail because faculty voice is lacking in the decision-making process, or faculty are not skilled in the new initiative, thus creating resistance to change (Kotter & Schlesinger, 2008; Fishman, 2005). A current and growing change initiative in many schools is the implementation of blended learning in American K-12 schools.

The Definition of Blended Learning

The development of online learning in the early 1990s created the possibility of blended learning (Senge, 1990). Although there lacks complete consensus around the precise definition of "blended learning," there are clear distinctions between the three teaching and learning formats of face-to-face learning, online learning, and blended learning (Bernard et al., 2014; Chigeza & Halbert, 2014; Nortvig et al., 2018). Face-to-face learning is a traditional instructional format that involves a physical classroom and the physical presence of teachers and students. Online learning is an instructional format that involves a web-based classroom where teachers and students enjoy freedom of time, place, and pace (Bernard et al., 2014; Chigeza & Halbert, 2014; Northey et al., 2015; Israel, 2015; Potter, 2015). A simple definition of blended learning is the combination of face-to-face learning with online learning (Bernard et al., 2014). The term "blended learning" is often used interchangeably with the term "hybrid learning" (Ryan et al., 2016). A more complex definition of blended learning is the following: a formal program in which student learns (1) at least in part through online learning, with some element of student control over time, place, path, and/or pace; (2) at least in part in a supervised brick-and-mortar location away from home; and (3) the modalities along each student's

learning path within a course or subject are connected to provide an integrated learning experience (Maxwell, 2016).

Four Models for Blended Learning

Schools that utilize blended learning generally use four models for blended learning: (1) station rotation, (2) flipped classroom, (3) individual rotation, and (4) lab rotation.

The Station Rotation

The station rotation model allows students to move from one "station" to another "station" in one classroom. These "stations" are groups of desks dedicated for a particular instructional purpose. For instance, one "station" can be an online station where students are working on a task or a skill on a computer program. Another "station" can be a teacher leading a group of students in direct instruction. Yet another "station" is when groups of students are working collaboratively on an activity or task. In any given classroom, students are divided into groups and with their groups, students move from station to station after dedicated time in each station. Further, all stations are happening simultaneously in a classroom.

For instance, in a classroom of 30 students, there can be 10 students in each of the three groups. Group 1 students might spend 15 minutes in the first "station" for online work time before spending 15 minutes at the second "station" for teacher-led instruction, and then finally heading to third "station" for 15 minutes of collaborative work time. Group 2 students might start at the second station and then move to the third station and then finish at the first station. Group 3 students might start at the third station before moving to the first station and then finish at the second station. In this model of blended

learning, teachers and paraprofessionals are working with groups of ten or less students in direct-instruction at one time, allowing for increased individualization and differentiation of content.

The Flipped Classroom

In a flipped classroom, teachers either record their own lectures (on ItunesU or Showbie for example) or assign online lectures from an online database (such as Khan Academy or Ted Talks). Teachers can upload one video at a time or multiple lecture videos so students who are working at a faster pace can do so. In a flipped classroom, teachers can also create or assign online coursework for students to complete at home. The online videos are also available for students to watch again in the future. For homework, students watch the lecture videos and teacher's presentations at home, complete any online coursework, and identify any questions they have for the teacher to ask the following day in class. In class the following day, teachers can ask students to summarize the video from the night before/show their notes and questions from watching the video. Then teachers will spend the remainder of the class time working with students- using assignments to test reading comprehension, small group projects around the topic, deliver intervention for specific students, or provide 1:1 support to individual students. In class, students can work independently or in pairs on textbook exercises or collaborate in small groups for troubleshooting or group projects. Given the limited time teachers have with students in class, a flipped classroom gives teachers more time to provide individualized and small group instruction.

The Individual Rotation Model

In the Individual Rotation model, students follow a teacher-guided or software-directed schedule to rotate to "stations" where they can work on different core subjects, based on the needs they have within these subjects. Students do not need to rotate to every "station," just the ones that have been identified for them for that day based on their performance on formative and summative assessments from the previous days. The computer software is adaptive and able to prescribe individual recommendations for students to enrich learning and increase rigor. The computer lab is at the center of the individual rotation model, where students complete work on a computer software and follow an individualized online curriculum. All students are assigned to one computer in the computer lab for the entirety of the year.

For the remainder of the day, students transition from "station" to "station" to work with their teachers and their peers. These "stations" allow students to address their unique skill gaps based on their performance on the computer lab assessments and work completed. Some possible stations include: intervention in small groups with a teacher, seminar with a teacher, direct instruction with a teacher in a small group, 1:1 support through a digital lesson, or a group project with their peers using pen/paper/ manipulatives around the concept learned. These "stations" allow students to see what they have learned or not learned on the computer in relevant ways through discussion, direct instruction, or project-based learning. Additionally, students have the opportunity to work directly with teachers who can provide support and expertise, while connecting what they are learning in theory with what they are learning in their own lives. The individual rotation model can be used for multiple core subjects and every student can go at their own pace.

Because the computer software that students work on during the computer lab can collect formative and summative assessments every day, teachers and principals have real time access to students' progress. Thus, teachers and principals can quickly identify struggling students who need modification or assistance for immediate intervention. Every evening, teachers can either create or receive a schedule for the students for the next day based on the students' performance from the current day. Teachers can either assign students a lesson from the online library of lessons for the different content areas or approve the computer recommended schedule for the student. The same thing can be done for low-states formative assessments- either teacher assigned or computer software assigned. All schedules take in consideration the student's behavior on the software programs, based on historical learning patterns, individual learning attributes, and lesson characteristics.

The Lab Rotation Model

The lab rotation model utilizes the computer lab at schools to reinforce what the student is learning in different subject area classrooms. Within a certain subject, such as math, students will rotate at fixed points, according to a school calendar or teacher schedule, between their classroom and the school's computer lab. The lab rotation incorporates traditional teacher-led instruction with time in the computer lab for online, independent instruction on a computer program. The lab rotation model is very similar to the station rotation model because in both cases groups of students are in "rotation" from one location to another. While students in one classroom are rotating to different "stations" in that same classroom in the station rotation model, students in the lab rotation model are rotating from different content area classrooms to the computer lab.

Teachers strategically choose students for dedicated rotation time in the computer lab based on the student's level of intervention and focused practice. For instance, a struggling student in math class would be rotated to the computer lab to brush up on his or her math skill gaps for one hour. A struggling student in reading class would spend one hour in the computer lab to work on his or her reading skill gap on a computer software. The exercises in the computer software will help students reinforce what they have already learned with the teacher during the traditional teacher-led classroom. In the computer labs themselves, teachers can monitor students and also pull small groups for intensive remediation if needed.

The Advantages of Blended Learning

Fully online and blended learning schools are currently in 55% of all K-12 school districts in the United States (Queen & Lewis, 2011). Blended learning classes demonstrate greater improvement on learning outcomes as compared to their traditional counterparts (Al-Qahtani & Higgins, 2013; Luna & Winters, 2017; Melton et al., 2009; Riffle & Sibley, 2005; U.S. Department of Education, 2010).

Al-Qahtani and Higgins (2013) study found a statistically significant difference in student achievement between e-learning, blended learning, and traditional classrooms. The results of their study indicate that classes using the blended learning method had the highest student achievement of the three methods. This suggests that blended learning can support student learning more effectively than e-learning or traditional methods (Al-Qahtani & Higgins, 2013).

Luna and Winters (2017) conducted a quasi-experimental study comparing the same sociology class taught in two separate formats- one section using blended learning

methods and the other using traditional lecture. They found that the blended class had significantly greater improvement overall pre-to posttest and that students of color and non-first year students had significantly greater improvement on the pre to posttest as compared to their counterparts in the lecture course (Luna & Winters, 2017).

Melton et al. (2009) quasi-experimental research study compared student achievement for 251 students in three blended learning health courses and one traditional health course. Through a pretest-posttest method, the researchers found that blended class students' overall grades were significantly higher than their traditional student counterparts (Melton et al., 2009).

Both Garrison and Kanuka (2004) and Vaughan (2007) found that blended learning assisted the learning process via online and classroom technologies. Carbonell et al. (2013) found that blended learning bridged the gap between learning and working. Blended learning also promoting online collaboration amongst students (Gabriel, 2004), demonstrated increasing effectiveness among large and diverse student cohorts (Dziuban et al., 2004; Sharpe et al., 2006; Vaughan, 2007), and increased student achievement in K-12 schools (Keller et al., 2004).

The Roles and Responsibilities of the School Principal

The central problem for school administration is the management and adaptation to change broadly speaking (Murphy & Louis, 1999). In other words, principals must respond and adapt to complex organizational changes at the school level. Principals need to shift from focusing purely on their managerial and institutional roles to allocating more energy on their technical roles as instructional leaders. The "effective schools" research from the 1970s indicate that school principals who support instructional innovation and

pressure for improvement are instrumental in enabling a strong teaching staff. On the technical level, principals need to focus attention on organizational efforts that will support teaching, learning, and teacher development. Historically, schools and school principals have not supported teachers professionally or as professionals who can grow into their craft. This lack of support is reflected in the high teacher turnover and high teacher burnout rates. School principals push their teachers towards instructional excellence through the dissemination of research-based best practices at sustained, on-going professional development.

At the managerial level, school principals are no longer tied to one model for school organization. In the later part of the 20th century, principals have been presented with many competing definitions of how schools should be organized (Murphy & Louis, 1999). Because of the push for adherence to national and state standards, principal leadership at the managerial level also involves the interpretation and dissemination of federal and state policies for their faculty and staff (Murphy & Louis, 1999).

At an institutional level, the role of the principal is to manage the intrapersonal relations with his or her teaching staff, the students at the school, the parents, and various members of the community. A school leader must set clear expectations for appropriate school-wide norms and values. The role of the school leader is to create and maintain a culture of trust, model effective conflict resolution, and provide mentoring to his or her teaching staff. In order to effectively implement a cohesive education agenda, school principals must understand the change management process that is happening at their site. Through their technical, managerial, and institutional roles, principals navigate the change processes at their sites.

Principal Leadership Style

Principals can employ various leadership styles during change implementation: transformational leadership, adaptive leadership, and proactive leadership styles. The literature around principal leadership styles tends to favor the transformational leadership style and the adaptive leadership style (Fishman, 2005). "Transformational leadership," a process that ideally combines charismatic and visionary leadership, is one of the most popular and most current approaches to leadership (Northouse, 2016). Transformational leaders engage their followers' intrinsic motivation. They also inspire and empower their followers in times of uncertainty (Northouse, 2016). Followers are moved to accomplish more than what is usually expected of them.

"Adaptive leadership" is the process of responding to and dealing with change (Northouse, 2016). Adaptive leadership is follower-centered. Leaders and followers also mutually affect each other. Adaptive leadership focuses on mobilizing followers to tackle and resolve change in their own lives. These changes are not easily definable or resolved under the current organizational structure or in the leader alone. Instead, adaptive leadership requires followers to change their own assumptions, perceptions, and behaviors to adapt to change. There are six adaptive leadership behaviors. Two key behaviors include stepping back to look at the bigger picture and identifying challenges. A leader can gain better perspective in the midst of a challenging situation by stepping back and attending to quiet reflection time. A leader needs to identify challenges to properly address and resolve problems.

Facilitating Change Through School Culture

Changing the culture of an institution is one of the most difficult steps in the change process (Fishman, 2005). According to Shein (2017), the culture of a group is defined as the "accumulated shared learning of that group as it solves its problems of external adaptation and internal integration; which has worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think, feel, and behave in relation to those problems" (p.6). Shein (2017) states that culture can be analyzed on three levels: (1) artifacts such as visible structures and processes or observed behavior, (2) espoused beliefs and values, and (3) basic underlying assumptions.

The change process requires organizational members to leave behind and/or challenge the previously held culture of assumptions, norms, beliefs, and values. Because this is a risk-to leave the status quo in favor of a new set of assumptions and beliefs, the existing culture of the organization must be risk tolerant. Without a healthy dose of risk tolerance, urgency, and entrepreneurial spirit, organizational members will not be able to change their culture (Calabrese, 2003). Further, clear communication is necessary at all levels of the hierarchy, and professional development must prepare staff for the new philosophy to take root into the organizational culture (Fishman, 2005). School leaders need to carefully consider a complex set of values, traditions, and assumptions when building a culture of learning in online schools because a virtual environment calls for different work patterns, levels of discourse, sources of knowledge, and skills (LaFrance & Beck, 2014).

Given both the limited research on blended learning in the K-12 level and the limited literature on the role of the principal and that of the school leadership team in blended learning, the goal of this qualitative research study is to understand the vital role of both populations (principal and school leadership teams) in the school-wide implementation of blended learning. In the context of this study, I will describe how the school leadership teams (administrators and teacher leaders) utilize artifacts, beliefs, values, and underlying assumptions to guide their identification of blended learning challenges and resolutions.

Chapter Three

In the past two decades, we have seen significant changes to both the tools and pedagogy around American K-12 education. One such tool for change is the presence of technology. However, technology in itself does not transform learning; rather, "technology helps to enable transformative learning" (US Department of Education, 2017). K-12 schools began using blended learning, or the combination of online instruction with traditional, face-to-face instruction, to transform learning in 21st century classrooms. Given the limited research on blended learning at the K-12 level and the limited literature on the role of the principal and the school leadership team in blended learning, the goal of this mixed methods study is two-fold: 1) understand the ways with which blended learning challenges are resolved in K-12 schools, and 2) understand the roles of administrators and school leadership teams in the school-wide implementation of blended learning. By understanding the blended learning process, schools can fully take advantage of the power of technology to transform learning.

In this chapter, I begin with my two research questions. Next, I describe the data collection methods of my study. Then, I discuss my data analysis methods and touch on ethical issues. Finally, I conclude with my credibility and trustworthiness as a researcher.

Research Questions

My qualitative research study is designed to answer the following two research questions:

Research Question 1: How do schools resolve blended learning challenges?

Research Question 2: How does the school's leadership culture influence how challenges are defined and resolved?

The Blended Learning Program

My research study looked at the school-wide implementation of one blended learning program: Acceleration.[2] Acceleration is an online program where students read nonfiction articles at their own reading level and complete reading quizzes to test their reading comprehension. The nonfiction articles are based on themes related to English Language Arts, Social Studies, and Science. At the start of the year-long program, students take a 30-40 multiple-choice diagnostic exam that determines their reading level, or "Lexile." Students are then able to read and take reading quizzes, or multiple-choice "activities," on Acceleration for each article they read. Each "activity" has either four questions or eight questions, depending on the student's Lexile. Students who are lower Lexile readers have four questions on their activity. Students who are grade level or higher Lexile readers have eight questions on their activity.

By scoring at least three out of the four questions correctly, or at least six out of the eight questions correctly, students can receive a 75% or higher on the activities, increasing students' reading level, or "Lexile." If the student received a 75% or higher on the article, the Acceleration program will automatically give them a slightly higher Lexile when they read their next article. If the student received less than 75% on the article, the Acceleration program will automatically give them a slightly lower Lexile when they read their next article. Students, teachers, and administrators can choose from thousands of articles to read on Acceleration. Each non-fiction article on Acceleration is written at 12 Lexile levels in English and Spanish.

[2] Pseudonym used for anonymity.

Teachers and administrators can track students' usage and performance on the reading activities by pulling reports by student, teacher, class, grade, or school. Students and parents can also check students' usage and performance on the program. On the first of every month, Acceleration will adjust students' Lexiles and show student growth based on their activity performance from the previous month. These reports will also show the change in students' Lexile over the months of the school year. Teachers and administrators can also track students' reading performance longitudinally by filtering reports to look at a certain time period or across multiple years. The goal of Acceleration is the increase college and career readiness for all students through literacy (reading, writing, listening, and speaking).

Data Collection Methods

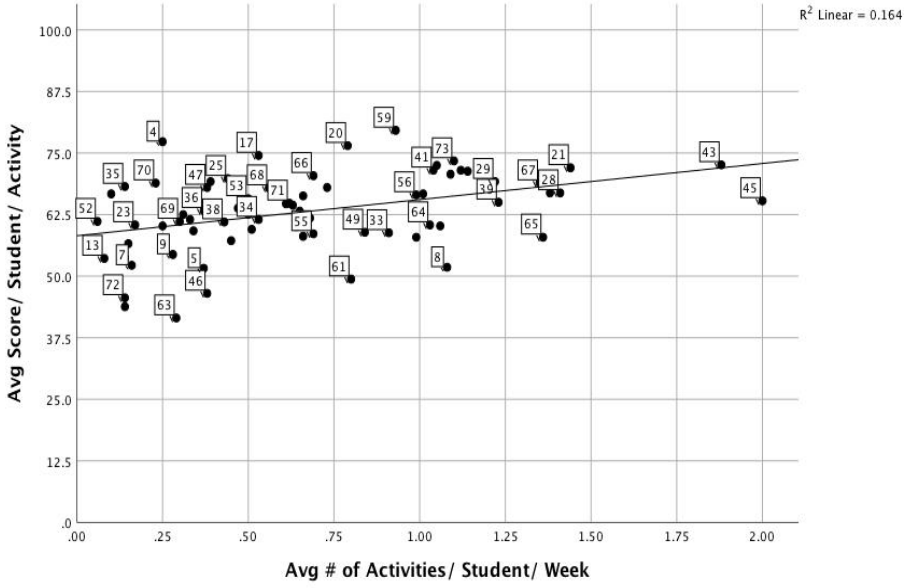
My mixed methods study is in two phases. The first phase is quantitative and the second phase is qualitative. The results of the quantitative phase determined the selection of sites for my qualitative phase. I first identified 90 public and private elementary, middle, and high schools that implemented Acceleration during the 2018-2019 school year. Then, I assigned each school a number from a random number generator, identified whether they were public or private, and identified their school type (elementary, middle, or high school). Next, I filtered these 90 schools by public or private, selecting for public schools. Out of the 90 schools, 73 schools were public and public charter schools. I focused on public schools because I was interested in how schools that serve diverse student populations implement blended learning.

Next, I collected quantitative data on the 73 schools' blended learning adoption and performance on Acceleration during the 2018-2019 school year. The 2018-2019 was

the most recent full year of school-wide data. The 2019-2020 school year was in progress at the time of this study so I could not include it in my selection criteria. I defined "adoption" as the average number of reading activities completed per student per week on Acceleration. I defined "performance" as the average score on students' completed reading activities on Acceleration. Next, I mapped out the 73 schools by their adoption and performance numbers on SPSS Software. See Figure 1 below.

Figure 1

73 Public and Public Charter Schools by Adoption and Performance.



The low R-squared for Figure 1 (16.4%) indicates that blended learning adoption is not a strong predictor of blended learning performance. If adoption doesn't predict performance, I was interested in finding out what separates low adopters from high adopters and low performers from high performers. In January 2020, I emailed school administrators at all 73 schools to see if they would be interested in participating in my study. I hoped to receive responses from two elementary schools, two middle schools, and two high schools to compare adoption and performance across three school types. I

received limited responses from the elementary and high schools, but many responses from the middle schools. By recommendation of my Chair and with the support of my Dissertation Committee, I focused on the middle schools who expressed interest in my study. By focusing on just middle schools, I reduced variability in my study and allowed my findings to be more useful for my target audience of middle school administrators and teachers. Out of the 73 elementary, middle, and high schools in my sample, 20 were middle schools.

Next, I sorted the 20 middle schools by their adoption and performance numbers. The range for adoption numbers spanned from 0.06 activities per week to 2 activities per week. The range for performance numbers spanned from an average score of 46.5% to an average score of 74%. From this range, I determined a criterion for separating low versus high adoption schools and low versus high performance schools. Low adoption schools have less than or equal to 0.5 activities completed per week on Acceleration. High adoption schools have greater than 0.5 activities completed per week on Acceleration. Low performance schools have an average score of less than or equal to 67% on Acceleration activities. High performance schools have an average score of greater than 67% on Acceleration activities.

Thus, I ended up with 20 middle schools distributed across four categories: Low Adoption, Low Performance (L*a*L*p*); Low Adoption, High Performance (L*a*H*p*); High Adoption, Low Performance (H*a*L*p*); and High Adoption, High Performance (H*a*H*p*). Out of the 20 middle schools, 10 middle schools responded with interest in my study. All 10 were also implementing Acceleration during the 2019-2020 school year. From these

10 middle schools, I selected four middle schools, L*a*L*p*, L*a*H*p*, H*a*L*p*, and H*a*H*p*, to conduct my phase two qualitative case study.

Access

For the past three years, I've worked as a Manager of Curriculum and Instruction for a blended learning software company. In this role, I supported administrators and teachers in their blended learning implementation at 90 public and private schools across 19 districts in the Greater Los Angeles area. I've worked closely with the four middle schools selected for phase two for this study and are familiar with their administrators and teachers. When I proposed my research to the school administrators, I received their verbal interest and willingness to participate in my study. In conversations with my participants, they mentioned interest in the findings of this study to help them with their blended learning implementations. Participants voiced interest in improving their practices and learning from each other's schools. I communicated with participants to make sure they understood my study, their commitment of one 60-90 minute interview with me, and the steps that I took to ensure their confidentiality. After my study was approved by the UCLA Institutional Review Board (IRB), I sent out a letter of consent to each participant for formal commitment in writing.

Semi-Structured Interviews

My primary method of data-collection was semi-structured interviews with administrators and teachers. I was interested in the challenges schools face in their second to fourth years of Acceleration implementation, how they resolved those challenges, and how the school's leadership culture affected the challenges and resolutions. By interviewing a variety of administrators and teachers, I was able to triangulate data

around the scope and depth of the challenges and resolutions, and follow-up with focused questions about the leadership culture and school context. Interviewing a variety of school stakeholders also helped to uncover similarities and differences between participants' personal values and espoused beliefs around school culture.

In total, I interviewed 30 participants. Table 1 shows the number of participants interviewed at each school.

Table 1

Participant Numbers by Category from Four Middle Schools

	L*a*L*p*	L*a*H*p*	H*a*L*p*	H*a*H*p*	Total
Administrators	1	3	3	4	11
Teachers	7	4	4	4	19
Total	8	7	7	8	30

As seen in Table 1, the number of administrators and teachers varied by school. This was because of the school's leadership structure and the number of people directly involved in the implementation process. The key contact person at each school was the primary lead for program implementation and the first person I interviewed at each school. The key contact persons were Lily, Principal at L*a*L*p*; William, Principal at L*a*H*p*; Clark, Dean of Instruction at H*a*L*p*; and Kristine, Professional Development Specialist at H*a*H*p*. I used a snowball sampling method to select the remaining participants at each school. I interviewed each school administrator and teacher in a one-on-one setting during or after school hours, depending on his or her availability. From January 2020 to February of 2020, I conducted each of the 60-90 minute interviews in person. From March 2020 to April 2020, I transitioned to conducting each of 60-90

minute interviews virtually over Zoom, a video-conferencing software, because schools were operating remotely as a result of Covid-19.

Prior to each interview, I sent an informed consent form to the participant. At the beginning of each interview, I requested verbal confirmation from the participant to record the interview using my audio recorder as my primary recording device and my phone as a backup. During these interviews, I interviewed participants about the challenges and resolutions to blended learning implementation and leadership culture at their middle schools. Appendix A is my semi-structured interview protocol for administrators. Appendix B is my semi-structured interview protocol for teachers. During these interviews, I built rapport with the participant and took detailed notes to capture the flow of the conversation and any follow-up questions I had for the participant. I reminded participants at the beginning of the interview of my role as a researcher and thus will not be answering any questions related to my other role as Manager of Curriculum and Instruction. At the end of the interview, I thanked the participant for their time and transcribed the audio recording within 24 hours of the interview. I then emailed the transcription to the participant for member checking. This ensures that the transcript is accurate with any corrections, additions, or omissions made by the participant.

My research method allows me to explore a gap in the blended learning literature. The four middle schools in my study reflect a unique set of student, teacher, administrator, and school conditions. The administrators in my study led and managed blended learning implementation at their middle schools. Administrators varied in their gender, ethnicity, years of leadership, knowledge of blended learning, and prior school and district training on blended learning program implementation. Each participant

volunteered participation in this study. Given my personal relationship to these participants, they may be more or less truthful in their responses because of social desirability bias. In order to combat this bias, I reminded participants of my role as a researcher and the purpose of this study is to help understand the challenges and resolutions to blended learning implementation. I also asked participants to state the facts of the implementation to the best of their ability and memory. It may be hard to remember the various time periods when events occurred during a multi-year, school-wide implementation.

Data Analysis Methods

Interview participants were identified by pseudonyms and the school they belonged to (L*a*L*p*, L*a*H*p*, H*a*L*p*, H*a*H*p*). Interviews were analyzed based on the transcribed audio recordings and examined for patterns and themes related to the two research questions. To answer the first research question around challenges and resolutions to blended learning implementation, I coded transcripts by adoption challenges, adoption resolutions, performance challenges, and performance resolutions. I organized my codes by adoption and performance because these were the two types of blended learning challenges. By looking at adoption and performance separately, I can differentiate between the four middle schools because they have contrasting adoption and performance levels.

Then, I divided the adoption challenge and resolution challenge codes by four categories: 1) student level, 2) teacher level, 3) administrator level, and 4) infrastructure level. I also divided the adoption resolution and performance resolution codes by six categories: 1) student level, 2) teacher level, 3) administrator level, 4) infrastructure level,

5) Acceleration level, and 6) no resolution to challenge. Resolutions have two additional categories because some challenges were resolved by representatives from Acceleration and other challenges were not resolved at all. I divided the challenge and resolution codes into these four or six categories because I wanted to examine similarities and differences across schools of low versus high adoption, low versus high performance.

Within each of these four or six categories, I included a priori codes from the literature around common challenges for implementation: budget, teacher's knowledge, lack of time for trainings, resistance from teachers, teacher's buy-in, student buy-in, and lack of clarity around the purpose of blended learning at the school. As I coded the 30 transcripts across four schools, I added emergent codes that participants shared in interviews. My four middle schools were in different years of implementation. L*a*L*p* was in its second year. L*a*H*p* was its fourth year. H*a*L*p* was its second year. H*a*H*p* was its third year. Different years of implementation affects the challenges and resolutions because some challenges are resolved after a period of time and other challenges appear after a certain amount of time. My final codebook was approved by my Committee Chair.

For the second research question around school leadership culture, I coded for school context, school leadership structure, the leadership culture, role of the leadership on adoption challenges/resolutions, and role of the leadership on performance challenges/resolutions. The school context is important for understanding how and why each school adopted Acceleration. The school context describes the key buyer of the program, the years of implementation, the student demographic of the school, the student demographic using the program, and the teacher demographic implementing the program. These are all factors that affect adoption and performance. The school's leadership

structure was coded for site leadership, department teams, and grade level teams, as well as the culture of these individual teams. Finally, the leadership structure was coded their role in the adoption challenges, adoption resolutions, performance challenges and performance resolutions. I used Dedoose, an online platform for analyzing mixed methods research, to code my transcripts.

After coding all of my transcripts, I created Excel tables for each category: adoption challenge, adoption resolution, performance challenge, and performance resolution. The adoption challenge and performance challenge tables had four categories each: 1) student level, 2) teacher level, 3) administrator level, and 4) infrastructure level. These are in my Chapter 4 as Figure 2 and Figure 4. The adoption resolution and performance resolution tables had six categories each: 1) student level, 2) teacher level, 3) administrator level, 4) infrastructure level, 5) Acceleration level, and 6) no resolution to challenge. These are in my Chapter 4 as Figure 3 and Figure 5. I also created Excel tables for individual adoption/performance challenges by each category and individual adoption/performance resolutions by each category. These are in my Chapter 4 as Tables 2 to 14. Within these tables, I selected for challenges and resolutions that were mentioned by at least half of the participants. Then, I pulled from Dedoose the excepts for the highest challenges and highest resolutions. I looked for patterns and themes that emerge across the four schools, noting similarities and differences between low adopters, high adopters, low performers, and high performance. I pulled the most representative quotes into another document and shared the findings of this analysis in Chapter 4.

Ethical Issues

I currently work part-time for a blended learning software company. As a Manager at this company, I oversee the blended learning implementation at 90 public and private schools in 19 districts in the Greater Los Angeles Area. I lead professional development, classroom modeling, data review, and consulting sessions on blended learning and literacy instruction. I train teachers and administrators on blended learning pedagogy for school-wide improvement and student achievement. My role is that of a facilitator, thought partner, and problem solver for teachers and administrators during the implementation process.

One ethical consideration for this study was the potential for administrators' and teachers' responses during the interviews to affect their employment conditions. Because I transcribed the interviews, these could potentially be used for documentation purposes if accessed by the district or school, especially if participants expressed unfavorable viewpoints about each other's role in the challenges or resolutions of the program implementation. In order to address this issue, I shared with interviewees the confidential nature of my study. No one besides me has access to the transcripts. Interview transcripts were stored on a computer folder that is password protected. A second copy of the interview transcripts was stored on my external USB, which is kept in a safe and secure location. My laptop was always in my possession. For confidentiality purposes, participants were also given pseudonyms and school names were replaced with initials for their adoption and performance level (L*a*L*p*, L*a*H*p*, H*a*L*p*, H*a*H*p*).

Another ethical consideration for this study was the potential for the original dataset of 73 schools by adoption and performance numbers to be shared with outside

persons. To address this issue, I stored this Excel dataset on a separate computer folder that is password protected. Additionally, when I analyzed this dataset on SPSS for patterns and trends, I made the project password-protected.

Credibility and Trustworthiness

As it relates to my first research question about the challenges and resolutions to blended learning implementation, my study was subject to the threat of reactivity. It is possible that administrators and teachers understated their challenges and overstated their solutions. They may tell me what I want to hear in regards to how they supported their students through blended learning implementation. To address the threat of reactivity, I triangulated the data I heard from administrators with the data I heard from teachers and staff to make sure I covered the entire story and to resolve any inconsistencies. I was also aware that my presence as a researcher affected the types of responses I heard from administrators and teachers. Since I was physically present at the school for a portion of the interviews with administrators and teachers, this may have impacted the reliability of my study in the responses I hear. As a result, I repeatedly emphasized anonymity, confidentiality, and honesty in my communication with administrators and teachers.

Another threat to the credibility of my study was my own bias in the selection of school sites, and the interpretation of the data. To protect against my own bias in the selection of schools, the four middle schools chosen for my phase two qualitative study were systematically chosen for their adoption and performance numbers in accordance to my selection criteria, and not by my relationship with the school's administrators or teachers.

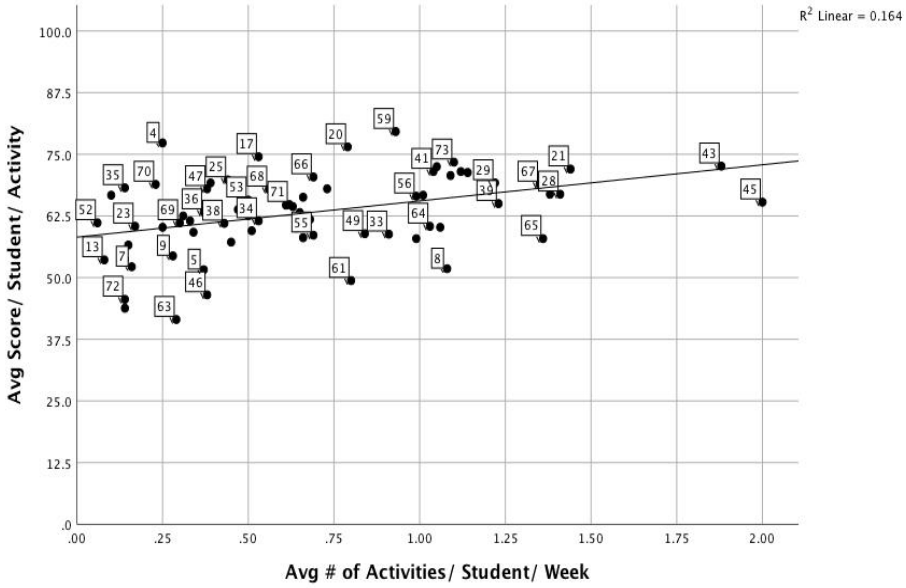
I am invested in the success of blended learning schools and the establishment of a strong leadership culture. To protect against my own interpretation of the data, I conducted member checks with every participant at the end of every interview and hired an external coder to review my codebook. To ensure the accuracy of my reporting of the implementation process, I added direct quotes from the interviews in my findings to help confirm my claims and triangulated my data through interviews with both administrators and teachers.

Chapter Four

This mixed methods study is in two phases. For the first phase, I collected quantitative data on 73 public and public charter schools' blended learning adoption and performance on Acceleration[3] during the 2018-2019 school year. I define "adoption" as the average number of reading activities completed per student per week. I define "performance" as the average score on students' completed reading activities. Figure 1 shows the distribution of these 73 schools by adoption and performance.

Figure 1

73 Public and Public Charter Schools by Adoption and Performance.



The low R-squared for Figure 1 (16.4%) indicates that blended learning adoption is not a strong predictor of blended learning performance. This figure also suggests that something distinguishes low adopter schools from the high adopter schools and distinguishes low performance schools from high performance schools. In order to determine what that was, I organized the 73 schools by low versus high adoption and low

[3] Pseudonym for blended learning program used for anonymity.

versus high performance. Low adoption schools have less than or equal to 0.5 activities completed per week. High adoption schools have greater than 0.5 activities completed per week. Low performance schools have an average score of less than or equal to 67% on Acceleration activities. High performance schools have an average score of greater than 67% on Acceleration activities. To ensure that schools were implementing Acceleration school-wide, all phase two schools had greater than 25% of their student population enrolled in Acceleration.

For the second phase, I selected four middle schools, L*a*L*p*, L*a*H*p*, H*a*L*p*, and H*a*H*p*, that met the adoption and performance criteria. This chapter reports the phase two qualitative findings from interviewing 30 participants at these four schools implementing blended learning through Acceleration during the 2018-2019 and 2019-2020 school year. All participants were directly involved in the blended learning implementation at their school and selected for this study through a snowball sampling method. I interviewed both teachers and administrators at each school. Teachers included Math, Science, English Language Arts (ELA), and Social Studies teachers. Administrators included principals, assistant principals, instructional coaches, and professional development specialists.

My qualitative research study is designed to answer the following two research questions:

Research Question 1: How do schools resolve blended learning challenges?

Research Question 2: How does the school's leadership culture influence how challenges are defined and resolved?

To answer my first research question, I will present my findings in two sections. The first section will be on adoption challenges and adoption resolutions. The second section will be on performance challenges and performance resolutions. I organized my findings by adoption and performance because these were the two types of blended learning challenges. By looking at adoption and performance separately, I can differentiate between the four middle schools because they have contrasting adoption and performance levels.

For each adoption and performance section, I will first show the distribution of challenges by four categories: 1) student level, 2) teacher level, 3) administrator level, and 4) infrastructure level. Then, I will select the highest two categories, focusing on the challenges that are mentioned by at least half of the participants (15 out of the 30 participants). These are my challenge findings. Then, I will show the distribution of resolutions by six categories: 1) student level, 2) teacher level, 3) administrator level, 4) infrastructure level, 5) Acceleration level, and 6) no resolution to challenge. Then, I will select the highest two categories, focusing on the resolutions that are mentioned by at least half of the participants (15 out of the 30 participants). These are my resolution findings. Resolutions have two additional categories because some challenges were resolved by representatives from Acceleration and other challenges were not resolved at all.

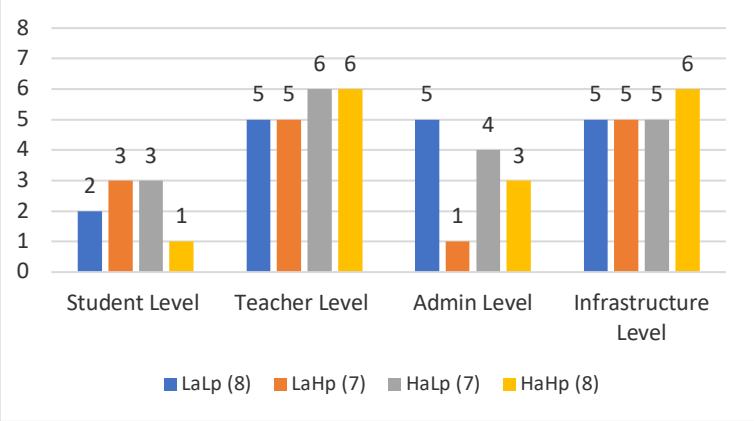
Adoption Challenges

I define "adoption" as the average number of reading activities completed per student per week. My hypothesis is that low adoption schools have different adoption challenges than high adoption schools, and low performance schools will have different adoption

challenges than high performance schools. To test my hypothesis, I coded adoption challenges at all four schools. Due to the high number of adoption challenge codes, I organized these codes into four categories: 1) student level, 2) teacher level, 3) administrator level, and 4) infrastructure level. Figure 1 below shows the adoption challenges by category per school.

Figure 2

Adoption Challenges by category as mentioned by number of participants at each school.



As seen in Figure 2, I interviewed 8 participants at L*a*L*p*, 7 participants at L*a*H*p*, 7 participants at H*a*L*p*, and 8 participants at H*a*H*p*. While, all four schools reported adoption challenges in all four categories, over half of the participants mentioned teacher (22 participants) and infrastructure challenges (21 participants). Student and administrator challenges were less common. Because over half of the participants mentioned teacher and infrastructure adoption challenges, I will be talking about these challenges in depth.

Teacher Level

Teacher challenges to adoption were the highest reported category in adoption challenges (22 participants). Table 2 lists the individual teacher level challenges.

Table 2

Teacher level adoption challenges as mentioned by number of participants at each school, in decreasing frequency.

Challenge	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Lack Knowledge	7	4	6	6	23
Inconsistent Buy-In	7	7	4	4	22
Negative Attitude	5	3	3	4	15
Core Subject Misalignment	0	5	3	3	11
Blended Teaching Differences	2	3	2	1	8
Duplicate Articles in Multiple Classes	0	1	2	2	5
Negative Feelings Towards Reading	2	0	2	0	4
High Turnover	0	3	1	0	4
Unclear Direction	2	1	0	1	4
Lack of trust	0	1	1	1	3
Overuse	0	0	0	1	1
Too Much Autonomy	0	0	1	0	1

In Table 2, three teacher challenges were mentioned by at least half of the participants: 1) teachers lack knowledge (23 participants), 2) teachers' inconsistent buy-in (22 participants), and 3) teachers' negative attitude (15 participants). I will now describe each of these three teacher challenges in detail to allow for differentiation and comparison.

Teachers Lack Knowledge of Acceleration and Teaching Reading

As seen in Table 2, most of the participants mentioned lack of knowledge about the program and lack of knowledge about teaching reading as a key teacher level challenge. All four schools discussed teachers' lack of knowledge of Acceleration in the same way. Teachers identified not knowing how to search for and assign articles, not knowing how to find student data reports, not understanding the assessments, not understanding the importance of doing well on the reading activities, not being able to integrate Acceleration with other programs at the site, and not understanding the purpose of

Acceleration. Roxana, English Language Arts Teacher at H*a*H*p*, articulated a common idea among teachers: “We didn't really know how to look for things. We were barely learning how to assign an article and leave it at that.” Teachers and administrators were unified in the way they described teachers’ lack of knowledge about the program.

Another area where teachers lacked knowledge was in how to teach reading. Three schools, L*a*H*p*, L*a*L*p*, and H*a*L*p*, mentioned that teachers struggled with this instructional challenge. Teachers tended to talk about this challenge through the lens of how to teach a guided lesson to students with different reading levels. Julia, Social Studies and English Language Arts teacher at L*a*L*p*, describes: “One of the issues I think many of us talk about is the guided lesson portion. Like how much and what exactly are we doing? And how much of it are we supposed to be doing? It's hard for me to really understand how to do guided lessons when they all have different Lexiles.” Administrators tended to talk about this challenge through the lens of teaching reading and whether or not the teacher had a teaching background in English. Clark, Dean of Instruction at H*a*L*p*, explains: “Because at its core, Acceleration is basically like teaching English. So, if you have teachers that are not English teachers, who are not literacy teachers, it makes it that much more difficult for them to teach it, especially if they have zero guidance for how to go about it.” Thus, teachers and administrators were talking about the same challenge of teaching reading but saying it in slightly different ways.

At L*a*L*p*, teachers and administrators voiced a component of teaching reading that was not present at L*a*H*p* and H*a*L*p*. L*a*L*p* teachers expressed that they did not feel responsible for literacy. Carrie, lead English Language Arts Teacher at L*a*L*p*, shares:

> You have teachers that have been science teachers for like, I don't know, 20 years. They're used to doing labs. They're used to the scientific method, but they're not necessarily used to understanding Lexile or understanding what is the inference…It was just that initial ambivalence of "where do I begin and why am I responsible for literacy? Why am I responsible for literacy now?"

The school's sole administrator, Lily, principal at L*a*L*p*, addresses teachers' responsibility for literacy but does not address the fact that her teachers don't know how to teach reading. "We have to reiterate to people our language arts teachers are not reading teachers. Everyone is a reading teacher. Everyone has texts in their curriculum. So, it's kind of getting over that fixed mindset that oh, the language arts teachers, they're the reading teachers."

Teachers' Inconsistent Buy-in

As seen in Table 2, most of the participants mentioned inconsistent buy-in as a key teacher level challenge. All four schools discussed teachers' inconsistent buy-in in the same way. Teachers reported that buy-in was connected to the grade level and content area that they taught. 6th Grade had higher buy-in than seventh grade and eighth grade. As Jane, Social Studies Teacher at L*a*H*p*, explains:

> During the second year, I think seventh grade did it but I don't think they embraced it like sixth grade did the first year. I think it's because sixth grade, we're block schedule so like ELA and Social Studies are together. We saw the importance of doing this program to help our students with ELA... The second year, when the science department got involved, they saw what I saw and embraced it. The first year, they were not into it.

English Language Arts (ELA) and Social Studies teachers had higher buy-in than Math and Science teachers. This teacher challenge makes sense given that Acceleration is a reading and writing program. Jeanie, Assistant Principal at H*a*H*p*, talks about the buy-in by content area: “science was a little bit more difficult until we had showed them what it does and what's available. Math was a hard sale because they had so many other things and they just couldn't see the connection. It was mostly ELA at first and some social science people.” Teachers and administrators were unified in the way they described teachers’ inconsistent buy-in by grade level and content area.

Another way that participants talked about inconsistent buy-in was how teachers have different classroom practices around Acceleration. Some teachers allow students to complete Acceleration’s reading activities independently, have student choice in the selection of the articles, and do not monitor student performance on the articles. Other teachers purposefully choose reading activities that match the reading skills they are already teaching students in class and guide them through the reading. Elizabeth, instructional coach at L*a*H*p*, describes the different types of classroom practices as a result of teacher buy-in:

> I still have a couple of classrooms that it's "Acceleration time." So, I always go, “well, what does that mean?” “Well, I have to do Acceleration once a week. So, I put them in front.” Some teachers still go, "Oh, you pick your article." Well. Okay, nice. Other teachers pick the article that they feel matches the standards they've been working on and then they do a lesson and those teachers actually are experiencing a lot more growth. Surprise, surprise! We do have the varying levels of it…it's going to be better if the teacher buys into it better.

Teachers and administrators were unified in the way they described teachers' inconsistent buy-in as reflected by classroom practices.

Participants at L*a*L*p* and L*a*H*p* talked about the impact of the school year on teacher buy-in. This was not talked about at H*a*L*p* and H*a*H*p*. L*a*L*p* is in their second year of adoption and L*a*H*p* is in their fourth year of adoption. Caroline, English Language Arts Teacher at L*a*H*p*, articulates:

> I believe that there are ebbs and flows in regards to fidelity. So, you know, the first year, it's being introduced, most everyone was doing it. And you can see it in the numbers when we had the data. And then last year, when they were doing the data analysis, you could see who was not doing it as much…Sometimes you need a gentle push to say "okay, you need to get back on your routine."

Judy, English Language Arts Teacher at L*a*L*p*, describes her own experience over the years: "I think that as the years have gone by, I think that my buy-in has gone down."

Teachers' Negative Attitude Towards Acceleration

As seen in Table 2, half of the participants mentioned teachers' negative attitude about the program as a key teacher level challenge. Teachers tended to talk about being discomforted with the number of blended learning programs at the site, outright refusing to use the program, and feeling overwhelmed by having to add Acceleration to their existing curriculum.

Carrie, English Language Arts lead teacher at L*a*L*p*, shares what she heard from her colleagues:

> There are some teachers who really have a negative disposition towards the program. They are reluctant to do it. This was their response: "I'm pushing back,

> I'm not doing this. I have my own standards I have to worry about, I have my science fair I have to do, I don't have time for this."

Administrators tended to talk about teachers' negative attitude as it relates to their resistance to change and negative mindset. In terms of resistance to change, Elizabeth, instructional coach at L*a*H*p*, shares one of her teacher's sentiments: "it's the way I've done it. It's worked in all these years. Why do I want to change it?" Lily, L*a*L*p*'s principal, shares about teachers' mindset:

> The mindset really is the root to all of it for me. Because if I have the mindset that this is just another thing, I'm not going to want to do it, but I know I have to do it because I'm having the team meetings and they're saying we're doing it. Then my implementation will be very lackluster, but I'm going to do it. But if my mindset is okay, yes, we need something for our kids, let me see what this looks like. Let me try it out. So, the mindset is the foundation of the implementation.

Thus, while both teachers and administrators talked about teachers' negative attitude towards Acceleration, they talked about it in slightly different ways.

Both low adoption schools also mentioned negative attitudes related to teachers' low comfort level with technology. Additionally, H*a*H*p* School was the only school that talked about teachers' negative attitude in relation to teachers' low comfort level with making mistakes. Vivian, English Language Arts Teacher at H*a*H*p*, describes her own experience: "I think a lot of teachers, especially some of the older ones, there's a fear that you're going to mess up the program. And so, once you learn that you can't really mess up a program, your comfort level becomes better. That's one of the things that I've had to kind get over. Regardless of what the program is, get over the fear of messing it up."

Kristine, PD Specialist at H*a*H*p*, also talks about the comfort level of teachers as it relates to making mistakes in front of students: “I think that's the big part- the comfort level for the teachers. As soon as they're comfortable with it, they'll want to implement it in the classroom because I think we're still under the guise that "the teacher is the master of all" and if you don't know how to do it, our students are going to know and then all of a sudden, you've just been debunked.”

Infrastructure Level

Infrastructure challenges to adoption were the second highest reported category in adoption challenges. Table 3 lists the infrastructure challenges.

Table 3

Infrastructure level adoption challenges as mentioned by number of participants at each school, in decreasing frequency.

Challenge	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Limited Instructional Time	6	5	3	7	21
Competition with Other Initiatives	8	3	2	4	17
Digital Infrastructure	4	3	3	1	11
Inadequate Training	2	4	0	4	10
High Cost	0	6	1	1	8

According to Table 3, two infrastructure challenges were mentioned by at least half of the participants: 1) limited instructional time (21 participants), and 2) competition with other initiatives (17 participants). I will now describe each of these infrastructure level challenges in detail to allow for differentiation and comparison by infrastructure level challenge.

Limited Instructional Time

As seen in Table 3, most of the participants mentioned limited instructional time as a key infrastructure level challenge. All four schools discussed instructional time in the same way. Participants mentioned limited instructional time in relation to what has to be left out of the instructional day when a new program is added to the mix. Jason, Principal at H*a*H*p*, articulated a common idea among teachers and administrators:

> The challenge for teachers is finding time within their instructional day. Not to learn it, but to implement it. Teachers get pulled in a million different directions. So just figuring out where within their lesson planning they're going to put it. That's always a challenge. And because they're going to implement Acceleration, what are they leaving out? So, they have to make those instructional decisions.

Participants also mentioned that there was limited time because teachers needed to cover state standards and their core curriculum. Carrie, English Language Arts Teacher at L*a*L*p*, explains: "So the complaint in the beginning was it was taking too much time away from the regular instruction. Some of the teachers were saying, "I don't have time. It's taking an entire class period."" Participants also mentioned not having enough time to adequately plan for and guide their students through Acceleration. Melanie, English Language Arts and Social Studies teacher at H*a*L*p*, shares that she spends several instructional days guiding students: "It became difficult to guide students because different Lexiled texts have different vocabulary. So, then you end up taking too much time. We ended up stuck on vocabulary for two days. So, when you get under the time crunch, it's been three days, and we're still only on this part, we need to move forward." Teachers and administrators were unified in the way they described limited instructional

time due to numerous teacher responsibilities, needing to standards and core curriculum, and time to guide students in reading.

H*a*H*p* was the only school that mentioned the lack of instructional time for professional development trainings. Jeanie, Assistant Principal at H*a*H*p*, says that time for training is one of the biggest challenges: "We just need more time to get the teachers trained up and then having ongoing professional development for them because as the software changes, the teachers need to know what changed."

Competition with Other Initiatives

As seen in Table 3, more than half of the participants mentioned competition with other initiatives at the school as a key infrastructure level challenge. All four schools discussed competing initiatives that included adopting a new curriculum for core subjects, covering existing curriculum and standards for core subjects, and school-wide programming. Examples of school-wide programing include the annual science fair, parent-teacher conferences, back to school night, 6th/7th/8th grade field trips, high school tours, English and Social Studies research projects, STEAM (Science, Technology, Engineering, Arts, and Mathematics) events, and Dual-Language Immersion (DLI) programming. Gwen, Social Studies and AVID Teacher at L*a*L*p*, captures a common idea among teachers and administrators:

> Well, for the Social Studies department, ITG[4] because that's a new subscription adoption for us. We just got it. This year, so this is our first year with that, so we're trying to become familiar with that. And adjusting our pacing guides for that. For Science, they don't have a curriculum right now. So, a lot of their time is

[4] Pseudonym of curriculum name for anonymity.

devoted to finding or creating their own curriculum. And then I know with math, they have expectations placed on them right now. Same with language arts. They have to not only worry about the district assessments that are going on and preparing the students for those, and their standards, but also, they have to be using these practice tests for the state exam two to three times a year. And our site also is a STEAM site. So, we have a focus on STEAM activities and curriculum and trips, things that go with that.

The two low adoption schools also mentioned two additional topics around competing initiatives: the focus on standardized testing (MAP testing and CAASPP Smarter Balance tests), and the lack of focus regarding programming. Jack, Social Studies and English Language Arts Teacher at L*a*L*p*, describes the challenge of testing:

> We have a lot of testing interruptions. We have to do our interim assessment blocks. That's part of the California testing program. I think we have to do it five times this year. And then we also have our own district provided assessments which are required. I don't know if they realize how much time it takes but if I have to do CAASP interim assessment blocks in English, that's likely going to take me two and a half periods. And that's crazy. So, I have to give up my Acceleration and do Social Studies or English.

George, Social Studies Teacher at L*a*H*p*, describes the lack of focus when it comes to competing

initiatives:

> I think the frustration is this isn't the only program that has been rolled out in recent years. So, I think it's a lack of focus. A lot of teachers aren't sure like, "Okay, are we supposed to be really focusing on this program with students? Or is

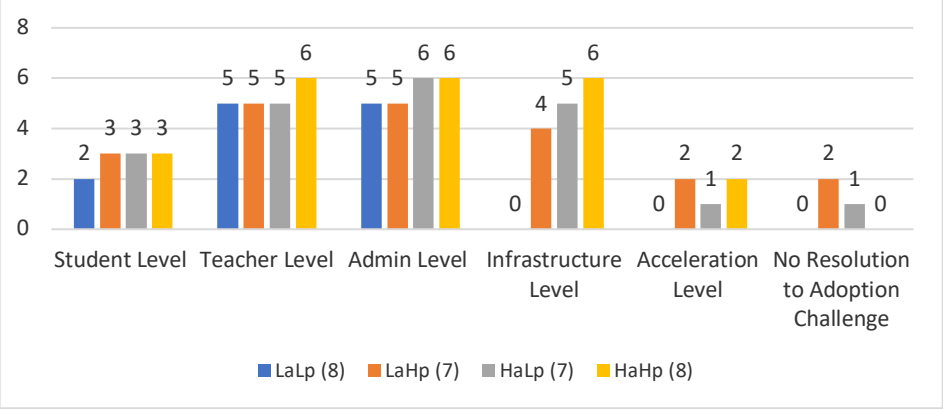
this other program more important? Or is this other program more important? So, the hierarchy of these different programs that were being rolled out all at the same time isn't necessarily clear. So, I think of teachers in their own rooms, making that decision prioritizing what is important. I think Acceleration is probably lower in importance that most people are placing on some of the other programs. We have so many things going on at the same time right now.

Adoption Resolutions

My hypothesis is that low adoption schools have fewer adoption resolutions than high adoption schools, and low performance schools will have fewer adoption resolutions than high performance schools. To test my hypothesis, I coded adoption resolutions into six categories: 1) student level, 2) teacher level, 3) administrator level, 4) infrastructure level, 5) Acceleration level, and 6) no resolution to challenge. Figure 3 below shows the adoption resolutions.

Figure 3

Adoption Resolutions by category as mentioned by number of participants at each school.



The four schools did not report adoption resolutions in all six categories. However, over half of the participants mentioned administrator (22 participants) and teacher resolutions

(21 participants). Student, infrastructure, Acceleration, and no resolution were less common. Because over half of the participants mentioned administrator and teacher adoption resolutions, I will be talking about these resolutions in depth.

Administrator Level

Administrator resolutions to adoption were the highest reported category (22 participants). Table 4 lists the individual administrator level resolutions.

Table 4

Administrator level adoption resolutions as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Monitor and Share Data	3	4	5	4	16
Set Expectations and Structure	4	4	3	4	15
Support and Coach Teachers	3	6	3	3	15
Focus on Specific Students	2	0	0	4	6
Create Time in Schedule	0	0	1	3	4
Create Planning Team	0	0	0	3	3
Give Teachers Autonomy	0	0	1	1	2
Share Ideas with Other Admin	0	0	0	2	2
Engage Teachers in Decisions	0	0	0	1	1
Problem Solve with Other Admin	0	0	0	1	1

In Table 4, three administrator resolutions were mentioned by at least half of the participants: 1) administrators monitor and share data (16 participants), administrators set expectations and structure (15 participants), and administrators support and coach teachers (15 participants). I will now describe each of these administrator resolutions in detail to allow for differentiation and comparison.

Administrators Monitor and Share Data

As seen in Table 4, more than half of the participants mentioned administrators monitoring and sharing data as a key administrator level resolution. All four schools

mentioned administrators monitoring and sharing data through school-wide meetings, individual meetings with teachers, and individual emails with teachers. Teachers and administrators were unified in the way they described these three data sharing practices as a resolution to teacher buy-in and teacher attitude. Caroline, English Language Arts Teacher at L*a*H*p*, explains: "I feel like the attitude definitely changed once the teachers started to see the data." However, the frequency of these data-monitoring practices varied by school. Administrators at low adoption schools tended to monitor and share data once to twice a year in school meetings. George, Social Studies Teacher at L*a*H*p*, explains: "Maybe once or twice a year, the admin would go over our data with us. You could tell who wasn't doing it pretty much." Lily, principal at L*a*L*p*, admits: " I need to really monitor moving forward more frequently with the teachers. I know I haven't been doing that and I have nobody to blame but me."

Administrators at high adoption schools tended to monitor and share data more frequently. Scarlett, Math Teacher and Acceleration Coordinator at H*a*L*p*, says: "Most teachers saw buy-in at the end of the year when we did our post Lexile test. They were like, "it works if you use it correctly!" Because every month, I will send out an email to each teacher and tell them what their students accomplished. In the email, I also reminded them that their minimum requirement was two articles a week." Kristine, PD Specialist at H*a*H*p*, shares that they have monthly data chats at their site: "For the March's data chat, we are showing teachers how students' progress and improve with their Lexile. Honestly, the data's really starting to show those who are doing the most of their activities are getting the most growth. So, I'm going to pull those reports for the teachers."

The number of administrators who monitored the data varied by school. The low adoption schools had one to two administrators. The high adoption schools had four administrators. At L*a*L*p*, only one administrator, Justin, Assistant Principal, monitored the data. At L*a*H*p*, two administrators, William, Principal, and Elizabeth, Instructional Coach, monitored the data. At H*a*L*p*, four administrators monitored the data: Harry, Head of School; Thomas, Assistant Director; Clark, Dean of Instruction; and Scarlett, Math Teacher and Acceleration Coordinator. At H*a*H*p*, four administrators monitored the data: Jason, Principal; Jeanie, Assistant Principal; Kristine, PD Specialist; and Aly, English Language Arts and Social Studies Teacher, were involved in data-monitoring.

Admin Set Expectations and Structure

As seen in Table 4, half of the participants mentioned administrators setting school-wide expectations and classroom structure as a key administrator level resolution. All four schools discussed administrators having intentional and collaborative conversations with teachers around expectations at the school level (which teachers were to use Acceleration, when are the training dates, which grade levels, which subject areas, which days of the week, aligning Acceleration to content standards and curriculum). Lily, Principal at L*a*L*p*, describes her expectations school-wide:

> Last year, we weren't really doing the program right. But now, we're having intentional conversations, like, okay, I'm going to give this task, either Tuesday or Thursday. They're really having the discussions and embedding it into their learning plan for the week or embedding it into their units and looking for articles that really support what thing they're on, what unit they're on, the standards

they're trying, that they're going to be covering. So, it's making more sense. We're doing much better as a staff I would say with usage compared to last year."

Teachers and administrators were unified in the way they discussed administrators setting expectations and structure around usage on Acceleration.

In addition to having conversations with teachers around expectations at the school level, high adoption schools had conversations with their teachers around expectations at the classroom level, i.e. how to structure a lesson using Acceleration. This was not present at the low adoption schools. Thomas, Assistant Director at H*a*L*p*, describes both the school level and classroom level:

> We needed to answer this question: "what's the structure that we're going to put in place for Acceleration?" Introducing the bigger purpose of Acceleration like, why are we even doing Acceleration? We were able to segue into now you know why we invested in this program, like why we believe so much into it, and then we dove into like the structures, how it was going to be looked at during the weekly schedule, and then zooming in a little bit more is like, how does this look in the classroom? And then zooming in a lot more: how do we now push the students to use these best practices and what are those best practices in facilitating that? We're actually going into an actual article, having to understand all the different components of Acceleration, just all the tools, and then having a school wide approach as about what the colors were to annotate and doing all that and even sometimes having some teachers actually roleplay as the students and seeing how they will facilitate and giving them feedback.

Thomas' and his fellow administrators at H*a*L*p* set expectations at the school level by focusing on the "why" ("why we invested in this program," "why we believe in it") and the how ("how is it going to fit into the weekly schedule"). He then describes how he and his fellow administrators at H*a*L*p* set expectations at the classroom level and made these classroom level expectations part of the larger school level expectation: "having a school-wide approach as about what the colors were to annotate," and "having some teachers actually roleplay as students."

Administrators Support and Coach Teachers

As seen in Table 4, half of the participants mentioned administrators supporting and coaching teachers as a key administrator level resolution. However, the four schools described the types of support and levels of coaching differently. At each school, teachers and administrators were unified in the way they described how administrators supported and coached teachers.

L*a*L*p* described administrators supporting teachers through providing training from Acceleration's representatives, securing substitutes for teachers' classes during training days, and supplying extra laptops. L*a*L*p* participants did not mention administrators coaching teachers. Gwen, Social Studies and AVID Teacher at L*a*L*p*, says: "I would say support from admin came in the way of them purchasing the program and then providing the training, like getting us class coverage too. Also, admin allows us to get six or seven loaner Chromebooks from the library on days we use Acceleration. But beyond that, I don't know that they really support us with anything else."

L*a*H*p* described administrators supporting teachers through the instructional coach, Elizabeth. She also coached the school day and afterschool teachers on how to

teach reading. Caroline, English Language Arts Teacher at L*a*H*p*, describes: “Kristine was the one who did come in to demo how the lesson goes, the reading strategy portion of the reading skill. She was also doing that for those in the after-school program to give the kids that extra teaching portion.”

At H*a*L*p*, both Scarlett, Acceleration Coordinator, and Clark, Dean of Instruction, coached and supported teachers. Scarlett worked with teachers on a one-on-one basis during advisory periods on how to navigate Acceleration. Clark focused on coaching teachers on how to teach reading, aligning Acceleration content to state testing. Melanie, ELA and Social Studies teacher at H*a*L*p* shares: “back in February, Clark kind of broke it down to focus teachers on answering the questions in Acceleration, aligning these questions with those on the CAASP state test, and just showing the different types of questions asked on both. He taught a PD on that.”

At H*a*H*p*, PD Specialist Kristine, Assistant Principal Jeanie, and Aly, ELA and Social Studies Teacher, shared the responsibilities of supporting and coaching teachers. Jeanie, Assistant Principal at H*a*H*p*, says: “Aly will take care of the sixth-grade side of things. Me and Kristine will take seventh and eighth grade. We figured out a way how we can tap into every teacher we had to make sure we were available. If the teachers have more support, they’re more likely to use it.” Kristine, PD Specialist at H*a*H*p*, coached teachers on reading, set up training dates, and communicating with the Acceleration representative. Roxana, ELA Teacher at H*a*H*p*, shares how Kristine supported towards her and the eighth-grade team:

> She's always asked us if we want to meet with a representative from the program, if we want to meet with her one on one, if we need to have some time during our

flex time on the Wednesday's, if it's just something back and forth with email. She will say, I'll send an email and this will show you how to walk the steps, and it'll show you how to do it. Or even when we are here on a Wednesday, she comes by our room. So, she's really helpful."

Teacher Level

Teacher resolutions to adoption were the second highest reported category. Table 5 lists the individual teacher level resolutions.

Table 5

Teacher level adoption resolutions as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Develop Knowledge	2	4	4	5	15
Attend Trainings	1	6	1	5	13
Align Core Content to Acceleration	1	3	4	5	13
Make Decisions in Teams	6	2	0	3	11
Develop Relationships with Admin	0	2	3	3	8
Engage Students in Lesson	3	2	1	1	7
Assign for Homework	0	0	0	4	4
Monitor Student Progress	0	2	1	0	3
Assign Students to Groups	1	0	1	0	2
See Students' Success	0	0	0	1	1
Contact Parents	1	0	0	0	1

In Table 5, only one teacher resolution was mentioned by at least half of the participants: teachers develop knowledge about Acceleration. I will now describe this teacher resolution in detail.

Teachers Develop Knowledge about Acceleration

As seen in Table 5, half of the participants mentioned teachers developing knowledge about Acceleration's functions as a key teacher level resolution. All four

schools discussed teachers developing knowledge in the same way: navigating Acceleration to learn about the articles and data reports. Evie, Science and AVID Teacher at L*a*L*p*, articulated a common idea amongst teachers:

> I learned how to navigate the interface. Just going in and looking for an article, I'm comfortable doing that. I go over and play around with some of the data reports. I now understand how it all kind ties in together, understanding that the students must get an article or two articles a week in order for this to be productive.

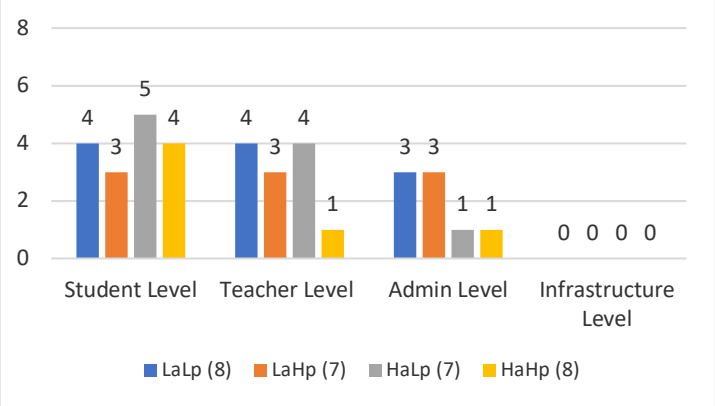
After teachers became more comfortable navigating Acceleration's platform, they were able to develop individual classroom systems and practices for themselves and their students. Jeanie, Assistant Principal at H*a*H*p*, describes: "Once the teachers were familiar with Acceleration, they pretty much took it on and made it their own." Teachers' classroom practices included using Acceleration to support lower readers, giving students a choice between doing Acceleration articles online or on paper, giving students choice in which articles to read, and setting up a process to submitting and grading work on Acceleration. Charles, English Language Arts Teacher at L*a*H*p*, explains: "I think teachers generally adapt curriculum, whether it's a book or a story or worksheet or an online program. They kind of pick and choose and say what would address my students' needs. That's what happened with Acceleration after we found out how to use it." Teachers and administrators were unified in the way that they described teachers developing knowledge about Acceleration.

Performance Challenges

I define "performance" as the average score on students' completed reading activities. My hypothesis is that low adoption schools have greater numbers of performance challenges than high adoption schools, and low performance schools will have greater numbers of performance challenges than high performance schools. To test my hypothesis, I coded performance challenges at all four schools. Due to the high number of performance challenge codes, I organized these codes into four categories: 1) student level, 2) teacher level, 3) administrator level, and 4) infrastructure level. Figure 4 below shows the performance challenges by category and school.

Figure 4

Performance Challenges by category as mentioned by number of participants at each school.



All four schools did not report performance challenges in all four categories. Over half of the participants mentioned student level challenges (16 participants). Teacher, administrator, and infrastructure challenges were less common. Because over half of the participants mentioned student level challenges, I will be talking about this challenge in depth.

Student Level

Student challenges to performance was the highest reported category in performance challenges (16 participants). Table 6 lists the individual student level challenges.

Table 6

Student level performance challenges as mentioned by number of participants at each school, in decreasing frequency.

Challenge	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Struggle with Reading	6	4	6	5	21
Incomplete and Rushed Work	5	3	0	3	11
Low Buy-in	6	2	0	1	9
Negative Attitude	2	0	0	0	2

In Table 6, one student performance challenge was mentioned by at least half of the participants: students struggle with reading (21 participants). I will now describe this student challenge in detail.

Struggle with Reading

As seen in Table 6, over half of the participants mentioned students' reading struggles as a key student level challenge. All four schools mentioned students' reading struggles in the same way. Participants mentioned students' reading struggles within the context of specific student subgroups, different reading levels, and low reading skills. Subgroups included: English Language Learners, Special Education students, honors students, general education students, low/medium/high readers, and $6^{th}/7^{th}/8^{th}$ graders. Evie, Science and AVID teacher at L*a*L*p*, says: "Oh My God, I have these eighth graders and their average Lexiles are fourth and fifth grade levels, that's way lower than where they should be. I may have only one or two classes that are right where they should be."

Fred, Director of English Learners at H*a*H*p* explains: "Teachers have so many students in their classrooms. They not only have English learners, but they have English learners at all proficiency levels, and regular General Ed students at all proficiency levels. So, the spectrum is so vast and very difficult for teachers to really meet student needs based on their proficiency levels." Teachers and administrators were unified in the way that they described students' different reading levels.

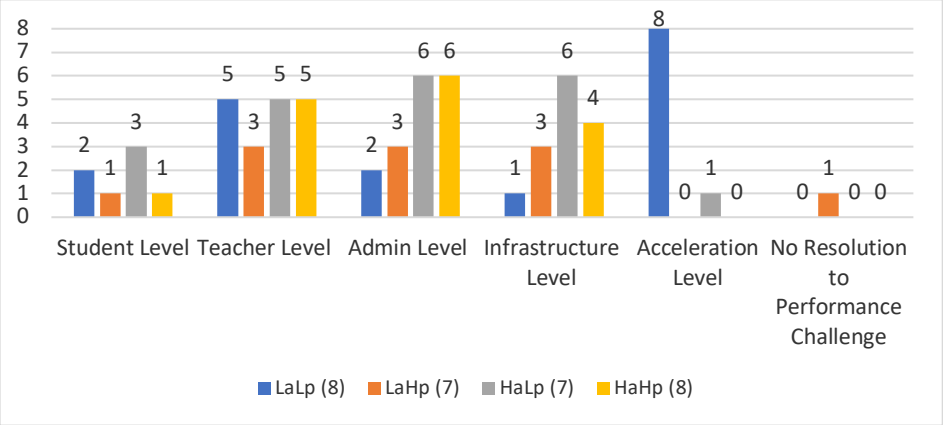
At all four schools, teachers mentioned that students' struggle with reading was also related to their struggle with vocabulary. Administrators did not mention this aspect. Lawrence, Social Studies lead teacher at L*a*L*p*, mentions: "That's always been one of the big struggles for students: vocabulary in terms of trying to understand a concept or content." At the low performance schools, teachers mentioned that students also struggled with writing. Administrators did not mention this aspect. Melanie, English Language Arts and Social Studies teacher at H*a*L*p*, says: "After looking at the Lexile levels of my kids, I felt like I had to have my students summarize what they read. And then, it was really eye opening to find out they were also really struggling with writing."

Performance Resolutions

My hypothesis is that low adoption schools have fewer performance resolutions than high adoption schools, and low performance schools will have fewer performance resolutions than high performance schools. To test my hypothesis, I coded performance resolutions into six categories: 1) student level, 2) teacher level, 3) administrator level, 4) infrastructure level, 5) Acceleration level, and 6) no resolution to challenge. Figure 5 below shows the performance resolutions.

Figure 5

Performance Resolutions by category as mentioned by number of participants at each school.



The four schools did not report performance resolutions in all six categories. Over half of all participants mentioned teacher (18 participants) and administrator (17 participants) resolutions. Student, infrastructure, Acceleration, and no resolutions were less common. Because over half of the participants mentioned teacher and administrator performance resolutions, I will be talking about these resolutions in depth.

Teacher Level

Teacher level performance resolutions were the highest reported category in adoption resolutions (18 participants). Table 7 lists the individual teacher level resolutions.

Table 7

Teacher level performance resolutions as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Motivate Students	7	3	4	4	18
Collaborate with Other Teachers	6	4	3	4	17

Monitor Data	6	4	4	3	17
Make Decisions in Departments	7	0	0	5	12
Adapt and Extend Articles	4	2	3	2	11
Tutor Students	4	0	1	1	6
Put Acceleration in Gradebook	1	0	1	2	4
Communicate with Parents	2	1	0	1	4
Develop Knowledge	1	2	0	0	3
Build Trust with Students	0	1	1	1	3
Create Competitions	0	0	0	1	1
Prioritize Reading	0	0	1	0	1
Guide Students in Reading	0	0	0	1	1

In Table 7, three teacher level resolutions were mentioned by at least half of the participants: 1) teachers motivate students (18 participants), 2) teachers collaborate with other teachers (17 participants), and 3) teachers monitor data (17 participants). I will now describe each of these teacher resolutions in detail to allow for differentiation and comparison.

Teachers Motivate Students

As seen in Table 7, over half of the participants mentioned teachers motivating students as a key teacher level performance resolution. All four schools discussed teachers' motivating students in the same way. Teachers identified students being motivated by immediate feedback, grades/ extra credit, classroom competitions, visuals like sticker charts/ performance posters, verbal encouragement, freedom to choose articles, and food/prizes. Food and prizes included pizza parties, ice cream parties, donuts, candy, stationary, classroom store, homework passes, classroom privileges. Bonnie, Math Teacher at H*a*L*p*, articulates the idea of immediate and tangible rewards for her students:

> In my class, I have a reward system. It's a store. They're able to buy snacks and prizes. So, when they get 75 % on Acceleration the first time, they get classroom

> dollars and use that money to buy pencils and snacks out of the store. That motivated them because, of course, they want an instant reward, so it motivated a lot of the students. A lot of students just lack motivation, but I definitely noticed an increase when I incorporated that.

Teachers were the primary drivers of the conversation around motivating students. Only one administrator, Thomas, Assistant Director at H*a*L*p*, talked about teachers motivating students. The two high adoption schools also mentioned school-wide celebrations like mid-year and end-of-the-year assemblies to celebrate student performance and reading growth on Acceleration. This was not mentioned by the low adoption schools. Teachers and administrators at the high adoption schools were unified in the way they described these school assemblies to motivate students.

Teachers Collaborate with Other Teachers

As seen in Table 7, over half of the participants mentioned teachers collaborating with other teachers as a key teacher level performance resolution. All four schools mentioned discussed teachers collaborating with one to three teaching partners around best practices for grading, sharing data, interpreting data reports, assigning articles, and sharing student performance challenges. Teaching partners are teachers who share the same grade level and/or have the same students. Jane, Social Studies Teacher at L*a*H*p*, says: "I was sharing scores because not all the teachers knew how to read the report. So, I would go and tell them, so and so went up. I also went to the Special Ed department and said, your student has this much growth and that goes into their IEP. It will say in the beginning of August, their Lexile was this, and this was the growth they had all the way to December." Teachers were the only ones who mentioned teachers collaborating with

other teachers. No administrators mentioned this topic. Also, teacher collaboration happened on a one to three-person basis and voluntarily.

The high adoption schools also mentioned teacher collaboration at the systems level during site, department, and grade level meetings, in addition to the individual level. Participants mentioned how teachers collaborated around student performance challenges in small groups, built in this time in the master schedule, and also dedicated a space for discussion in meeting agendas. Roxana, English Language Arts Teacher at H*a*H*p*, explains:

> Every Wednesday is our flex date. It's built into our schedule to meet as departments. We come together and we're a set of five eighth grade English teachers. We have our calendars with us. We have our Chromebooks. We all have that discussion. What did you work on this week? Did it work? How long did it take you to do? How did the students do? I couldn't find this report. What do you think about this report? Who is not doing well? It's just a whole discussion around Acceleration every week.

Teachers and administrators at H*a*L*p* and H*a*H*p* were unified in the way they described department wide and grade level teacher collaboration at their schools.

Teachers Monitor Data

As seen in Table 7, over half of the participants mentioned teachers monitoring data as key teacher level performance resolution. All four schools mentioned teachers monitoring data in the same way. Teachers monitored student performance data for Acceleration on a weekly or monthly basis, entered this data into the gradebook, shared

the data with students in a one-on-one or classroom setting, and graded the written responses on Acceleration. Frank, Math and Science Teacher at H*a*L*p*, explains:

> I'm monitoring data on a weekly daily basis with Acceleration because I need to know who is completing the activities, who's doing the summaries. So, I'm running the reports because it's going in on the grade book on a weekly basis. In my first period, interestingly, I think they get 75% on the first try. And in my other class, I think it's like in the low seventies as well. I am following up with them and telling them how many they had completed. Or if I see that they completed a lot, but they didn't get the 75%, calling them over and talking to them.

Teachers were the primary drivers of the conversation around teachers monitoring data. The only administrators who mentioned teachers monitoring data were those from high adoption schools. Jason, principal at H*a*H*p*, says:

> The other day, I was in one of my social studies teachers' rooms afterschool and I noticed she had this big poster up of a soccer ball and it said "GOAL" across it. I was like "what's that"? She goes, "well, do you see the stickies on it? Those are all the names of the kids who showed the most growth on Acceleration for the first semester." So, that's how I know she's showing the kids the success.

Administrator Level

Administrator resolutions to performance were the second highest reported category (17 participants). Table 8 lists the individual administrator level resolutions.

Table 8

Administrator level performance resolutions as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Train Teachers	0	2	7	6	15
Observe Classrooms	0	2	3	2	7
Discuss with Other Admin	1	1	1	4	7
Review Data with Teachers	0	1	3	1	5
Communicate with Parents	0	1	2	1	4
Submit District Documents	0	0	0	1	1
Communicate with Students	0	2	0	0	2

In Table 8, only one administrator resolution was mentioned by half of the participants: administrators train teachers (15 participants). I will now describe this administrator resolution in detail.

Administrators Train Teachers

As seen in Table 8, half of the participants mentioned administrators training teachers as a key administrator level performance resolution. These participants were from three schools. L*a*H*p* tended to talk about administrators training teachers through demo lessons in some of the teachers' classrooms. The school's instructional coach, Elizabeth, led these demo lessons. Caroline, English Language Arts Teacher at L*a*H*p*, says, "Elizabeth would come to my room sometimes to demo a lesson on Acceleration. It took a half an hour of my 50-minute class." Teachers and administrators at L*a*H*p* were unified in the way they described these demo lessons.

H*a*L*p* administrator trainings included trainings for the entire school around close reading using Acceleration and answering the reading comprehension questions. Melanie, English Language Arts and Social Studies teacher, shares: "back in February, Clark kind

of broke it down to focus teachers on answering the questions in Acceleration, aligning these questions with those on the CAASP state test, and just showing the different types of questions asked on both. He taught a PD on that." Clark is the Dean of Instruction. H*a*L*p* administrators also trained teachers on an individual basis, conducted observations of advisory classes, and created training videos for future teacher onboarding. Teachers and administrators at H*a*L*p* were unified in the way they described these administrator trainings.

H*a*H*p* administrator trainings involved problem solving on student performance challenges, leading model lessons in teachers' classrooms, and coaching teachers individually during department meetings and teachers' prep periods. Kristine, PD Specialist, Jeanie, Assistant Principal, and Aly, English Language Arts and Social Studies Teacher, were the administrator team in charge of leading these administrator trainings. James, English Language Arts and Social Studies Teacher at H*a*H*p*, says:

> There's been many opportunities to be trained. I know Kristine's gotten ahold of us before. She can come to your classroom and support. And so, has Aly. They said, if you need to hear from someone, please let us know. They'll do a meeting with just you guys at your Flex day meetings. If you want to do it on your prep, they will come too.

Teachers and administrators at H*a*H*p* were unified in the way they described these administrator trainings.

Leadership Culture

My second research question was "how does the school's leadership culture influence how challenges are defined and resolved?" To answer this second research

question, I will first provide the school context by explaining how and why each school adopted Acceleration. The school context is important for understanding the school's adoption and performance on Acceleration. Then, I will discuss the school's leadership structure in terms of the different groups (site leadership team, department teams, grade level teams) and the culture of these groups. Next, I will describe the role of each group in relation to the adoption challenges and adoption resolutions. Finally, I will describe the role of each group in relation to performance challenges and performance resolutions.

L*a*L*p*

School Context

In 2017, Fred, Director of English Learners at District A, purchased English Language Learner access to Acceleration for the 6 middle schools and 5 high schools in his district. As one of the 6 middle schools in District A, L*a*L*p* began implementing Acceleration during the 2018-2019 school year and began using the program with the school's 180 English Learners. In 2018-2019, L*a*L*p*'s 1,245 student population was comprised of 79.6% socioeconomically disadvantaged students, 17% students with disabilities, 14.5% English Learners, and 13.5% homeless youth (California Department of Education Data Quest). In August of 2018, only teachers with English Language Learners in their classes were trained on how to use Acceleration. L*a*L*p* teachers became frustrated because they didn't have a class of just English Learners. In December of 2018, Lily, principal at L*a*L*p*, decided to purchase access to Acceleration for all of the students at her school. Her reasoning was that "we didn't want to limit this program to our English Learners and our ELA teachers definitely wanted to incorporate more nonfiction." Because all students had access to the program at this point, the majority of the teachers

had to be trained on the program mid-year in December 2018. In 2019-2020, L*a*L*p* entered its second year of implementation.

Leadership Structure and Culture

L*a*L*p*'s blended learning adoption of Acceleration occurred across multiple department teams: English Language Arts, Science, and Social Studies. Despite their best efforts, L*a*L*p*'s principal, Lily, says that "2018-2019 was not an intentional implementation." Training across departments wasn't very structured and teachers weren't clear about expectations for adoption, especially as teachers had to be trained mid-December when originally only teachers with English Learners were using the program. Around June of 2019, Lily met with her teachers to discuss their successes and challenges. She decided that "in order to get the most impact, we have to be intentional about our training and be strategic about the days teachers are going to use time for teaching the lesson."

Lily set up structured training dates with Acceleration's professional services team for the 2019-2020 school year. These included whole group teacher trainings and department trainings for just Social Studies, Science, or ELA teachers. This allowed the different departments to be acquainted with the nonfiction texts relevant to their subject matter on Acceleration. Since sixth grade teachers taught both Social Studies and English Language Arts in their classes, they received two department trainings on Acceleration. The seventh grade and eighth grade teachers teach one subject each so they received one department training. The Special Education teachers received two trainings as well because they support the same students across multiple subjects.

Lily says that for the 2019-2020 school year, teachers have discussed Acceleration in their department and grade level meetings. Teachers have pulled up reports and asked questions of each other. When teachers have asked Lily for help, she's reached out to the professional services team at Acceleration. Lily has very limited training herself on Acceleration and admits that she is not familiar with the data reports. She did not attend any of the trainings on Acceleration. Lily says she needs to take a more proactive approach to monitoring the reading data from Acceleration: "I need to really monitor forward more frequently with the teachers because I know I haven't been doing that and I have nobody to blame but me." She says her staff's usage of Acceleration has greatly increased from the first year, 2018-2019, to the second year, 2019-2020. At the district level, Acceleration is not mentioned at the monthly principal meetings, despite it being paid for at the district level.

The leadership structure at L*a*L*p* comprises of the site leadership team, and the department/ grade level teams. The site leadership team includes Lily and the department leads for Math, Science, Social Studies, English Language Arts, Spanish, and Visual Arts. There is one department teacher lead per department. Lawrence is the Social Studies department lead, Carrie is the English Language Arts department lead, and Evie is the Science department lead. Department leads are responsible for reporting the successes and challenges of the department up to the site leadership team, but ultimately decisions, including that of the adoption of Acceleration, are made at the department level.

The English Language Arts, Social Studies, and Science teams decided how they wanted to adopt Acceleration across the three disciplines. Social studies and science

classes would complete one reading activity on Acceleration per week and English Language Arts classes will support students through reading, writing, and vocabulary. Teachers have department meetings on Wednesdays, also known as "flex days." Teachers discuss what's going on in the department, what they are currently teaching, along with their needs, challenges, and interventions. Teachers then move from their whole group department meetings into their grade level department meetings. For example, all the sixth-grade math teachers meet in one room and all the seventh-grade math teachers are in another room.

Lily mentions repeatedly that the department meetings are the key for understanding how teachers are using Acceleration. Lily relies heavily on her department leads, Carrie, Evie, and Lawrence, for leading the adoption process. Lily does not attend the department team meetings but she does read the copies of the meeting minutes.

In her interview, Lily admits that she has not recently been leading site leadership meetings for her teachers. During site leadership meetings that she does attend, there aren't conversations about how teachers are using Acceleration. Lily says that "I don't believe that Acceleration needs to be an administrative thing. They're planning together, they're talking about assessments, that peer accountability will just make it improve." Lily believes that teacher decision-making at the department level will address the adoption and performance challenges for L*a*L*p*; she doesn't need to get involved as an administrator.

Adoption Challenges and Resolutions

Over half of L*a*L*p*'s participants reported adoption challenges in the teacher, infrastructure, and administrator levels (Figure 2). Participants reported teachers' lack of

knowledge, teachers' inconsistent buy-in, and teachers' negative attitude as key teacher level adoption challenges (Table 2). Participants reported limited instructional time, and competition with other initiatives as key infrastructure level adoption challenges (Table 3). L*a*L*p* was the only school where over half of its participants mentioned the administrator level (Figure 2). Participants reported administrator's unclear direction as the key administrator level adoption challenge (Table 9). The administrator level adoption challenges for all four schools are in Table 9 below.

Table 9

Administrator level adoption challenges as mentioned by number of participants at each school, in decreasing frequency.

Challenge	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Unclear Direction	6	1	3	1	11
Securing Substitutes	0	0	0	2	2
No Attendance at Trainings	0	0	0	1	1
No Classroom Observations	0	0	1	0	1
Lack Knowledge	0	0	0	1	1
Union Roadblocks	0	0	0	1	1
Leadership Turnover	0	0	1	0	1

In terms of resolutions, over half of L*a*L*p*'s participants reported the administrator and teacher level (Figure 3). Participants reported setting expectations and structure as a key administrator adoption resolution (Table 4). Participants reported making decisions in teams as a key teacher level adoption resolution (Table 5).

The Role of Leadership Culture on Adoption

With the exception of one meeting, Lily's site leadership team meetings do not mention how teachers adopt Acceleration in their classes. Lily says she believes that departments are the best places to lead these conversations. Given Lily's belief that

administrators should leave decision-making and discussions around adoption to the department teams, she contributed to L*a*L*p*'s key administrator adoption challenge-administrator's unclear directions. During the first year, teachers didn't know which classes to implement Acceleration since there was a shift mid-year from using the program with English Learners to using the program with all students. At the end of the 2018-2019 school year, Lily met with a group of teachers to discuss their first year of implementation. After this meeting, Lily concluded that teachers needed more training dates and more intentional structures. Lawrence, Social Studies lead teacher at L*a*L*p*, says: "One thing that Lily shared with staff is that we need to set more structure for the students to follow. We were told to make the implementation process a little more seamless."

Lily messaged this expectation around intentional structures at the beginning of the 2019-2020 school year. This setting of expectations was a key administrator adoption resolution. In the subsequent department meeting minutes, Lily noticed that teachers were having intentional conversations about their usage of Acceleration. The department leads and the department teams are still responsible for the overall structure of Acceleration adoption: choosing which days teachers work on Acceleration, how teachers are embedding Acceleration into their unit, and how teachers plan to teach using Acceleration. Carrie, English Language Arts lead teacher at L*a*L*p*, says: "in our language arts department, we've made it a SMART goal in the sixth-grade team that we will do one on a weekly basis and we're hoping at the end of the year to see some extensive Lexile growth from the students and see this reflected in CAASP. So that's pretty much what we're telling the students." According to Evie, Science department lead, SMART Goals

for adoption on Acceleration were also created in the science department. Lawrence did not mention creating SMART goals in the Social Studies team. These were examples of participants making decisions in department teams.

Performance Challenges and Resolutions

Half of L*a*L*p*'s participants reported performance challenges in the student and teacher level (Figure 4). Participants reported students struggled with reading, had incomplete and rushed work, and low buy-in as key student level performance challenges (Table 6). Participants reported teachers' inconsistent grading practices as the key teacher level performance challenge (Table 10). The teacher level performance challenges for all four schools are in Table 11 below.

Table 10

Teacher level performance challenges as mentioned by number of participants at each school, in decreasing frequency.

Challenge	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
No Collaboration	1	3	4	0	8
Inconsistent Grading Practices	4	2	0	1	7
Attitude towards Technology	2	0	1	0	3
Inconsistent Classroom Routines	0	0	2	0	2

In terms of resolutions, over half of L*a*L*p*'s participants reported the teacher level and Acceleration level (Figure 5). Participants reported teachers motivating students, teachers collaborating, teachers monitoring data, and teachers making decisions in departments as key teacher level performance resolutions (Table 7). Participants reported Acceleration representatives supporting teachers and admin as the key Acceleration level performance resolution (Table 11). The Acceleration level performance resolutions for all four schools are in Table 11 below.

Table 11

Acceleration level performance resolutions as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Support Teachers and Admin	8	0	1	0	9

The Role of Leadership Culture on Performance

The site leadership did not play a role in the performance challenges and resolutions because Lily's belief is that departments should guide decision-making. At the department level, teachers could not agree on how to implement Acceleration in their classrooms. Teachers couldn't agree on a coherent grading system to hold students accountable for their performance either. Carrie, English Language Arts lead teacher at L*a*L*p*, says:

> One of my biggest challenges is that I don't think there's consistency across my school about how they're putting Acceleration in the grade book. My teaching partner and I use it as a quiz grade. But I have heard that some teachers don't even put it in the grade book. And then, I've heard other teachers who say, "if they do it, I give them credit. If they don't do it, it's zero credit." I think there needs to be some consistency at our campus because it not only affects grades but affects the buy-in of the students.

Carrie draws the relationship between two of L*a*L*p*'s performance challenges: student buy-in and teachers' inconsistent grading practices. Neither challenge was addressed in the department level teams where decision-making was supposed to happen. Individual teachers are resolving performance challenges through motivating students, collaborating,

and monitoring data, but performance challenges are not being addressed at the department level or site level. The decisions that are being made at the department level revolve around adoption, not performance. Gwen, Social Studies teacher at L*a*L*p*, says: "I think we have come to department wide agreement that we're going to do it on Mondays. So that way, it's consistent. But I don't think any of my colleagues really look at the data per se, or analyze it, or use it as part of their assessment of students."

Given Lily's lack of support towards teachers around Acceleration, it makes sense that the performance resolutions are mainly at the teacher and Acceleration level. When teachers have requested help from Lily, she has always forwarded these questions to Acceleration. "When we first started using Acceleration, the teachers would email me and say what are we supposed to do? They would email me a lot of questions in the beginning. I'm not getting that now." All eight participants at L*a*L*p* mentioned the important role of Acceleration's professional services team (Table 11). Only one other participant from H*a*L*p* mentioned Acceleration in performance resolutions. At L*a*L*p*, teachers began sending emails directly to the Acceleration's professional services team. Evie, Science lead teacher at L*a*L*p*, says: "Whenever we have questions, we go to the department first and then email our Acceleration representative. Like if we didn't understand why a student was struggling."

L*a*H*p*

School Context

In late 2015, William, Principal at L*a*H*p*, met with a middle school principal at another district who showed him how adopting Acceleration school-wide increased his students' reading scores on CAASPP state testing. "He showed me all of their data on

Acceleration, and in particular connected the data to what was going on throughout his district. He showed me the gap between the success of his students compared to the students from the other middle schools and the statewide scores where his students just grew." This principal's middle school was serving a similar student demographic as L*a*H*p*. During the 2015-2016 school year, L*a*H*p* had 1,071 students: 83% socioeconomically disadvantaged students, 31.9% English Learners, and 11.3% students with disabilities (California Department of Education Data Quest). Inspired by this meeting, William decided to adopt Acceleration school-wide during the 2016-2017 school year. L*a*H*p* is one of 4 middle schools in District B and was the first of the 4 middle schools to adopt Acceleration. District B had been using Acceleration at its 14 elementary schools but not at its 4 middle schools or 5 high schools. William believed that adopting Acceleration would yield positive results if teachers implemented the program with fidelity.

When William first brought Acceleration to L*a*H*p*, District B didn't provide funding for the program. He had to figure out how to pay for it from school categorical funds and it was challenge to fight for it in the school budget. The rollout of Acceleration school-wide was a three-year process. For the first year of implementation, 2016-2017, the sixth graders used Acceleration. For the second year in 2017-2018, the sixth and seventh graders used Acceleration. For the third year, 2018-2019, the sixth, seventh, and eighth graders used Acceleration. William's rationale was as follows: "By year three, we would have all three grade levels at that point, and then we'd be able to see longitudinally what would happen to the sixth graders, then seventh, and then eighth. Not only would we be able to see their growth in that particular grade level, we'd be able to see their

growth throughout." The 2019-2020 school year was the second year that all three grades had Acceleration.

Leadership Structure and Culture

William became principal of L*a*H*p* in August of the 2015-2016 school year. Prior to William's arrival, L*a*H*p*'s culture was being known as a strong AVID school, "very data-driven and they loved to see that they were at the top." AVID stands for Advancement Via Individual Determination, an in-school academic support program that prepares minority and low-income middle and high school students for college eligibility and success. As of March 2019, AVID is no longer administered by the California Department of Education. From 2012 to 2015, L*a*H*p* suffered from very low state test scores and District B's superintendent hired William in August of 2015 to turn around L*a*H*p*'s academic performance. As a result of the systems and structures William put in place his first year, L*a*H*p* students achieved double digit growth in reading and math by the end of the 2015-2016 school year. William says, "Once we made that growth, I got buy-in from the staff. When I first got there, I had no buy-in whatsoever. People were like, who is this guy? So, it took a year to get that buy-in." In addition to teachers' buy-in, William also earned their teachers' trust in him as a leader. "Once we hit that point, it was okay, we can trust this guy. That gave me leverage for having a wild idea like bringing Acceleration to L*a*H*p*."

When William first brought Acceleration to L*a*H*p* in 2016-2017, he wanted to roll out the program school-wide. "Another important structure we put in place was to roll it out school-wide. Acceleration was never designed as an intervention. Acceleration was designed to be a part of the whole system and the whole structure, day to day usage."

William had to gain the sixth-grade teachers' buy-in because he planned to roll-out Acceleration first in their classes. The sixth-grade team at L*a*H*p* was divided by content areas. One teacher teaches Math and Science and another teacher teaches English Language Arts and Social Studies. Both teachers teach an elective period as well as their two subjects. The sixth-grade team was bought in. During 2017-2018 school year, Acceleration was rolled out to the seventh-grade classes. Unlike the sixth-grade teachers, the seventh-grade teachers were not all bought in. The English Language Arts teachers were, but the Social Studies and Science teachers weren't. William worked with Elizabeth, the instructional coach, and an Acceleration representative to build a curriculum that aligned Acceleration articles with Social Studies and Science core content to help them see the connection and this increased the buy-in.

Over his four years as principal at L*a*H*p*, William developed a stronger relationship with his staff. "If we were distant relatives before, all of a sudden, we've been together, we have battles and fights and then it would be like, hey, you know what, we're a team and we really became a family." This was due to a variety of factors. First, both William and his teachers believed in a culture of data and results. L*a*H*p* teachers trusted in William's leadership after students' reading and math scores increased at the end of 2015-2016 school year. William originally purchased Acceleration after seeing the reading data from another middle school. He believes that education should be treated analytically. "I am often trying to figure out the analytics behind teaching because I don't want to sit there in April and do state testing and hope my students pass. I want to know now how we are doing."

Second, William brought in a culture of administrators listening to the needs of teachers. “The other piece to the culture is that I listen to them. I’m a brand-new principal. Prior to L*a*H*p*, I had been six months as an interim elementary school principal and five years as an assistant principal. What do I know about being a principal and running my own school right now?” William mentions that L*a*H*p* teachers were accustomed to a more top-down leadership style from their previous principals. Many of the teachers and staff at L*a*H*p* are veteran teachers who have been at the school for a long time, some even twenty or more years. Third, William set clear guidelines for L*a*H*p*’s professional culture. “We established some very specific standards that were non-negotiables for me. Things like “when we show up, we show up on time. When we show up, we show up ready to work and do what we need to do.” This was not existent at L*a*H*p* prior.

The administrative leadership at L*a*H*p* is comprised of William, the principal; John, the assistant principal; and Elizabeth, instructional coach. In early 2016, Elizabeth came up with the idea of creating a smaller work group from the larger site leadership team. The site leadership team is comprised of the administrative leadership and the teacher leaders from the six departments and three grade levels. This smaller work group would meet monthly to plan and discuss school-wide strategic goals. The larger site leadership team would be the advisory group that approves of the work group’s plans. The smaller work group was comprised of William, principal; John, assistant principal; Elizabeth, instructional coach; and a few teachers.

The smaller work group focused on planning for the three school-wide strategic goals for literacy, numeracy, and equity mindedness. This group built the structure for

Acceleration adoption. Acceleration was to be used twice a week: once a week by the English Language Arts teachers and once a week by either the Social Studies or Science teacher. This group addressed the school goal for literacy through a literacy plan that put Acceleration at its center. The culture of this smaller work group was very communicative. William says, "We would get together and talk about Acceleration and say, "well, why don't we" and present all those burning questions and issues. We would have it out in this smaller group so that when they go back to their department teams, they are able to believe in it."

During the 2017-2018 school year, the administrative leadership looked the usage data for Acceleration and noticed that a high percentage of students were using the program outside of the school hours. The administrative leadership team then decided to roll out Acceleration in the afterschool program. Paraprofessionals and afterschool staff were trained on the program.

Adoption Challenges and Resolutions

Over half of L*a*H*p*'s participants reported adoption challenges in the teacher and infrastructure levels (Figure 2). Participants reported teachers' lack of knowledge, inconsistent buy-in, and core subject misalignment as key teacher level adoption challenges (Table 2). Participants reported limited instructional time, inadequate training, and high cost as key infrastructure level adoption challenges (Table 3).

In terms of resolutions, over half of L*a*H*p*'s participants reported the administrator, teacher, and infrastructure level (Figure 3). Participants reported administrators monitoring and sharing data, setting expectations and structure, and supporting/coaching teachers as key administrator level adoption resolutions (Table 4).

Participants reported teachers developing knowledge and teachers attending trainings as key teacher level adoption resolutions (Table 5). Participants reported the alignment with the afterschool program as the key infrastructure level adoption resolution (Table 12).

Table 12

Infrastructure level adoption resolutions as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Purchased Technology	0	3	3	3	9
Alignment with Afterschool Program	0	5	0	0	5
Purchased Site License	0	0	0	4	4
School-wide Focus on Literacy	0	0	0	3	3
School Calendar of Articles	0	1	2	0	3
Alignment with Dual Immersion Program	0	0	0	2	2
Creation of Instructional Leadership Team	0	1	0	0	1

The Role of Leadership Culture on Adoption

There are many veteran teachers at L*a*H*p*. William is well aware of this fact and incorporates listening to his teachers and staff as part of the culture. Elizabeth, the instructional coach, talks about how veteran teachers are slower to adopt new initiatives, particular ones with technology like Acceleration. “They are slower to the progress because they don’t want to change the way that they’ve been doing things for ten to twelve years.” This resistance to change affects teachers’ buy-in, one of the key adoption challenges identified by L*a*H*p*’s participants. Teachers also lacked knowledge when it came to using Acceleration because they struggled with navigating the program. George, Social Studies Teacher at L*a*H*p* says, “some veteran teachers have expressed that the reports are hard to find and understand. I’ve heard that is why they don’t use it as much.”

During the 2019-2020 school year, the trainings on Acceleration were held for new teachers only. Caroline, English Language Teacher at L*a*H*p*, says, "When they were doing trainings last time, it was like, "Hey, we are having an Acceleration meeting. It's mainly for new teachers." We have had quite a few new teachers come on campus this year." George, Social Studies teacher, says that seven teachers retired at the end of the 2018-2019 school year and he is not sure if the new teachers were trained on the program. Thus, the two adoption challenges are connected. Veteran teachers did not receive refresher trainings on Acceleration and newer teachers received limited training. Both of these contribute to L*a*H*p* teachers' lack of knowledge around Acceleration.

Cost was also another adoption challenge connected to L*a*H*p*'s leadership culture. Because William independently brought Acceleration to L*a*H*p* in 2016-2017, District B did not pay for the program. As a result, William had to allocate money for Acceleration from the school's categorical funds. "Most people look at it and say, just set the money aside. Well, no, not necessarily, you have to get that budget approved by the Chief Business Officer and talk to all of them. For me, there were times where I had to fight for my budget and justify why I need this money to pay for Acceleration because here are the results." William's data-driven approach and result-orientated mindset helped secure categorical funding for Acceleration at his school. However, due to the district's lengthy budget approval process, L*a*H*p* didn't get student access to Acceleration right away. Elizabeth, instructional coach, says: "We had a slow start last year due to some funding issues. It affected the growth of the kids. This year, we got our funding right away and we started at the beginning of the school year." In 2018-2019, District B provided funding

for L*a*H*p*'s eighth grade class to have access to Acceleration; the sixth and seventh grade classes were still paid for by L*a*H*p*'s categorical funding.

Because of L*a*H*p*'s overall data-driven leadership culture, administrators were very focused on monitoring and sharing data. William also had to justify paying for Acceleration through the data. Jane, Social Studies Teacher at L*a*H*p*, recalls: "At the beginning of the year and mid-year, we had a staff meeting to say here's what the data looked like. This helped the teachers get on board and see, "oh, okay, if I use it on a normal basis, whether it's every week or every other week, that can help improve students' reading." At these two staff meetings, administrators shared data for the entire school and individually by departments. The Social Studies, Science, and English Language Arts teachers were able to see how all the departments adopted the program. Due to L*a*H*p*'s data-driven culture, teachers were bought in when they saw the growth of certain departments. Charles, English Language Arts Teacher, says, "I feel like the attitude of the teachers changed once the teachers started to see the data. Because how can you argue with that? This is our data. It's the kids' data."

L*a*H*p*'s adoption of Acceleration included an important leadership structure: alignment with the afterschool program. Catherine, Afterschool Coordinator, was in charge of integrating Acceleration into the afterschool program. During the 2017-2018 school year, the administrative leadership looked the usage data for Acceleration and noticed that a high percentage of students were using the program outside of the school hours. Paraprofessionals and afterschool staff were trained on the program. William says, "The way I look at it is a child is in school for six hours a day. Afterschool is mandatory

three hours in order to receive funding. So basically, we get our kids an extra half year if they go to afterschool."

Performance Challenges and Resolutions

The same number of L*a*H*p* participants mentioned the student, teacher, and administrator level for performance challenges (Figure 4). Participants reported students struggle with reading as the key student level performance challenge (Table 6). Participants reported teachers do not collaborate as the key teacher level performance challenge (Table 10). Participants reported administrators not data monitoring as the key administrator level performance challenge (Table 13). The administrator level performance challenges for all four schools are in Table 13 below.

Table 13

Administrator level performance challenges as mentioned by number of participants at each school, in decreasing frequency.

Challenge	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
No Data Monitoring	3	4	0	1	8
No District Communication	0	0	0	1	1
Lack Knowledge	0	0	1	0	1

In terms of resolutions, L*a*H*p* participants reported the same number of mentions of teacher, administrator, and infrastructure levels (Figure 5). Participants reported teachers collaborating and teachers monitoring data as key teacher level performance resolutions (Table 7). Participants reported administrators training teachers as the key administrator level performance resolution (Table 8). Participants reported school-wide celebrations as a key infrastructure level performance resolution (Table 14).

Table 14

Infrastructure level performance resolutions as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
School-wide Celebrations	1	4	6	5	16
Creation of Lexile Groups	0	0	2	0	2
Addition of Co-Teacher	0	0	2	0	2

The Role of Leadership Culture on Performance

From 2012 to 2015, L*a*H*p* suffered from very low state test scores and District B's superintendent hired William in August of 2015 to turn around L*a*H*p*'s academic performance. As a result of the systems and structures William put in place his first year, L*a*H*p* students achieved double digit growth in reading and math by the end of the 2015-2016 school year. While L*a*H*p* students made even more growth through Acceleration, they were still struggling a lot in reading. This is the key student level performance challenge. Charles, English Language Arts teacher says, "Because of the student population that we are working with, if I see any student who is college and career reading in their reading, that's one out of every twenty students. So, it's not uncommon to say to student, "you're not yet at standard, let's get you to where you need to be.""

Because of the lack of follow-up training for veteran teachers and the minimal training for newer teachers on Acceleration, there was not much opportunity for teachers to collaborate. Even within departments, there was not a level of consistency around how to teach using the program. Caroline, English Language Arts teacher says, "There isn't a lot of collaboration. Other than possibly at a department meeting, where we are sharing how we are using it, what we are doing with it, it's still not a "let's all do the same thing."

It's just sharing what works for us, or what works for that group of students, or what works that year."" Despite L*a*H*p* and William's focus on data, administrator data-monitoring decreased over the years. William admits his own lack of oversight as the years progressed when it came to monitoring data. "Initially, we were doing celebrations and everything school-wide was about Acceleration. When I thought we got past that level of attention, I backed off of it. Once that happened, we didn't see the growth anymore."

In terms of performance resolutions, individual teachers such as Jane, Caroline, Charles and George took the initiative to collaborate with their teaching partners on performance challenges. They also took the initiative to monitor their students' data. Charles, English Language Arts Teacher, says "once a week, I look to see their score on activities. I track that. And when I'm called to an IEP, or SST for their student, I usually glance at their Lexile." IEP stands for Individual Education Plan, a legal document written for each public-school student eligible for special education services. SST stands for Student Study Team, a group of teachers, administrators, and school staff who examine a student's academic, behavioral, and socio-emotional progress and propose interventions. However, this type of collaboration and data-monitoring is not done at a department-wide level. Elizabeth, as instructional coach, was responsible for training and coaching teachers, a key administrator level performance resolution. The school-wide celebrations included student of the month assemblies to celebrate students who grew in their Lexile by at least twenty points. Jane, Social Studies Teacher, says, "We did it in stages like "these students, they raised their Lexile 25 points!" "These students raised

their Lexile by 40 points!" "These students raised their Lexile by 50 points!" So, it was being done in front of the whole student body and then by grade level.

H*a*L*p*

School Context

H*a*L*p* used to be a low performing public charter school in District C. During the 2017-2018 school year, H*a*L*p* students were 57.1 points below standard for English Language Arts and 118.8 points below standard for Math (California Department of Education Dashboard). During the 2018-2019 school year, H*a*L*p* changed their entire administrative leadership to Harry, Head of School; Thomas, Assistant Director; Clark, Dean of Instruction; and Scarlett, Math Teacher (and later Acceleration Coordinator). The new administration knew each other as former colleagues at Newton Middle School, where Harry was Head of School, Thomas and Scarlett were both Math teachers, and Clark was an English Language Arts teacher. After seeing the success of Acceleration at Newton, Harry and his entire leadership team decided to bring Acceleration to H*a*L*p*. They knew that if Acceleration was implemented with fidelity, students would grow in their reading. There were 399 students during the first year of H*a*L*p*'s new administration. 97.7% were socioeconomically disadvantaged, 19.3% were English Learners, and 7.5% were Students with Disabilities (California Department of Education Data Quest).

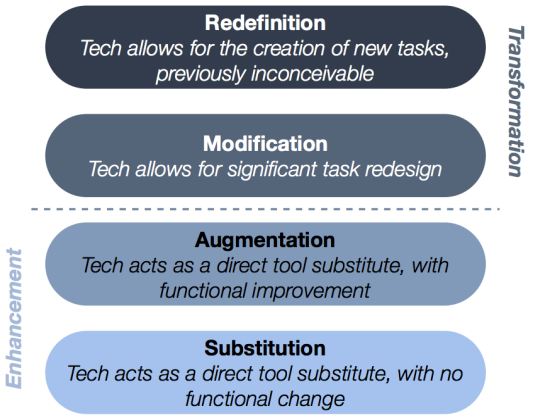
In terms of the roll-out, all H*a*L*p* teachers were expected to use Acceleration in their advisory classes four times a week. Advisory classes are every day: 40 minutes in the morning and 30 minutes in the afternoon. Students were expected to complete two reading activities on Acceleration at 75% or higher per week. Year one was focused on

teachers and students becoming familiar with using Acceleration. Students were grouped by grade level. Because of the range of Lexiles in every advisory class, teachers struggled to differentiate their instruction. Year two was focused on best practices around teaching reading. Students were grouped by their Lexile/ reading level. There were three Lexile groups: low (400 Lexile- 600 Lexile), medium (600 Lexile- 800 Lexile), and high (800+ Lexiles). This also meant that in one advisory, there could be multiple grade level students. A co-teacher was added in the mornings to the low Lexile group advisories to provide extra support. Students in the low Lexile group advisories completed the reading activities on paper first and then digitally the next day.

Harry and his administration utilized the SAMR model for planning and executing their technology integration. SAMR, which stands for Substitution, Augmentation, Modification, and Redefinition, is a framework that categorizes the four degrees of classroom technology integration (Puentedura, 2009). Figure 6 below shows the four steps of this framework.

Figure 6

The SAMR Model of Classroom Technology Integration.



Substitution and Augmentation are "enhancement steps," meaning technology is a replacement for traditional tools. Modification and Redefinition are "Transformation" steps, meaning technology allows for learning experiences previously impossible without it. An example of Substitution would be an online worksheet that replaces a paper worksheet. An example of Augmentation would be an online presentation with video clips and interactive links that replaced a poster presentation. An example of Modification would be if students collaborated online on a digital campaign to address the growing dangers of climate change and solicited feedback from their classmates. An example of Redefinition would be if students utilized a video conference tool such as Google Meets to speak to a horticulturist in Argentina and compared and contrasted the different types of crop production methods in the United States and Argentina. Prior to the video meeting, students would do research on several types of berries, fruits, and vegetables native to both countries.

Leadership Structure and Culture

The 2018-2019 school year was the first year for H*a*L*p*'s new administration. Harry, Head of School, was focused on shifting the culture of the school, creating strong systems and structures, and setting high expectations. Scarlett, Acceleration Coordinator, says, "Harry is more of an emotional principal so he believes in that personal, emotional side, with the academics coming afterwards. He's very passionate so he wants everyone else to be passionate. Like what are you doing this for?" During this year, the primary focus was not academics. As Thomas, Assistant Director of H*a*L*p* says, "for year one, the primary goal was how do we develop a culture of learning? How do we develop a culture of love? How do we develop systems and procedures that everyone is on the same page

and understand where we're heading towards? What's our vision as a school?" During this first year, there wasn't a teacher leadership team.

2019-2020 was the second year for H*a*L*p*'s new administration. Harry, Head of School was focused on improving students' academic progress and building teacher knowledge. As Thomas, Assistant Director of H*a*L*p* says, "for year two, we made our first shift towards academics, really thinking about what is our pedagogy as educators? What are the best practices that we're going to hone into as an institution or as a team, and make sure these best practices that are evident in the horizontal aspect and then vertical aspect?"

Harry, Head of School, describes how he and his leadership team visited high performing schools in New York who share the same student demographics as H*a*L*p*. "Seeing these schools really helped us hone in on the high levers to make transformational change from the cultural and academic aspect of things." Clark, Dean of Instruction at H*a*L*p*, describes that leadership comes in different phases. The first phase is setting the infrastructure and the cultural foundation for the school. The second phase is introducing data-driven best practices and having teachers become knowledgeable about and familiar with those best practices.

During this second year, Harry and the entire administrative leadership team created a teacher leadership team. The structure of decision-making at H*a*L*p* begins with idea formulation at the administrator leadership team. Then, these ideas move to the teacher leadership team for discussion. Next, administrators and teachers start identifying the key members with expertise to execute this idea. Then, a scope and sequence are created to teach the skills or practices before moving into technology integration.

For the past two years, most teachers are at the Substitution step of the SAMR model. There are a few teachers at the Augmentation step. Thomas emphasizes that this is on target because school culture must be set before technology is introduced. "We're not even talking about technology if you don't have your culture, if you don't have your systems and procedures, if you don't have the classroom management, if you don't have the relationships. No matter what we end up doing, it's not going to be at a high level." For year three and four, 2020-2021 and 2021-2022, H*a*L*p* is going to shift towards the Modification and Redefinition steps of the SAMR model and a more project-based approach to learning. However, further technology integration is only after teachers have built a strong cultural foundation.

> If you push technology way too soon, you misinterpret the problems happening in the classroom as due to technology. When in reality, if you don't have the structures and procedures and your culture set, then anything you implement will look like that. So, having a gradual approach to the SAMR model is the best way to facilitate this as a school practice. (Thomas, Assistant Director, H*a*L*p*)

Adoption Challenges and Resolutions

Over half of H*a*L*p*'s participants reported adoption challenges in the teacher level (Figure 2). Participants reported teachers' lack of knowledge and teachers' inconsistent buy-in as key teacher level adoption challenges (Table 2). In terms of resolutions, over half of H*a*L*p*'s participants reported the administrator and teacher levels (Figure 3). Participants reported administrators monitoring and sharing data as a key administrator level adoption resolution (Table 4). Participants reported teachers developing knowledge and aligning content to Acceleration as key teacher level adoption resolutions (Table 5).

The Role of Leadership Culture on Adoption

The H*a*L*p* administration played a vital role in the resolution of adoption challenges. Scarlett, Acceleration Coordinator and Math Teacher, supported teachers on a one-on-one basis to address the adoption challenge of teachers' lack of knowledge. She helped teachers navigate Acceleration during advisory and understand its importance. Scarlett explains teachers' lack of knowledge was the cause for their attitude: "I think more people were standoffish because they didn't know how to do it. So, once they feel like they have someone there to help them and not judge them, they can like it." Additionally, H*a*L*p* school administrators held school-wide professional development at the beginning of the school year and throughout the year on Acceleration's functions. Thomas, Assistant Director, says, "we were teaching the why of Acceleration, teaching the ways to facilitate, the ways to run the report." From last year to this year, there was a lot of re-teaching of the program's functions because a number of veteran staff left the school after the first year. During the second year, all the new teachers had to be trained on Acceleration and the returning teachers needed a refresher training. The one-on-one coaching from Scarlett and whole-school professional development increased teachers' knowledge.

Teachers' inconsistent buy-in was resolved during the second year. During the first year, the focus was on shifting the culture of the school, developing systems and structures, and setting high expectations. Teachers were given very limited guidance on best practices for Acceleration. As a result, there wasn't intentional and purposeful implementation. Additionally, there was a question of teachers' overall buy-in with the school culture and the new administration. Clark says:

> A lot of our concerns last year was reshaping the culture, not only of students but also of staff, and really ensuring that the staff wanted to return. They had the buy-in to really invest in everything that we were presenting as a team. So now the staff that we have this year, we know that they want to be here. How do we guide them in year two where they're being more purposeful about Acceleration?

Because teachers were bought in to the school culture and the administration, they were open to learning more about the specific programs like Acceleration. Teachers also had increased buy-in when administrators began sharing the data. Harry, Head of School, says, "we have a data driven focus. Everything is around the data. Because what we learned in the past is that it allows us as educators to eliminate any biases that we have and using the data to understand where every student is." Teachers saw how student reading performance correlated with increased and intentional usage.

Performance Challenges and Resolutions

Half of H*a*L*p*'s participants reported performance challenges in the student and teacher level (Figure 4). Participants reported students struggle with reading as the key student level performance challenge (Table 6). Participants reported no collaboration amongst teachers as the key teacher level performance challenge (Table 10).

In terms of resolutions, over half of H*a*L*p* participants reported the teacher, administrator, and infrastructure levels (Figure 5). Participants reported teachers motivating students and teachers monitoring data as key teacher level performance resolutions (Table 7). Participants reported administrators training teachers as the key administrator level performance resolution (Table 8). Participants reported school-wide celebrations as the key infrastructure level performance resolution (Table 14).

The Role of Leadership Culture on Performance

A key performance challenge was that H*a*L*p* students struggled with reading. This was a challenge even before the new administration arrived in 2018-2019. During the 2017-2018 school year, H*a*L*p* students were 57.1 points below standard for English Language Arts and 118.8 points below standard for Math (California Department of Education Dashboard). Teachers addressed this challenge through by tracking students' progress and rewarding reading growth. Schoolwide assemblies based on students' reading growth (and not overall highest average Lexile on Acceleration) were another part of the strong data-driven culture at H*a*L*p*. The administrators also quickly recognized that teaching reading was not all teachers' area of expertise, especially since everyone was expected to use Acceleration in their advisories.

Two school-wide solutions were adopted. One solution was to separate students into advisories based on their Lexiles and then distribute the Lexile groups to teachers based on expertise in teaching reading. As Melanie, English Language Arts and Social Studies teacher at H*a*L*p* School says, "We don't have students with different Lexiles in one class. The lower Lexile students, they were all given to English teachers since that's our specialty, teaching reading… So, the science and math teachers, they have the higher Lexile group, so they don't have to do much, the kids are pretty independent." On Acceleration, each student is given informational articles written at their own Lexile reading level. Higher Lexile students, who presumably more independent when it comes to reading, were placed in non-ELA teachers' advisory classes. Lower Lexile readers require more teacher dependence, scaffolding, and direct instruction. These students were given to the English Language Arts teachers who have a background in teaching reading.

The second solution was for administrators to train teachers through school-wide professional development on teaching reading. Melanie, English Language Arts and Social Studies teacher, shares: "back in February, Clark kind of broke it down to focus teachers on answering the questions in Acceleration, aligning these questions with those on the CAASP state test, and just showing the different types of questions asked on both. He taught a PD on that." As a former English Language Arts teacher, Clark, the Dean of Instruction, explains that he wanted to give teachers the opportunity to prep and be vulnerable, share and discuss, before teaching reading. He especially wanted to give non-English Language Arts teachers an opportunity to collaborate and discuss in a safe space with their peers. Normally, there is not a space for teachers to collaborate outside of professional development sessions because they all have different Lexile groups (low, medium, and high) and different prep periods.

H*a*H*p*

School Context

In 2014, the previous H*a*H*p* principal purchased Acceleration for several classes with English Learners but the program wasn't being used school-wide. In August of 2016, Jason became principal of H*a*H*p*. During the 2016-2017 school year, there were 1,295 H*a*H*p* students: 81.1% socioeconomically disadvantaged, 15.2% homeless youth, 13.9% English Learners, and 13.7% students with disabilities (California Department of Education Data Quest). After seeing the 2014-2016 reading growth of his English Learners, Jason decided to purchase school-wide access to Acceleration as part of H*a*H*p*'s strategic plan to increase all students' academic achievement in English Language Arts. H*a*H*p*'s first year of school-wide implementation was in 2017-2018. All

teachers had access to Acceleration but the expectation was that all English Language Arts teachers complete two articles on Acceleration per week and administer the diagnostic, interim, and post Lexile exams. For all other teachers, Acceleration is just an optional and available tool.

Leadership Structure and Culture

In December of 2016, Jason and his Assistant Principal, Jeanie, brought the idea of taking Acceleration school-wide to the school leadership team. Both administrators talked about the reading growth of their English Learner population and how Acceleration's computer-assisted technology would help students prepare and be familiar with CAASPP state testing. The English Language Arts teachers on the leadership team were already familiar with the program. Some of them spoke openly about the benefits they saw with their English Learners. There wasn't any pushback from the other department's teachers. Because H*a*H*p* was paying for Acceleration through categorical funds, the leadership team sent a purchase order to the School Site Council for approval. The School Site Council approved the purchase order starting the 2017-2018 school year.

Jason mentions how the teacher leadership team's buy-in is essential for any school-wide initiative because they are the ones who will bring it back to their grade level and department teams. "If there isn't buy-in from the leadership team, there isn't going to be buy-in schoolwide." Jeanie says that teachers have to be shown the how it works, the "why" of the implementation, the data to back it up, the benefit to their classroom, and real-world examples of how to implement. For Acceleration, teachers with English Learners could already speak to how they were using it in their classes and why they thought it should go school-wide. So, there was already buy-in at the English Language

Arts teacher level. Jason says, “it never works if I just say, “hey, we’re going to do this. All teachers want to know why they you’re asking them to do something. And so, explaining the why is very important.” Jason mentions how he has a strong relationship with his teachers so when he brings an idea to them, they are receptive. The H*a*H*p* administration as a whole has a strong relationship with their teachers. In his four years as principal at H*a*H*p*, there was never a time where Jason received a lot of pushback. There were a few times where District A required teachers to do something and teachers were pretty resistant. But normally, this is little pushback.

There was district support and buy-in for Acceleration all the way to the superintendent. In 2017, Fred, Director of English Learners at District A, purchased English Language Learner access to Acceleration for all 6 middle schools and 5 high schools in his district. During 2017-2018, H*a*H*p* had already started its first year of school-wide implementation. Jason attended principal data meetings with high level Acceleration and District A’s administrators. H*a*H*p* and L*a*L*p* are both middle schools in District A that currently implement Acceleration school-wide. The other 4 middle schools in District A are only using Acceleration with their English Learner classes.

In terms of expectations, H*a*H*p*’s English Language Arts teachers were expected to complete two articles per week on Acceleration. Jeanie, Assistant Principal, conveyed this expectation to the English Language Arts teachers during one of their early 2017 department meetings. Jason shared Acceleration as a resource for the Science and Social Studies departments during the same time period. H*a*H*p*’s English Language Arts teachers were vocal about their support of Acceleration. Some of them were already using it in their classes with their English Learners before it was school-wide. The Social

Studies teachers wanted access to Acceleration as another resource for informational articles. All Special Day Class (SDC) teachers ended up using Acceleration as well. SDC teachers support students with intensive needs that cannot be met by the general education program or the Resource Specialist Program (RSP). Some Science teachers used Acceleration. As of the 2019-2020 school year, H*a*H*p*'s Science teachers do not have an adopted textbook curriculum so they pull informational articles from Acceleration. Neither Math nor Physical Education teachers use Acceleration.

Jason says his approach to Acceleration was being "more hands-off" because he trusted his administrative leadership team to be more "hands on" for the implementation. This administrative team consists of Jeanie, Assistant Principal; Kristine, the PD Specialist; and Aly, English Language Arts & Social Studies Teacher, and Acceleration Coordinator. Jason assigned Jeanie, Assistant Principal, as the point person. During the first few weeks of the 2017-2018 school year, Jeanie approached the implementation in a systematic way. She reviewed the current student usage data, interviewed teachers who had been using the program with their English Learners, and observed classrooms to see how students interacted with the program. Then, Jeanie discussed with the department chairs which teachers wanted to adopt it right away. She describes this process as "tapping into the innovators on campus" to help advertise the program to the other teachers. "And then other people started to join because they saw how easy it was to implement in the classroom and only required at least two times a week." By mid 2017, more teachers were bought in because they grew familiar with navigating the interface through trainings, heard from other teachers how the program works, and saw the support coming from their administrators. Kristine set up the trainings between the Acceleration

professional services team and H*a*H*p*'s different department teams. She also coached teachers on the program. In late 2017, Jeanie built biweekly to monthly meetings with Kristine, PD Specialist, and Aly, English Language Arts and Social Studies Teacher and Acceleration Coordinator, to review the Acceleration data.

In the roll-out of Acceleration, Jeanie describes how she built teachers' buy-in in a number of ways. One, she made sure to set clear expectations to teachers. They have to use Acceleration at least twice a week. Second, she tapped into the innovators on campus so they can convince the skeptical teachers. "Once the innovators took it on and they showed that it was something positive for their classrooms, that's when the other ones started to feed the fire. So, it all goes back to knowing who you work with." There were innovators from English Language Arts and Social Studies. Third, she reminded teachers they have access to Acceleration and it's an easy way to look at student data for reading. H*a*H*p* culture is very data-driven so this was a way to sell it to the teachers. Fourth, she worked Kristine and Aly to create an Acceleration rewards system aligned to PBIS (Positive Behavior Intervention Support). PBIS a pro-active approach to improving school safety and positive student behavior. It is District A's culture and H*a*H*p* culture is to reward students on a regular basis for both academics and behavior. Starting the 2018-2019 school year, the administrative team coordinated an annual Acceleration ice cream party where the students who made the most growth are invited to attend. Each teacher nominates three students for the ice cream party. Jeanie also coordinated with the ASB (Associated Student Body) to host monthly popcorn parties for students who improved their Lexile.

The culture of H*a*H*p* staff are to be very collaborative and receptive to new initiatives, whether it's an online program like Acceleration or a teaching strategy brought up by a teacher who recently attended a conference. They are also very interested in the data and research behind any new initiative. Jason mentions how teachers not only take the lead on looking at their own data, but also take the lead on most things at the school. The collaborative, receptive, research-based, data-driven approach is part of H*a*H*p*'s school culture. This culture has not changed with changes in leadership or staff. Jason says, "not the principal before me, but the principal before that who had been here for ten plus years instilled and implemented a lot of the PLC practices that are still evident today, even with the change in staff that we've had." Jason has sat in on some Social Studies and English Language Arts department meetings where they have collaborated on Acceleration.

In addition to collaborating in department meetings, H*a*H*p* received a CALI Reads grant during the 2018-2019 school year to last until the 2022-2023 school year. CALI Reads is a 5-year grant funded by the California Department of Education to improve literacy outcomes for middle school students. Jason assembled a group of four teachers from the different subject areas and the two PD Specialists at the site to be the CALI Reads committee. This teacher-led committee decided that a big part of CALI Reads was to have all three grade levels and the English Language Arts, Social Studies, Science departments using Acceleration to improve literacy in their classes. Roxana, English Language Arts teacher, describes this process as follows: "We made that decision as teachers. And I think you can see the difference in our school climate. This is something we feel is very important. Our focus is to make sure reading was happening

across the board, through all classes, not just by language arts teachers." Roxana mentions that in the 2019-2020 school year, this committee expanded to include more teachers but everyone in the group agreed that "Acceleration was the most important…it had to be in there."

Adoption Challenges and Resolutions

Over half of H*a*H*p*'s participants reported adoption challenges in the teacher and infrastructure levels (Figure 2). Participants reported teachers lack knowledge as the key teacher level adoption challenge (Table 2). Participants reported limited instructional time as the key infrastructure level adoption challenge (Table 3).

In terms of resolutions, over half of H*a*H*p*'s participants reported the teacher level (Figure 3). Participants reported teachers develop knowledge, teachers attend trainings, teachers align core content to Acceleration as key teacher level adoption resolutions (Table 5).

The Role of Leadership Culture on Adoption

2019-2020 was the first year that the eighth-grade teachers had access to Acceleration. The sixth-grade teachers and seventh grade teachers have had Acceleration for the past two years. The eighth-grade teachers are not as proficient as the sixth and seventh grade teachers in their knowledge of Acceleration's functions because they were just learning how to navigate the program. They were able to resolve this adoption challenge by attending trainings and taking the time to learn the program in their departments. H*a*H*p* culture is very collaborative and teachers have strong relationships with each other. They also received coaching from Kristine, PD Specialist who also demonstrated with model lessons. Vivian, English Language Arts teacher says, "I know

we had a chance to meet with our PD specialists. We met with the Acceleration person we were working with this year. But it was more just us. It wasn't that we needed someone outside to help us. We just need a time together for us to play with the program as a department. That's what helped us." The collaborative culture in the department teams resolved the adoption challenge of teachers' knowledge.

Another adoption challenge was limited instructional time. Teachers talked about how they didn't have time to monitor student progress on Acceleration, and how dedicating time to Acceleration slowed down their curriculum on Study Match, which is the district adopted curriculum for English Language Arts. Because teachers didn't always have the time to monitor their students' progress, Jeanie, Kristine, and Aly would run the data for them. Teachers also talked about how collaborating in their department teams to plan out months in advance how they planned to teach Study Match as the core curriculum and using Acceleration as a support saved them time. Vivian, English Teacher, says, "every Wednesday is when it's built into our schedule to meet as departments. Right now, we are working on the Study Match unit called "In Time of War." We are using Anne Frank's Holocaust. We broke up the unit so that each of us is going to look for Acceleration articles that match."

Performance Challenges and Resolutions

Half of H*a*H*p*'s participants reported performance challenges in the student level (Figure 4). Participants reported students struggle with reading as the key performance student challenge (Table 6).

In terms of resolutions, over half of H*a*H*p*'s participants reported the teacher and administrator level (Figure 5). Participants reported teachers motivate students, teachers

collaborate from other teachers, teachers make decisions in departments as key teacher level performance resolutions (Table 7). Participants reported administrators training teachers as the key administrator level performance resolution (Table 8).

The Role of Leadership Culture on Performance

The key performance challenge at H*a*H*p* was that students struggled with reading. H*a*H*p* teachers mentioned that in addition to their general education group who were reading at low levels, their English Learner and RSP population struggled as well. RSP stands for Resource Specialist Program, a program designed to support students with disabilities meet the needs of each child's individualized education plan (IEP). In 2019-2020, H*a*H*p* student demographic comprised of 14% English Learners and 13.9% Students with Disabilities (California Department of Education Data Quest). As a school, H*a*H*p* culture is to reward students on a regular basis for both academics and behavior. This came in the form of the annual ice cream parties and monthly popcorn parties. Teachers also developed their own classroom reward systems to motivate students and students were celebrated whenever they made growth. Teachers built in rewards like extra credit, classroom traditions, certificates, classroom growth posters, homework passes, and snacks like candy. James, English Language Arts and Social Studies Teacher, says: "This works for all my kids: I will give them something, a treat or choose from a supply. They go for pencils, highlighters, homework passes. So, I have found that kids, they like to be motivated. They like food. They love food. They will do anything for food."

H*a*H*p*'s collaborative culture also helped to address students' struggles with reading. In addition to collaborating in their departments, the teacher-led with committee

for CALI Reads decided that all English Language Arts, Social Studies, Science departments in the three grade levels need to use Acceleration to improve literacy levels. This committee had teacher representation from all three subjects. Roxana, English Language Arts Teacher says:

> Within that grant, we ended up creating a master schedule that shows literally all the grade levels. For us, we put in Acceleration in the beginning, showing how we do our pre-assessment, our interim, so it literally tells us month by month. On top of us doing Acceleration, we knew when we had to do our district approved tests. And this year, we're doing Interim Assessment blocks, which is part of CAASP. So those are part of it and then what we normally teach, which would be our Study Match. From the get go, we started mapping it out and we sat down with our bigger group within the summer and in the school year.

The strong relationship between the administrators and the teachers at H*a*H*p* also facilitated teachers being open to being trained by administrators. James, English Language Arts and Social Studies Teacher at H*a*H*p*, says: There's been many opportunities to be trained. I know Kristine's gotten ahold of us before. She can come to your classroom and support. And so, has Aly. They said, if you need to hear from someone, please let us know." Vivian, English Language Arts Teacher, says, "There is always someone on campus who can answer any questions. Kristine could come to your classroom and support. We were never left alone when it came to Acceleration."

Chapter Five

This study pursued two questions: How do schools resolve blended learning challenges and how does the school's leadership culture influence how challenges are defined and resolved? My approach was to separate blended learning challenges into adoption challenges and performance challenges, the logic being that differences and similarities across schools of contrasting adoption and performance levels would emerge from this method. For my first research question, I found that across the four schools, adoption challenges tended to be at the teacher level and infrastructure level; adoption resolutions tended to be at the administrator level and teacher level. My findings also showed that across the four schools, performance challenges were primarily at the student level; performance resolutions tended to be at the teacher level and administrator level.

Conclusions

There are two takeaways from this study, one from each of the research questions. For the first research question, I found that while schools did not vary by the type of blended learning challenge or type of blended learning resolution, high adopter schools tended to resolve blended learning challenges systematically while low adopter schools tended to resolve blended learning challenges on a case-by-case basis. For my second research question, I found that high adopter schools tended to have interconnected leadership cultures that facilitated the creation of systems and structures, ensuring that adoption and performance resolutions occurred at the system-wide level. Low adopter schools tended to have disjointed leadership cultures with limited facilitation of systems and structures, ensuring that adoption and performance resolutions occurred on a case-by-case basis.

High Adopter Schools Resolved Blended Learning Challenges Systematically

My study found that high adopter and low adopter schools had similar types of challenges and resolutions. The differentiator was that high adopter schools resolved challenges consistently and systematically, involving multiple levels of the school system (the student level, teacher level, administrator level, and infrastructure level). The low adoption schools inconsistently resolved challenges at one level of the school system or on a case-by-case basis. I will now discuss how low and high adopter schools addressed challenges differently and how this informs my recommendations.

Recommendations for Adoption Challenges and Resolutions

Participants from all four schools identified teachers' lack of knowledge as the most common adoption challenge. Participants talked about how teachers lacked knowledge in both Acceleration's functions and teaching literacy. At the high adopter schools, professional development on teaching reading was addressed systematically with administrators supporting and coaching teachers. At H*a*L*p*, one administrator was responsible for coaching teachers individually on how to use Acceleration; another administrator was responsible for whole school professional development on teaching reading. At H*a*H*p*, three administrators took turns leading professional development school-wide and coaching individual teachers. One administrator was responsible for working with the 6th grade teachers, another administrator worked with the 7th grade teachers, and the third administrator worked with the 8th grade teachers. In contrast, low adopter schools provided limited to no coaching on teaching reading. The L*a*L*p* administrator did not address teaching reading at all. At L*a*H*p*, one instructional coach supported teachers periodically with classroom modeling. High adoption schools tended

to provide systematic resolutions to adoption challenges; low adoption schools tended to not address or take a very cursory, inconsistent approach to the adoption challenge.

My recommendation is that Acceleration provide professional development on teaching literacy in addition to their current professional development sessions on program functions. Because some K-12 schools and districts may not provide professional development around teaching literacy, Acceleration needs to include this as one of their professional development offerings in order to improve adoption and ultimately performance. This professional development session also increases teachers' buy-in because teachers will see Acceleration as a valuable program aligned with the teachers' core content, as opposed to a blended learning program unrelated to their core content. Schools with existing robust professional development infrastructure on teaching literacy can choose not to purchase these trainings. This recommendation would better serve all schools implementing Acceleration because it accounts for both low and high adopter schools.

Participants mentioned teachers' inconsistent buy-in as another key adoption challenge. Teachers' buy-in varied by the grade level and the content area they taught. English Language Arts and Social Studies teachers had much higher buy-in than Math and Science teachers because they understood the connection between Acceleration and their core content. Teachers' buy-in was reflected in their classroom practices. At the high adopter schools, teacher buy-in was addressed systematically with multiple administrators monitoring and sharing data as part of a school-wide practice. At H*a*L*p* and H*a*H*p*, administrators monitored and shared data with their teachers every month. At H*a*L*p*, four administrators monitored the data: Harry, Head of School; Thomas, Assistant

Director; Clark, Dean of Instruction; and Scarlett, Math Teacher and Acceleration Coordinator. At H*a*H*p*, four administrators monitored the data: Jason, Principal; Jeanie, Assistant Principal; Kristine, PD Specialist; and Aly, English Language Arts and Social Studies Teacher. In contrast, administrators at low adopter schools provided limited to no data monitoring or data sharing to address teacher buy-in. These administrators tended to view data monitoring and data sharing on a case-by-case basis and few administrators were involved. At L*a*L*p*, administrators didn't monitor or share data at all. At L*a*H*p*, two administrators, William, Principal, and Elizabeth, Instructional Coach, monitored and shared data once to twice a year.

My recommendation is that Acceleration work alongside school administrators to (1) set aside quarterly data-monitoring meetings with their teachers and (2) set aside time for quarterly classroom observations. Because some K-12 schools and districts may not have administrators actively monitoring their teachers' usage, Acceleration needs to work with administrators to review the quarterly data reports and address any challenges with teacher buy-in as these occur. Because teachers' different classroom practices reflect their level of buy-in, it is important that classroom observations complement the data-monitoring practices. This recommendation would better serve all schools implementing Acceleration because it accounts for both low and high adopter schools.

Participants mentioned teachers' negative attitude as another key adoption challenge. Teachers were discomforted with the number of blended learning programs at the site. They felt overwhelmed by having to add Acceleration to their existing curriculum, and felt resistance to change their previous ways of teaching.

My recommendation is that Acceleration consider whether or not a school is ready to adopt their program by first taking inventory of the number, type, time allotment, and quality of implementation for the blended learning programs currently in place at the school or district. If more than five blended learning programs are already in place at the school, Acceleration needs to decide if it wants to risk low adoption of the program due to the many competing initiatives. Acceleration also needs to interview teachers and administrators about the school's reform history to see if there are infrastructure and structural challenges that may affect adoption. If there were other blended learning programs used previously at this site, Acceleration needs to determine how these were being used by the teachers and administrators. If the school was successful at adopting certain programs, Acceleration needs to find out what strategies were utilized and apply these to adoption of Acceleration at the school. If the school was unsuccessful at adopting certain programs, Acceleration needs to find out what strategies were utilized to avoid low adoption of Acceleration. Teachers are also likely to feel resistant towards adding another program to their heavy workload. To make this process more comfortable for teachers, Acceleration needs to provide a sustained professional development series in which teachers learn about the program's functions over multiple sessions, over the course of the year. This way, teachers are not overloaded with all of the information at once. They have had ample opportunity to test the program with their own students and return with questions to Acceleration's professional development sessions.

At the infrastructure level, key infrastructure adoption challenges were limited instructional time and competition with other initiatives. Participants mentioned that there was limited instructional time to address state standards, cover their core curriculum,

prepare students for state standardized testing, and guide students through Acceleration. At the high adopter schools, administrators addressed time constraints by either dedicating time in the school day for Acceleration or by only having one group of teachers responsible for using the program. Both high adopter schools prioritized Acceleration as a means to improve literacy at their school. Administrators also made sure teachers understood expectations for program usage at the school level and classroom level.

At H*a*L*p*, administrators set aside the morning and afternoon advisory periods for dedicated time to use Acceleration daily. All teachers were responsible for using Acceleration in their advisories. Students were grouped into advisories based on their Lexile level. Teachers were expected to use Acceleration in their advisory classes four times a week. At H*a*H*p*, the expectation was that all English Language Arts teachers complete two articles on Acceleration per week and administer the diagnostic, interim, and post Lexile exams. Other teachers were not responsible for using Acceleration, but were given the program as a resource. Jeanie, Assistant Principal, worked together with Kristine, PD Specialist, and Aly, Social Studies Teacher & Acceleration Coordinator, to create a rewards system aligned to PBIS (Positive Behavior Intervention Support). This rewards system encouraged the prioritization of Acceleration by rewarding positive student behavior. Subsequent student buy-in with the program helped teachers choose Acceleration amidst the other competing initiatives at the site. Additionally, the teacher-led CALI Reads committee at H*a*H*p* placed Acceleration at the center of their school-wide focus on literacy, increasing teacher buy-in and program prioritization.

My recommendation is that Acceleration work closely with school administrators and teachers to carve out dedicated time during the school day to adopt the program. It is not enough to merely sell the program to a school and expect teachers and administrators to adopt it. There needs to be clear expectations around which teachers and which students are using the program. If Math and Science teachers are expected to adopt the program, they will need extra training around teaching literacy. One group of teachers should be tasked with administering the diagnostic, interim, and post Lexile exams. This group of teachers should be notified in advance of the exams to eliminate any surprises and time in the school day needs to be allocated for administering these exams. A rewards system or school-wide committee needs to be developed to encourage the prioritization of Acceleration.

Performance Challenges and Resolutions

Participants from all four schools cited students' struggles with reading as the key performance challenge. Participants mentioned students' struggles in the context of specific student subgroups, different reading levels, and low reading skills. At the high adopter schools, students' reading challenges was addressed systematically through school-wide structures around student motivation, teacher collaboration, and teacher training. Administrators held school-wide celebrations like mid-year and end-of-the-year assemblies to celebrate student performance on Acceleration. Teachers consistently utilized classroom-wide motivation practices like immediate feedback, grades, extra credit, classroom competitions, sticker charts/performance posters, food, and prizes. Teachers collaborated with one to three teaching partners around best practices for grading, sharing data, interpreting data reports, assigning articles, and sharing student

performance challenges. At H*a*L*p* and H*a*H*p,* teachers collaborated on best practices for using Acceleration at site, department, and grade level meetings. In addition to individual classroom trainings, H*a*L*p* administrators led multiple school-wide trainings on close reading and answering reading comprehension questions on Acceleration. H*a*L*p* administrators also created training videos for new teachers' future onboarding. H*a*H*p*'s three administrators also had school-wide trainings for their teachers by grade level teams.

In contrast, low adopter schools utilized these resolutions on a case-by-case basis. A select few individual teachers motivated students in their classrooms. It was not consistent across all teachers and school-wide celebrations were one-off events or non-existent. Low adopter schools tended to not address teacher collaboration or only a select few teachers took the initiative to collaborate with each other. Low adopter schools tended to have teacher trainings. At L*a*L*p*, teacher training was not mentioned at all. At L*a*H*p*, one administrator trained teachers through individual classroom demo lessons.

My recommendation is that Acceleration support administrators and teachers at all schools with structures to increase student motivation, teacher collaboration, and teacher training. Acceleration needs to meet with school administrators at the beginning of the school year to discuss quarterly school-wide celebrations for students and classrooms with the highest Lexile growth. Acceleration should supply schools with certificates and prizes like pizza parties, ice cream parties, and school supplies for classrooms and schools with the most growth. Acceleration needs to be present at the site, department, and grade level meetings where teachers collaborate with each other on best practices around the program. At the beginning of the year and for every quarter

afterward, teachers and administrators need to be given new trainings and refresher trainings on Acceleration, especially with staff changes during the school-year. These trainings can be recorded for future use and one-on-one support from Acceleration must be made available as well. I recommend that at least two of these trainings be led by administrators or more veteran teachers at the site to build in-house capacity for the program.

High Adopter Schools Had Interconnected Leadership Cultures

High Adopter schools tended to have interconnected leadership cultures that facilitated the creation of systems and structures, ensuring that adoption and performance resolutions occurred at the system-wide level. At H*a*L*p*, Harry and his administrative leadership team focused on first building a strong school culture focused on students, learning, teamwork, and data-driven practices. Based on this cultural foundation, they were able to enact systems and structures that assisted in the resolution of blended learning challenges. At the infrastructure level, these systems and structures included time dedicated to Acceleration during advisory periods four times a week, differentiating advisories by student Lexile groups and teachers' content expertise, and school-wide celebrations on student performance. At the leadership level, these systems and structures included the creation of a teacher leadership team that communicates with the administrative leadership around blended learning challenges and provides feedback on ideas. At the pedagogical level, these systems and structures included a designated administrator for coaching teachers during their advisory periods and another administrator for leading scheduled professional development on teaching reading.

At H*a*H*p*, Jason and his administrative leadership team aligned Acceleration with the larger school-wide strategic plan to increase all students' academic achievement in English Language Arts. The administration also built buy-in for Acceleration at every level of the school, thinking systematically about how to resolve challenges to implementation. At the infrastructure level, these systems and structures included biweekly/monthly check-ins around Acceleration by the administrative team of Jeanie, Kristine, and Aly, the creation of a school-wide rewards system aligned to PBIS and Acceleration, and different core content teachers placing Acceleration at the center of H*a*H*p*'s 5-year CALI Reads grant. At the leadership level, these systems and structures included Jason's capitalizing on the English Language Arts teachers' buy-in to purchase the program school-wide, and Jeanie's systematic roll-out of Acceleration involving department chairs and teacher innovators on campus. At the relational level, these system and structures included strong relationships between administrators and teachers, as well as strong trust between Jason and his administrative team of Jeanie, Kristine, and Aly.

In contrast, low adopter schools tended to have disjointed leadership cultures with limited facilitation of systems and structures, ensuring that adoption and performance resolutions occurred on a case-by-case basis. At L*a*L*p*, there were limited systems and structures for blended learning implementation. Trainings were unstructured and administrators were unclear about usage expectations. There was little support or discussion about Acceleration at the site leadership team. Departments were given full decision-making power around the adoption process but struggled to agree amongst themselves on consistent practices. Administrators were unable to support or coach teachers because they did not attend trainings and thus had limited knowledge of the

program. As a result, teachers reached out externally to Acceleration's professional services team whenever there were adoption or performance challenges.

At L*a*H*p*, there were some systems and structures in place for blended learning resolutions, but these proved unsustainable over the course of the implementation. At the infrastructure level, systems and structures included the creation of an Acceleration aligned curriculum for Science and Social Studies teachers, the creation of a smaller work group, and the addition of Acceleration to the afterschool program. At the leadership level, these systems and structures included William gaining teacher buy-in from teachers, and the three-year roll-out process for Acceleration. Despite being present at the beginning of the implementation, these systems and structures dramatically decreased in quantity and quality as the years passed. William says, "Initially, we were doing celebrations and everything school-wide was about Acceleration. When I thought we got past that level of attention, I backed off of it. Once that happened, we didn't see the growth anymore." The disjointedness of the leadership culture at L*a*H*p* caused the weakness of the systems and structures over time.

My recommendation is that Acceleration take note of the leadership culture existent at the school at the time of adoption and determine whether the leadership culture is more interconnected or more disjointed in nature. The more disjointed the leadership culture at the school, the more difficult it is to have high adoption of the program. In the case of a disjointed leadership culture, Acceleration needs to collaborate with the administrative leadership team on a plan that builds the school culture around literacy prior to adoption of the program. This requires building out a school master schedule around time for literacy programs like Acceleration, training dates for new and veteran

teachers, designated goals for literacy, and school-wide celebrations and incentives for achieving these literacy goals. There also needs to be clear and consistent communication between the administrative leadership team, the teacher leadership team, and the blended learning program on progress and performance on these cultural pieces before proceeding with the adoption of Acceleration.

Limitations and Future Research

There are some limitations to my study. First, the identification of low versus high adoption or low versus high performance as applied to these four schools and the larger sample of 73 schools do not represent the schools' adoption and performance in the implementation of other programs or initiatives at the site. In other words, a school that is considered "low adoption" in Acceleration is not necessarily "low adoption" in other contexts. Similarly, a school that is "high adoption" in Acceleration is not necessarily "high adoption" in other contexts. Second, the low and high identifier is only representative of this particular school's Acceleration adoption and performance level during the 2018-2019 school year. School identifiers for low versus high adoption and low versus high performance may change or stay the same at different years of implementation. A L*a*L*p* school during the 2018-2019 school year may continue to be L*a*L*p* or change into L*a*H*p*, H*a*L*p*, or H*a*H*p* in 2019-2020. Similarly, a HaHp school during the 2019-2020 school year may have been H*a*H*p* or changed from L*a*H*p*, L*a*L*p*, or H*a*L*p* school in 2017-2018.

Another limitation to my study is that I focused on four middle schools for my phase two case studies and did not include any elementary or high schools. A different demographic of students may yield different findings around challenges and resolutions

to blended learning implementation. Finally, this study looked at one blended learning program in middle schools in their second to fourth years of implementation. Multiple blended learning programs or schools with greater years of implementation may yield different results.

Future research for this study could include the following: (1) a comparative mixed methods study that examines how elementary and high schools implement a blended learning program such as Acceleration, and (2) a longitudinal study of middle schools in 5+ years of blended learning implementation that tracks the challenges and resolutions schools face in every year of implementation.

Appendix A: Administrator Interview

Thank you for meeting with me today, _____ (insert administrator's name). I appreciate your time! The interview today will last 1 hour and I will be asking you questions about the blended learning implementation of Acceleration at your school. Your responses to this interview will be confidential. The purpose of this interview is to understand how blended learning challenges are resolved and the role of the administrator in the challenges and resolutions.

Would you be open to me recording our conversation? The recording is to help me make sure I got all the details right about our conversation- it will not be shared with anyone.

Do you have any questions before we begin? For this first section, I will ask you about blended learning at your school.

Section 1: Snapshot of Blended Learning

1. What does blended learning look like right now at your school?

    a. Which blended learning model (station rotation, lab rotation, individual rotation, flipped classroom) is being used at your school site?
    b. Why did you choose these models? Have you always used these models?
    c. What types of software (technology products) and hardware (laptops, desktops, and I-pads) do you use?
    d. Why did you decide to use these?

2. How has blended learning been rolled out at your school? Which grades, content classes, and students are utilizing these blended learning models?

    a. What sorts of PD have your teachers had to support blended learning? What PD have you had? How do you ensure that teachers are implementing BL?
    b. What resources do you turn to when you are looking for support on BL?

For this next section, I will ask you about the challenges to implementation at your school.

Section 2: School Implementation

3. Can you tell the story of how blended learning started at your school?

    a. How many years have you been working on blended learning at this school?
    b. How has the blended learning implementation changed over the years?

4. What would you say are the challenges to blended learning implementation?

    a. What would you say are the biggest challenges when you started?

5. I heard you say the following _____ challenges, let's go through and talk about how you have resolved those challenges.

6. So, now you are in your _____ year of implementation. Have these challenges changed since you started?

    a. During year ____, you said it was _____ challenge. Is it still this? How are you thinking about tackling that?
    b. What were some major learnings around these challenges and ways to resolve them?
    c. Were there any other challenges that we didn't get a chance to talk about?

Thank you so much again for taking the time to interview with me today!

Appendix B: Teacher Interview

Thank you for participating in today's interview! I appreciate your time. The interview today will last 1 hour and I will be asking you questions about the blended learning implementation at your school. Your responses during this interview will be confidential. The purpose of this interview is to understand how blended learning challenges are resolved and the role of the teacher in the challenges and resolutions.

Would you be open to me recording our conversation? The recording is to help me make sure I got all the details right about our conversation- it will not be shared with anyone.

Do you have any questions before we begin? For this first section, I will ask you about blended learning at your school.

Section 1: Classroom Snapshot

1) Please introduce yourself.

    a. What subjects and grades do you teach?
    b. How long have you been teaching at this school?

2) What does the term "blended learning" mean to you?

    a. What, in your opinion, is the role of "blended learning" in schools?
    b. What is the role of technology in schools?

3) What does blended learning look like right now in your classroom?

    a. Which blended learning model (station rotation, lab rotation, individual rotation, flipped classroom) is being used at your school site?
    b. Why did you choose these models? Have you always used these models?
    c. What types of software (technology products) and hardware (laptops, desktops, and I-pads) do you use?
    d. Why did you decide to use these?

4) If I were a student in your classroom where you were implementing Achieve3000, how would that day look like?

5) How has Achieve3000 been rolled out at your school?

    a. Which grades, content classes, and students are utilizing these blended learning models?
    b. What sorts of PD have you had to support blended learning?
    c. What resources do you turn to when you are looking for support on Achieve3000 and Blended learning?

For this next section, I will ask you about the challenges to implementation at your school.

Section 2: School Implementation

6) Can you tell the story of how Achieve3000 started at your school?

    a. How many years have you been working on blended learning at this school?
    b. How has the blended learning implementation changed over the years? In particular, how has last year differed from this school year?

7) What would you say are the challenges to blended learning implementation?

    a. What would you say are the biggest challenges when you started?

8) How were these challenges resolved or not resolved?

    a. What were some major learnings around these challenges and ways to resolve them?
    b. Were there any other challenges that we didn't get a chance to talk about? Any resolutions we didn't get a chance to talk about?

Thank you so much again for taking the time to interview with me today!

Appendix C: Tables

Table C1

Participant Numbers by Category from Four Middle Schools.

	L*a*L*p*	L*a*H*p*	H*a*L*p*	H*a*H*p*	Total
Administrators	1	3	3	4	11
Teachers	7	4	4	4	19
Total	8	7	7	8	30

Table C2

Teacher level adoption challenges as mentioned by number of participants at each school, in decreasing frequency.

Challenge	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Lack Knowledge	7	4	6	6	23
Inconsistent Buy-In	7	7	4	4	22
Negative Attitude	5	3	3	4	15
Core Subject Misalignment	0	5	3	3	11
Blended Teaching Differences	2	3	2	1	8
Duplicate Articles in Multiple Classes	0	1	2	2	5
Negative Feelings Towards Reading	2	0	2	0	4
High Turnover	0	3	1	0	4
Unclear Direction	2	1	0	1	4
Lack of trust	0	1	1	1	3
Overuse	0	0	0	1	1
Too Much Autonomy	0	0	1	0	1

Table C3

Infrastructure level adoption challenges as mentioned by number of participants at each school, in decreasing frequency.

Challenge	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Limited Instructional Time	6	5	3	7	21
Competition with Other Initiatives	8	3	2	4	17
Digital Infrastructure	4	3	3	1	11

Inadequate Training	2	4	0	4	10
High Cost	0	6	1	1	8

Table C4

Administrator level adoption resolutions as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Monitor and Share Data	3	4	5	4	16
Set Expectations and Structure	4	4	3	4	15
Support and Coach Teachers	3	6	3	3	15
Focus on Specific Students	2	0	0	4	6
Create Time in Schedule	0	0	1	3	4
Create Planning Team	0	0	0	3	3
Give Teachers Autonomy	0	0	1	1	2
Share Ideas with Other Admin	0	0	0	2	2
Engage Teachers in Decisions	0	0	0	1	1
Problem Solve with Other Admin	0	0	0	1	1

Table C5

Teacher level adoption resolutions as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Develop Knowledge	2	4	4	5	15
Attend Trainings	1	6	1	5	13
Align Core Content to Acceleration	1	3	4	5	13
Make Decisions in Teams	6	2	0	3	11
Develop Relationships with Admin	0	2	3	3	8
Engage Students in Lesson	3	2	1	1	7
Assign for Homework	0	0	0	4	4
Monitor Student Progress	0	2	1	0	3
Assign Students to Groups	1	0	1	0	2
See Students' Success	0	0	0	1	1
Contact Parents	1	0	0	0	1

Table C6

Student level performance challenges as mentioned by number of participants at each school, in decreasing frequency.

Challenge	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Struggle with Reading	6	4	6	5	21
Incomplete and Rushed Work	5	3	0	3	11
Low Buy-in	6	2	0	1	9
Negative Attitude	2	0	0	0	2

Table C7

Teacher level performance resolutions as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Motivate Students	7	3	4	4	18
Collaborate with Other Teachers	6	4	3	4	17
Monitor Data	6	4	4	3	17
Make Decisions in Departments	7	0	0	5	12
Adapt and Extend Articles	4	2	3	2	11
Tutor Students	4	0	1	1	6
Put Acceleration in Gradebook	1	0	1	2	4
Communicate with Parents	2	1	0	1	4
Develop Knowledge	1	2	0	0	3
Build Trust with Students	0	1	1	1	3
Create Competitions	0	0	0	1	1
Prioritize Reading	0	0	1	0	1
Guide Students in Reading	0	0	0	1	1

Table C8

Administrator level performance resolutions as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Train Teachers	0	2	7	6	15
Observe Classrooms	0	2	3	2	7
Discuss with Other Admin	1	1	1	4	7

Review Data with Teachers	0	1	3	1	5
Communicate with Parents	0	1	2	1	4
Submit District Documents	0	0	0	1	1
Communicate with Students	0	2	0	0	2

Table C9

Administrator level adoption challenges as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Train Teachers	0	2	7	6	15
Observe Classrooms	0	2	3	2	7
Discuss with Other Admin	1	1	1	4	7
Review Data with Teachers	0	1	3	1	5
Communicate with Parents	0	1	2	1	4
Submit District Documents	0	0	0	1	1
Communicate with Students	0	2	0	0	2

Table C10

Teacher level performance challenges as mentioned by number of participants at each school, in decreasing frequency.

Challenge	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
No Collaboration	1	3	4	0	8
Inconsistent Grading Practices	4	2	0	1	7
Attitude towards Technology	2	0	1	0	3
Inconsistent Classroom Routines	0	0	2	0	2

Table C11

Acceleration level performance resolutions as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Support Teachers and Admin	8	0	1	0	9

Table C12

Infrastructure level adoption resolutions as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
Purchased Technology	0	3	3	3	9
Alignment with Afterschool Program	0	5	0	0	5
Purchased Site License	0	0	0	4	4
School-wide Focus on Literacy	0	0	0	3	3
School Calendar of Articles	0	1	2	0	3
Alignment with Dual Immersion Program	0	0	0	2	2
Creation of Instructional Leadership Team	0	1	0	0	1

Table C13

Administrator level performance challenges as mentioned by number of participants at each school, in decreasing frequency.

Challenge	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
No Data Monitoring	3	4	0	1	8
No District Communication	0	0	0	1	1
Lack Knowledge	0	0	1	0	1

Table C14

Infrastructure level performance resolutions as mentioned by number of participants at each school, in decreasing frequency.

Resolution	L*a*L*p* (8)	L*a*H*p* (7)	H*a*L*p* (7)	H*a*H*p* (8)	Total (30)
School-wide Celebrations	1	4	6	5	16
Creation of Lexile Groups	0	0	2	0	2
Addition of Co-Teacher	0	0	2	0	2

Appendix D: Figures

Figure D1

73 Public and Public Charter Schools by Adoption and Performance.

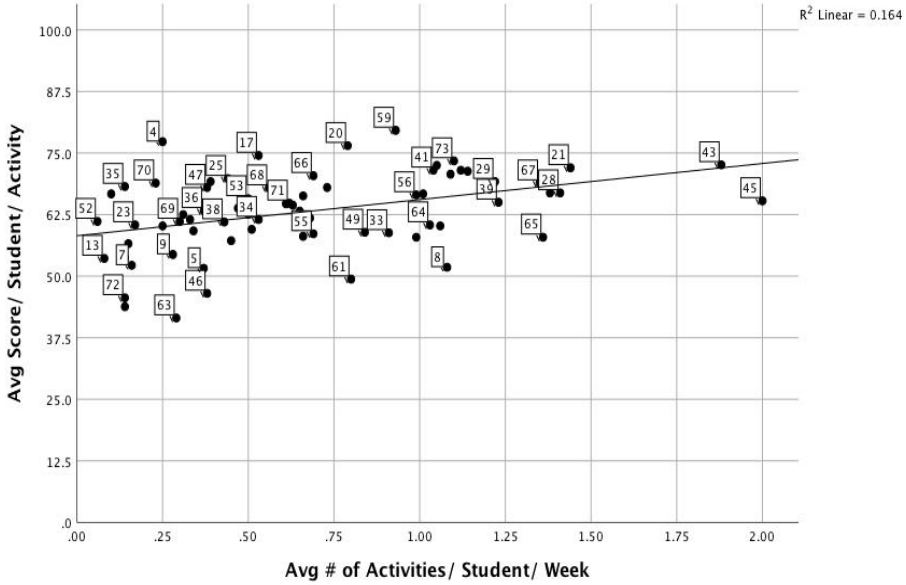


Figure D2

Adoption Challenges by category as mentioned by number of participants at each school.

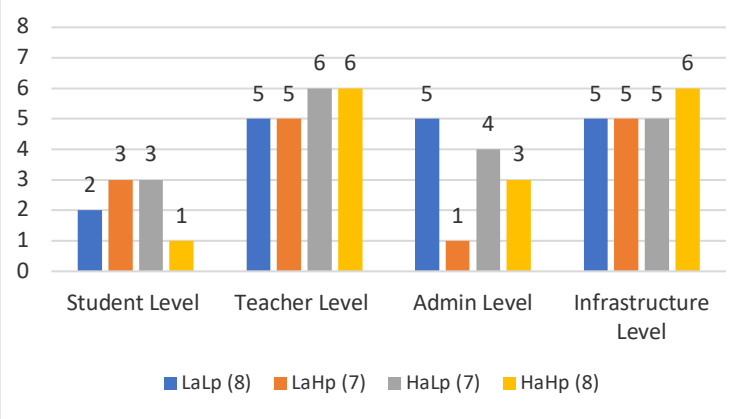


Figure D3

Adoption Resolutions by category as mentioned by number of participants at each school.

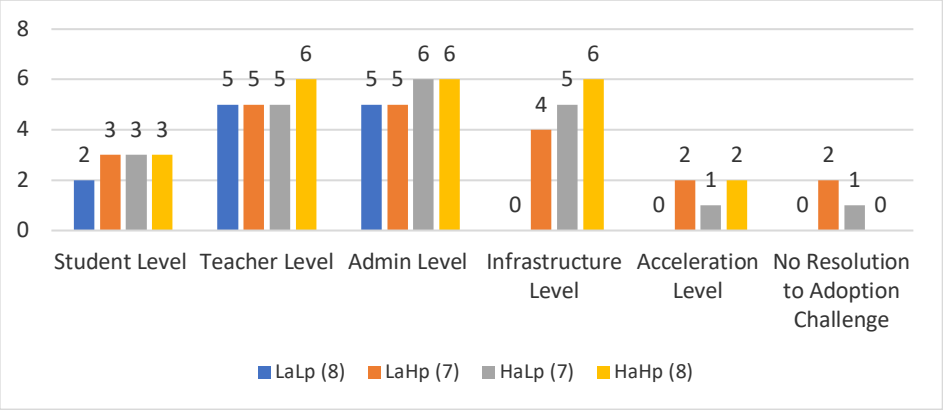


Figure D4

Performance Challenges by category as mentioned by number of participants at each school.

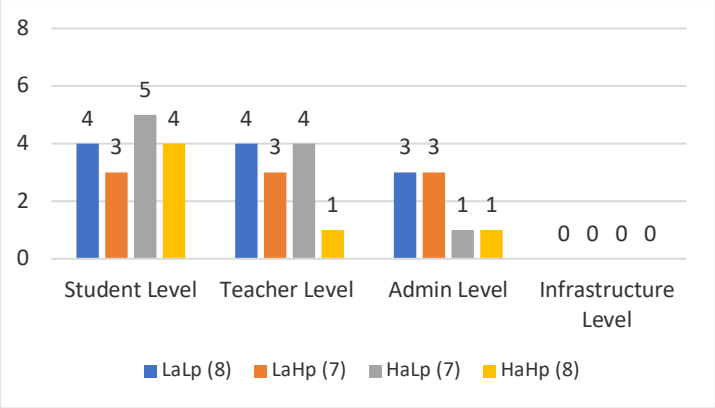


Figure D5

Performance Resolutions by category as mentioned by number of participants at each school.

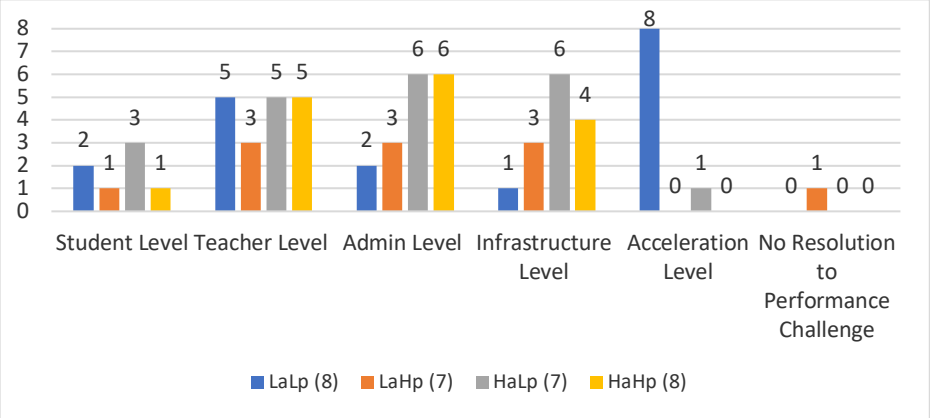
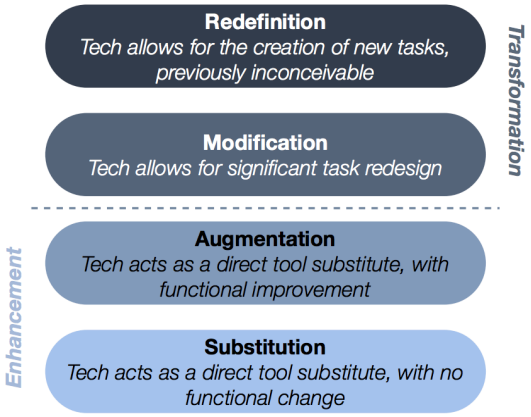


Figure D6

The SAMR Model of Classroom Technology Integration.



References

Abrego, J. & Pankake, A. (2010). PK-12 Virtual Schools: The Challenges and Roles of School Leaders. *Educational Considerations*, 37 (2).

Al-Qahtani, A. A., & Higgins, S. E. (2013). Effects of Traditional, Blended and E-learning on students' achievement in higher education. *Journal of Computer Assisted Learning*, 29, 220-234.

Bernard, R.M., Borokhovski, E., Schmid, R. F., Tamim, R.M., & Abrami, P. C. (2014). A meta-analysis of blended learning and technology use in higher education: from the general to the applied. *Journal of Computing in Higher Education*, 26 (1), pp.87-122.

Carbonell, K. B., Dailey-Hebert, A., & Gijselaers, W. (2013). Unleashing the creative potential of faculty to create blended learning. *Internet and Higher Education*, 18, pp. 29-37.

Calabrese, R.L. (2003). The ethical imperative to lead change: overcoming the resistance to change. *The International Journal of Educational Management.* 17(1), 7-13.

Carbonell, K., Dailey-Hebert, A., & Gijselaers, W. (2013). Unleashing the creative potential of faculty to create blended learning. *The Internet and Higher Education*, 18, 29-37.

Chigeza, P. & Halbert, K., 2014. Navigating E-learning and Blended Learning for Pre-service Teachers: Redesigning for Engagement, Access and Efficiency. *Australian Journal of Teacher Education*, 39 (11), pp. 133-146.

Cobb, C. D., Donaldson, M. L., & Mayer, A. P. (2012). Creating high leverage policies: A new framework to support policy development. Berkeley Review of Education, 4, 265-284.

Durand, F.T., Lawson, H.A., Wilcox, K.C., & Schiller, K.S. (2016). The Role of District Office Leaders in the Adoption and Implementation of the Common Core State Standards in Elementary Schools. *Educational Administration Quarterly, 52(1),* 45-74.

Dziuban, C. D., Hartman, J. L., & Moskal. P. D. (2004). Blended learning. *Educause Center for Applied Research: Research Bulletin*, 7, 1-12.

Fetters, M.K., Czerniak, C.M., Fish, L., & Shawberry, J. (2002). Confronting, Challenging, and Changing Teachers' Beliefs: Implications from a Local Systemic Change Professional Development Program. *Journal of Science Teacher Education*, 13 (2): 101-130.

Fishman, B. J. (2005). Adapting innovations to particular contexts of use: a collaborative framework. In C. Dede, J.P. Honan & L.C. Peters (Eds.), *Scaling up success: Lessons from Technology-based educational improvement* (pp.48-66). San Francisco: Jossey-Bass.

Fullan, M. G., & Miles, M. B. (1992). Getting reform right: What works and what doesn't. *Phi Delta Kappan, 73,* 745-752.

Fullan, M., Rincón-Gallardo, S., & Hargreaves, A. (2015). Professional capital as accountability. Education Policy Analysis Archives, 23(15).

Gabriel, M. A. (2004). Learning together: Exploring group interactions online. *Journal of Distance Education*, 19 (1), 54-72.

Garrison, D.R., & Kanuka, H. (2004). Blended Learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education*, 7 (2), 95-105.

Hergert, L. F., Mundry S. E., Kolb, F. A., Rose, R., & Corro, J. (1988). *Making change for school improvement*. Andover, MA: The Network.

Hirsh, S., & Sparks, D. (1997). *A new vision for staff development*. Oxford, OH: National Staff Development Council.

Holland, D. D., & Piper, R. T. (2016). High-Trust Leadership and Blended Learning in the Age of Disruptive Innovation: Strategic Thinking for Colleges and Schools of Education. *Journal of Leadership Education*, *15*(2), 74–97.

Israel, M.J. (2015). Effectiveness of Integrating MOOCs in Traditional Classrooms for Undergraduate Students. *International Review of Research in Open and Distributed Learning,* 16 (5), pp. 102-118.

Kotter, J.P., & Schlesinger, L.A. (2008). Choosing strategies for change. *Harvard Business Review,* 86 (7/8), 130.

LaFrance, J. A., & Beck, D. (2014). Mapping the Terrain: Educational Leadership Field Experiences in K-12 Virtual Schools. *Educational Administration Quarterly*, *50*(1), 160–189.

Leithwood, K., Seashore-Louis, K., Anderson, S., & Wahlstrom, K. (2004). How Leadership Influences Student Learning (Learning from Leadership Project). New York: The Wallace Foundation.

Liu, Y. & Tourtellott, M. (2011). Blending at Small Colleges: Challenges and Solutions. *Journal of Asynchronous Learning Networks*, 15, 58-67.

Lippitt. M. (1987). The Managing Complex Change Model. Enterprise Management, Ltd.

Luna, Y. M., & Winters, S. (2017). "Why Did You Blend My Learning?" A Comparison of Student Success in Lecture and Blended Learning Introduction to Sociology Courses. *Teaching Sociology*, 45 (2), 116-130.

Keller, J. B. , Ehman, L.H., & Bonk, C. (2004). Professional development that increases technology integration by K-12 teachers: Influence of the TICKIT program. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

Knoster, T. (1991). Presentation at TISH Conference. Adapted from Enterprise Group. Ltd.

Mackey, J., Davis, N., & Stuart, C. (2015). Leading Change with digital technologies in education. *Teaching and Learning*, 2. pp. 17-25.

Maxwell, C. (2016). *What Blended Learning Is- And Isn't*. Christenson Institute.

McLeod, S. (2011). *School Leadership needs to face technology's influence*. ASCD Express.

Melton, B., Graf, H., & Chopak-Foss, J. (2009). Achievement and Satisfaction in Blended Learning versus Traditional General Health Course Designs. *International Journal for the Scholarship of Teaching and Learning*, 3 (1).

Murphy, J. & Louis, K.S., (1999). Introduction: Framing the Project. In J. Murphy & K.S. Louis (2nd Ed.), *Handbook of research on educational administration: a project of the American Educational Research Association.* (pp. xxi-xxvii). San Francisco: Jossey-Bass Publishers.

Northouse, P. G. (2016). *Leadership: theory and practice.* Seventh Edition. Los Angeles: SAGE Publications, Inc.

Northey, G., Bucic, T., Chylinski, M. & Govind, R. (2015). Increasing Student Engagement Using Asynchronous Learning. *Journal of Marketing Education*, 37 (3), pp. 171-180.

Nortvig, A-M., Petersen, A. K., & Balle, S. H. (2018). A Literature Review of the Factors Influencing E-Learning and Blended Learning in Relation to Learning Outcome, Student-Satisfaction and Engagement. *The Electronic Journal of e-Learning*, 16(1).

Packard, T., & Shih, A. (2014). Organizational change tactics: The evidence base in the literature. Journal of Evidence-Based Social Work, 11, 498-510.

Potter, J. (2015). Applying a Hybrid Model: Can it enhance student learning outcomes?

Journal of Instructional Pedagogies, 17 (11).

Puentedura, R. (2009). *As We May Teach: Educational Technology, From Theory Into Practice*.

Queen, B., and Lewis, L. (2011). Distance Education Courses for Public Elementary and Secondary School Students: 2009–10 (NCES 2012-008). U.S. Department of Education, National Center for Education Statistics. Washington, DC: Government Printing Office.

Ryan, S., Kaufman, J., Greenhouse, J., She, R. & She, J. (2016). The Effectiveness of Blended Online Learning Courses at the Community College Level. *Community College Journal of Research and Practice,* 40 (4), pp. 285-298.

Riffell, S. & Sibley, D. (2005). Using web-based instruction to improve large undergraduate biology courses: An evaluation of a hybrid course format. *Computers & Education,* 44(3), 217-235. Elsevier Ltd.

Rovai, A.P. & Jordan, M. (2004). Blended Learning and Sense of Community: A Comparative Analysis with Traditional and Fully Online Graduate Courses. *The International Review of Research in Open and Distance Learning*, 5.

Schein, E. (2017). *Organizational Culture and Leadership (5th Edition)*, John Wiley & Sons, Inc., Hoboken, New Jersey.

Senge, P. M. (1990). The fifth discipline: the art and practice of the learning organization. New York: Doubleday/Currency.

Sharpe, R., Benfield, G., Roberts, G., & Francis, R. (2006). *The undergraduate experience of blended e-learning: a review of UK literature and practice*. The Higher Education Academy.

U.S. Department of Education. (2010). *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies.* Washington, D.C.

U.S. Department of Education. (2017). *Reimagining the Role of Technology in Education:2017 National Education Technology Plan Update.* Washington, D.C.

U.S. Office of Special Education Programs. (2018). *Center on Online Learning and Students with Disabilities- About Us.* Lawrence, KS.

Vaughan, N. (2007). Perspectives on blended learning in higher education. *International Journal on E Learning*, 6 (1), 81.

Watson, J., Murin, A., Vashaw, L., Gemin, B., & Rapp, C. (2011). Keeping Pace with K-

12 Online Learning: An Annual Review of Policy and Practice. Evergreen Education Group.

Zepeda, S. (2006). Cognitive Dissonance, Supervision, and Administrative Team Conflict. *International Journal of Educational Management.* 20 (3), 224-232.