



Change at a Large Urban District: Developing and Operationalizing an Ed Tech Standards and Support System at Chicago Public Schools

Citation

Sayeed, Dilara Alim. 2015. Change at a Large Urban District: Developing and Operationalizing an Ed Tech Standards and Support System at Chicago Public Schools. Doctoral dissertation, Harvard Graduate School of Education.

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**Change at a Large Urban District:
Developing and Operationalizing an
Ed Tech Standards and Support System
at Chicago Public Schools**

Submitted by

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To the Harvard Graduate School of Education

In partial fulfillment of the requirements for the degree of

Doctor of Education Leadership

April 2015

Acknowledgements

I am a HeadStart and CPS kid. Thank you Ms. Sakai, Mrs. Choudry, Mrs. Serpico, Mr. Suppan. You represent the best of CPS teachers.

I came back to work at CPS this year and found myself at home amongst leaders who are deeply committed to improving student learning. Tim Cawley, my supervisor and mentor, you are courageous in your leadership towards better schools for our students. I will “do the right thing, do it the right way, and [try to] have thick skin.” Thank you to our BBB, Barbara Byrd-Bennett. CPS is better because of your leadership. Sebastien deLongeaux, Lachlan Tidmarsh, Aarti Dhupelia, Sherry Ulery, Denise Little, Annette Gurley, Jack Elsey, Joanne Murphy, Jeffrey DeMaschke, and the Admin team. The talented members of our Ed Tech team; Donna Roman, Gavin Doughty, Julie Keller, Jennifer Chan, Veronica Chavez, Susan Kajiwara-Ansai, Lauren Secatore, Tony Williams, Julie Monahan, Abbey Rollins, Amanda Bochenek, Alex Solomon. The system is better because each of you invested time, committed your efforts and shared expertise.

Thank you to the students, teachers, principals, network chiefs, vendors, and partners that generously shared insights to help us develop an innovative and effective system at CPS.

Nothing in my past would have predicted where I am today, striving to complete a doctorate at Harvard. C1 and especially Dean, you blazed a path for me to follow. C2 TFs and friends, you shared experiences honestly so we could enter residencies boldly. C4 and C5, we are here to pay it forward. C3 Family, I can only do this work knowing you are my partners in improving learning. Ansel- my peer coach, Suchi’s supportive texts, Jeremiah and Pete- inspiring podmates, Kelly and Stephanie- ready to strategize next steps, Alex- my Chicago buddy, and Brian, Ventura, Pete, Matt, Laura, Stephanie- in person visits a few days during the year made me feel connected all the other days.

Andres Alonso, thank you for your thought partnership in navigating the complexities of my residency. Monica Higgins, thank you for continually pushing my thinking. Paul Reville, thank you for engaging us in deep reflection on vulnerability and courage. Amanda and Austin, there would be no C3 graduating cohort if we hadn’t had your hands to hold! Liz C., Julie V., Tracy E., Kristin B., Doug, Kathleen and Paula at Gutman Library- you are truly knowledgeable resources!

Thank you, Mary Anne Kiser for taking a chance on me at District 203, Cheryl Williams for mentoring me, and Dave Hollander for modeling great teaching and learning. You are the strongest instructional leaders I have met in my career.

MeShelda Jackson, Mark Mitrovich, Susan Crotty, and Dr. Ansari, thank you for fully investing in my professional growth.

To my pioneering immigrant parents, Syed and Aleem Alimuddin, who left all they knew to begin anew. Yousuf, you teach me to live fully and think deeply. Meena, you inspire me. Mariam, you teach how to keep “the force” with me. Sajid, you show me what it means to believe in oneself. Tariq, you model striving towards a goal.

Bebe, Aisha Baji, Amina, Audrey Noor, Reema, Joy, Terri, Asma, Sue, Asra, Lena, Sofia- strong sisters through struggles and triumphs of today’s womanhood. Thank you for your texts and calls and dinner dates. Mary Ali, Tasneema Ghazi, Shams Jaffar- you are models of strong women for this strong woman wanna-be.

Dr. Umar, you teach me to strive to be who My Creator wants me to be to Honor Him!

Finally, in the words Denise Little used to introduce me at CPS “Harvard [gal], from Chicago! If we can get one CPS kid to that school, we can get all our children to great schools!”

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Abstract

Chicago Public Schools (CPS) aims to effectively and efficiently leverage Education Technology (referred to as Ed Tech) to serve as a powerful resource for strong instruction. The term *Ed Tech* at CPS refers to digital instructional products and programs, used by students or educators, for teaching and learning. Examples of Ed Tech include literacy programs such as Achieve3000, websites or platforms such as Khan Academy or eSpark, along with a myriad other technological inventions that are rapidly being produced. The Ed Tech industry encompasses a vast number of products for educators and students, and it is financially advantageous for Ed Tech vendors to conduct business with CPS, the third largest district in the nation. School principals, the primary purchasers of Ed Tech, navigate a decentralized procurement system that places the burden on individual school leaders to ascertain technology interoperability, level of student data security, the potential financial value of the product, and most importantly, evidence of impact on learning outcomes.

In this capstone, I describe my EdLD residency experience as Special Assistant on Strategic Projects for the Chief Administrative Officer in leading a cross-functional team to build and operationalize a district-wide system that improves procurement practices and increases informed school-level decision-making regarding Ed Tech products. Research and interviews with industry leaders and educators surface three key challenges that a large urban school district faces when developing an Ed Tech procurement strategy: 1) defining and clearly articulating the scope of *Ed Tech* for internal and external stakeholders 2) driving Ed Tech procurement through a focus on

students' learning needs, and 3) assisting leaders, principals and teachers with successful change and subsequent adoption of the proposed system.

Ed Tech is a pioneering and constantly evolving space. The strategic project results demonstrate that defining a narrow and clear scope, maintaining unwavering focus on the district's vision of teaching and learning, and carefully navigating the stages and factors of change can significantly move CPS towards operationalizing a collaborative and comprehensive Ed Tech Standards and Support System between central office and schools.

Introduction

Chicago Public Schools: Turbulent Times

Chicago Public Schools (CPS) is the third largest school district in the nation, with a 5.8 billion dollar budget utilized to serve 400,000 students at over 650 schools. The district employs over 40,000 educators, managers, and operations staff members. To better understand the district environment at the initiation of the EdLD strategic project during the 2014–2015 school year, it is important to get a sense of the turbulence over the previous years at CPS, and how this produced an opportunity for successful change.

The 2012–2013 school year began with the Chicago Teachers Union holding its first strike in 25 years. In the Fall, Mayor Rahm Emanuel appointed the fourth superintendent in five years at CPS, resulting in another set of dramatic leadership, staffing, and policy changes within the organization (Ahmed-Ullah, Hood & Mack, 2012). That pivotal school year ended in the Spring with 50 highly controversial school closings. In that same school year, however, newly appointed CEO Barbara Byrd-Bennett and her team unveiled an ambitious CPS Action Plan titled *The Next Generation: Chicago's Children*. This plan introduced a teacher development program that included a comprehensive evaluation component, initiated a targeted professional development and evaluation structure for all principals, and began to lay the foundation for steady growth in graduation rates. With her first and very challenging school year at a close, Ms. Byrd-Bennett prepared for the second school year as CEO of this large urban school district.

Though the 2013–2014 school year opened with far less controversy, positive news coverage was rare, the financial situation was grim, and the community continued to distrust the efforts of this complex school system that served students who were

predominantly from low-income families of color. During this year, however, both the Cabinet level leadership and the mayoral appointed CPS Board of Education remained stable with little turnover. The first day of school in 2014 was the Tuesday after Labor Day and the CEO and most Cabinet members had now been working together for almost two full school years. The 180 members of the senior leadership team as well as over 500 central office staff members were deployed, as representatives of the central office, to schools throughout the system. Their role was to welcome back students and families, complete last minute clerical work, and support principals in ensuring a smooth start to the school year. The stability of leadership meant that CPS could move away from being in constant crisis mode towards system-level thinking. Our work, as stated by Ms. Byrd-Bennett during first week events, was to serve all of Chicago's children, and "All means *all*." Chief Administrative Officer Tim Cawley shared that the leadership's focus would be to "move the work forward and articulate key processes in an attempt to codify it" (T. Cawley, personal communication, August 22, 2014).

Chicago Public Schools: The Work

The challenge for CPS in 2014–2015 was to develop a system where central office senior leaders and staff could effectively guide and support school principals and teachers in meeting its vision; *Every Chicago Public Schools student in every neighborhood will be engaged in a rigorous, well-rounded instructional program and will graduate prepared for success in college, career and life* (Chicago Public Schools, 2013). CPS focused on furthering three academic priorities that would help achieve the vision. First, the Common Core State Standards (CCSS) provided educators with clear

expectations of students' learning. Second, Multi-Tiered Systems of Support (MTSS), an improved version of Response to Intervention or RTI, were implemented to ensure that educators were meeting the specific educational needs of each learner. And third, Recognizing Educators Advancing Chicago Students (REACH) was introduced to develop effective pedagogy and knowledge. As shared during the Senior Leadership Team meeting early in the school year, CCSS was the *what* that educators needed to ensure students were achieving; MTSS was the *how*, providing systems and supports that were meeting the needs of all students; and REACH was the *who*, developing high-quality professional teaching staff for students. From the operations departments, to the financial departments, to the academic departments of the district, all educators and personnel within CPS were expected to focus on successfully engaging in this work.

Chicago Public Schools: The EdLD Residency

I was raised in Chicago and am a product of the CPS. The opportunity to come home and be part of the senior leadership team in the district that had been deemed “the worst school district in the nation” by the Secretary of Education when I was a student in the 70s and 80s was compelling. The current stability in leadership and the shift towards building systems versus putting out fires opened an opportunity to bring together leaders from across the district to collaboratively think about how to effectively educate and move forward the goal of helping students thrive academically. My strategic project at CPS during my EdLD residency, an effort to move the district towards building the above-mentioned systems, was to assemble and lead a cross-functional team across both education and operations departments. We were to build a system-wide framework

designed to support principals in identifying and procuring high-quality educational and instructional technology software and products (referred to as Ed Tech). And lastly, we were to move it as far into operationalizing as possible during my residency. Currently, principals spent discretionary funds to purchase products or programs from an Ed Tech vendor for their school. This decentralized system generally resulted in little engagement from central office in the decision-making and led to concerns from district leadership as well as school leaders regarding security, value, and quality of the Ed Tech products at CPS schools.

To date, there is little documentation on American school districts' attempts to manage Ed Tech within a coherent system-wide strategy. This EdLD capstone will fill a gap in this body of knowledge by demonstrating how Chicago Public Schools engaged in developing a system to identify, procure, build capacity in educators, and promote knowledge-sharing between schools, regarding Ed Tech resources. In order to explain how this project contributes to the greater field of Ed Tech, my Review of Knowledge for Action (RKA) identifies three main challenges to building such a system; 1) the lack of clarity on the scope and definition of Ed Tech which can lead to confusion and poor communication of what a district is actually attempting to do, 2) the propensity to focus on the acquisition of technology instead of on reaching the end goals in instruction which can result in ineffectual systemic strategy, and 3) poor change leadership and management which can hinder a system from successfully adopting and sustaining a new initiative.

To illustrate my process for identifying and addressing these Ed Tech challenges and their resulting potential problems, the *Description* section highlights the critical

experiences of the work and how they were managed during the ten months of my residency throughout the process of building and operationalizing the system. The *Results and Analysis* section explains what my supervisor, the project team, and I predicted success would look like, and what the team was actually able to accomplish. This section then focuses on understanding why my strategic project unfolded in the way that it did and examines two key sources: 1) principal survey, network chief interviews, and stakeholder meetings in the development of the system, and 2) analysis of my leadership as well as other variables of change employed through each stage of John Kotter's framework on leading through change. I include in this section an examination of the technical and adaptive aspects of the strategic project. The Capstone concludes with implications for self, site, and sector. I share what I believe the future holds for Ed Tech strategy as well as what I learned about working within a large urban district. It is my intention to apply the knowledge generated by this capstone to the better development of CPS and other urban districts as they build systems for effectively integrating education technology into instruction, and manage change towards this end.

Review of Knowledge for Action (RKA)

Ed Tech is an innovative and evolving space in the education sector. School districts throughout the nation are just beginning to think strategically about Ed Tech products and programs. To delve into the strategic project, I began by wrestling with the following question: *What challenges inhibit a strong, system-wide strategy for identifying, procuring, and integrating high-quality Ed Tech resources into teaching and learning?*

Currently, there is a dearth of empirical research on Ed Tech procurement policies and their development and impact. Therefore, I utilized interviews with industry and education leaders (Appendix A), researched studies and reports by non-profit organizations working in this space, and benchmarked CPS to comparable districts. Three potential challenges emerged for CPS. First, education technology is a relatively new term in the sector and the definition of Ed Tech varies greatly across the field between individual vendors, consumers, and district administrators. Any attempt to address Ed Tech procurement would have to clearly define the scope for which the district is soliciting proposals. Second, Ed Tech procurement may run the risk of putting the emphasis on the *Tech* and *procurement* aspects of the work instead of the *education* aspect. As David Dockterman, a software developer and Lecturer at the Harvard Graduate School of Education, unequivocally states, “It must be about the Ed and less about the Tech” (D. Dockterman, personal communication, January 16, 2015). Third, in essence, my strategic project is about change, and research reveals that change is complex and must be managed. Change management research is vast and a whole RKA could be composed on this crucial aspect of an organization’s work. I attempt to

understand a fundamental slice by focusing on Kotter's three stages of change and how specific variables such as leadership, sponsorship, and a talented team are utilized throughout the stages towards successful change.

After almost two decades of CPS educators procuring Ed Tech through a decentralized system, changing toward a more centralized/hybrid procurement system may lead educators to perceive the change as a loss of autonomy and ultimately could pose a threat to adoption. Clearly buy in from primary decision makers at schools is key. But some type of centralized support is also vital. While teachers and principals are essential partners in decision-making, central office administrators must ensure educators are not making decisions "swept up by the hype surrounding a cool, new product" (Bell, 2012; Stover, 2008). Central support for procurement offers stronger negotiating power with vendors.

[The good news] is that districts have more purchasing power and are in a position to tell vendors what they need. This shifts the dynamic and creates greater potential for vendors and districts to come together to determine solutions that are integrated and that are in the best interests of students, schools, districts and providers. (Bailey, Owens, Schneider, Vander Ark, & Waldron, 2014, p. 9).

The research presented in this capstone provides an opportunity for practitioners to identify valuable benchmarking with similar districts. Public school systems in New York, Houston, and Denver are powerful comparables to the Chicago Public Schools. Centralizing the procurement of Ed Tech procurement at CPS may offer learning opportunities for similarly challenged districts. According to my research, no successful model of Ed Tech procurement strategy exists in large districts across the nation that may be replicable at CPS. In a recent discussion with Tim Cawley of CPS, Chief Information Officer of the New York City Department of Education (NYDOE) Hal Friedlander, and

Mark Dunetz from New Visions in New York, it is clear that the NYDOE is not considering a system-wide procurement policy in the near future. With over 1800 schools, Mr. Friedlander said any system-wide framework NYDOE attempts to build would most likely fall short of meeting desired outcomes. Mark Dunetz emphasized that this is very interesting, cross-functional and complex work. He looks “forward to opportunities to hear more about what is happening in Chicago” (T. Cawley, M. Dunetz, & H. Friedlander, personal communication, December 11, 2015). Clearly, districts are watching and learning from each other in this innovative space.

Challenge One: Definition and Scope of Ed Tech

The problem starts with the definition of Ed Tech. Publishers define it a certain way, districts do it another way, etc... All things technology addresses every piece of the education system in our industry, but is different in every district. Somewhere, sometime, we have to define Ed Tech in somewhat the same way. (M. Wood & P. Moradi, personal communication, October 22, 2014).

If a district cannot narrowly define what they mean by “Ed Tech”, school and central office personnel may be unable to communicate instructional needs to each other or to vendors. This may lead to miscommunication that can diminish a vendors’ ability to provide appropriate Ed Tech to classrooms, and weaken a districts’ ability to obtain high-quality instructional support for their students and teachers.

Other districts that are attempting to build a strategy around educational technology share this challenge. Houston Independent School District (HISD) leadership¹ worked for months on the Request for Proposal (RFP) to “figure out exactly what they

¹ HISD superintendent Dr. Terry Grier and Chief Technology Information Officer Lenny Schad have been named EdWeek’s 2015 *Leaders to Learn From* (2014).

wanted, but the RFPs came back... full of extra accessories for hardware and services.” They addressed this issue by “drawing a clear line regarding devices and keeping the requirements clear” (Owens, 2014). By doing this, HISD was then able to require vendors to submit proposals for what was really needed. Ultimately, Houston’s scope for Ed Tech in the RFP included all Learning Management Systems, hardware devices and software and internet-based programs. Houston’s is not a universal scope; definitions seem to vary from district to district.

In *The Smart Series Guide to EdTech Procurement*, all “hardware, software, online services, apps and any practices... associated with the products” is considered part of a district’s Ed Tech landscape (Bailey et al, 2014, p. 10). This expansive definition is difficult to translate to action because the process for vetting and negotiating procurement for Ed Tech software products may be quite distinct from hardware. The report does not differentiate between them. A study from John Hopkins University concluded that the Ed Tech “market is flooded with products across all content areas and many application types...School districts [and their leaders] struggle to learn what is out there” (Morrison et al, 2014a, p.13).

Another example of an expansive definition of Ed Tech comes from Lynne Schrum and Barbara Levin, authors of a textbook for aspiring teachers and principals. In *Leading 21st Century Schools: Harnessing Technology for Engagement and Achievement*, the authors state that education technology “refers to material objects such as machines, hardware, or software, but can also include systems, methods of organization, and techniques” (Schrum & Levin, 2009, p. 63). The text goes on to also present both digital libraries and electronic interactive whiteboards as examples of Ed Tech. In an attempt to

avoid restrictively binding Ed Tech's scope while still providing valuable knowledge to future school leaders, scholars working in the Ed Tech arena may end up confusing practitioners.

One more example of an expansive definition of Ed Tech came from the United States Department of Education (DOE). In 2008, the DOE conducted an Ed Tech survey requesting that districts “track access to information technology in schools and classrooms” (Gray & Lewis, 2009, p. 1). The resulting report, entitled *Educational Technology in Public School Districts: Fall 2008* defines *technology* as “information technology such as computers, devices that can be attached to computers (e.g. LCD projectors, interactive whiteboards...), networks (Internet, local networks), and computer software.” The report also used the terms *educational technology*, *information technology*, and *technology* interchangeably. The report goes on to share findings on the type and strength of Internet connections at districts, the device replacement and maintenance plans districts offered, and information on digital libraries, email access, student data systems, and teacher professional development. The survey does not mention software products or the types of programs utilized in classroom instruction. This implies that educational technology did not refer to instructional technology for the 2008 NCES survey. This broadly defined set of terms makes it difficult to have specific procurement practices.

Improving Ed-Tech Purchasing is a summary report based on the John Hopkins study referred to earlier in this RKA. This report was one of the very few resources that identified a specific scope for Ed Tech and states, “the study focuses on software that teachers and students use for instruction rather than hardware or professional

development services” (Morrison, Ross, Corcoran, & Reid, 2014b, p. 9). This effort begins to help practitioners compare similar products within the technology space and was helpful to CPS as the district worked to define its scope for Ed Tech. The definition falls short of strong clarity, however, because though the term narrows the scope to software used for instruction, it does not differentiate between software products utilized exclusively by adults such as student information systems and those used by adults and students in the classroom for teaching and learning. It is interesting to note that one term actually seems to have clarity. As publishers are moving to digital textbooks, the terms “digital-content” or “digital text” are becoming recognized as technology that refers to textbooks that are digitally developed and accessed.

There is no standard definition for Ed Tech. Research reveals, however, that within one district (such as CPS), teachers, principals, chiefs, and central office staff should uniformly define Ed Tech and clarify that definition amongst themselves and with vendors.

Challenge Two: Focus on Teaching and Learning

“Ed Tech must be about the Ed and less about the Tech. Is this strategy about Ed Tech procurement or technology security, or is it really about Teaching and Learning?” probes David Dockterman, industry consultant and Lecturer at the Harvard Graduate School of Education (D. Dockterman, personal communication, January 16, 2015).

The CPS vision is to graduate well-rounded students from all neighborhoods. As stated above, CPS focuses on three academic priorities to achieve that vision; 1) Common Core State Standards (CCSS) provide *what* the goals of teaching and learning are, 2)

Multi-Tiered Systems of Support (MTSS) provide *how* educators could meet the specific educational needs of each learner, and 3) Recognizing Educators Advancing Chicago Students (REACH) identifies *who* was going to help students get there (highly-qualified teachers)². How do we develop an Ed Tech procurement system that aligns with this vision?

Best practices for successful procurement include determining educational priorities (Morrison et al, 2014b). The clear consensus from my interviews was that high quality Ed Tech could deeply and positively impact student learning only if it is coupled with strong pedagogy and aligned with academic priorities. “Learning goals should guide device and content purchases, not the other way around” (Bailey et al., 2014, pp. 11-22). Although “technology has become the means through which we interact, engage, and create in our world,” the authors of *Planning for Technology* posit that Ed Tech should not be the goal (Whitehead, Jensen, & Boschee, 2013, p. 105). Schools and districts need to think of the work as “*planning for technology*, as opposed to the more common *technology planning* in order to emphasize the secondary nature of technology in relation to other considerations, such as curriculum and pedagogy” (Fishman & Pinkard, 2001).

In an *Economist* article, “the idea that technology can revolutionize education is not new. In the 20th century almost every new invention was supposed to have big implications for schools” (Economist, 2013). The technology sector has promoted typewriters, educational television, film projectors, and most recently, computers and tablets as transformational to teaching and learning (Economist, 2013). According to my

² This was articulated by the Office of Teaching and Learning during the September 2014 Senior Leadership Team meeting attended by 190 senior CPS leaders.

research, in situations where education transformation has been successful, technology has not been the driver. Evidence shows that districts that successfully adopt Ed Tech connect technology to student learning and teacher development. Put bluntly; the rule of thumb that my research is highlighting is “Do not start with the technology” (Horn & Staker, 2014).

The national shift to blended learning³ (see Appendix E) is aimed at increasing student access, engagement and teacher effectiveness (Owens, 2014). The Race to the Top initiative funded billions of dollars to states that were willing to use technology in their classrooms. President Obama aimed for high-speed Internet access to 99% of American students in schools within five years (Economist, 2013). However, “there is insufficient empirical support to claim that access to technology has either increased test scores or improved the quality of instruction to enhance student learning” (Inan, 2010, p.137). In the United States, clearly, “increased availability of technology in the schools does not necessarily lead to improvement in classroom teaching practices” (Fethi & Lowler, 2010, p. 137). The focus cannot be on frequency or access. Students are utilizing computers and tablets in schools more than ever before, but Larry Cuban cautions in *Oversold and Underused* against “high-tech schools, low-tech learning” and writes that “we need to know what [students] do when the screen lights up.” Cuban suggests investigating actual use in local schools of education technology (Cuban, 2001). The Learning Accelerator, a nonprofit whose mission is “to accelerate the implementation of high-quality blended learning”, conducted a review of the Houston Independent School

³ Blended learning advances educational settings that integrate traditional teacher-led classroom instructional practices with online, computer utilization for engagement, mastery and practice.

District's move towards technology procurement and integration. In reviewing Houston's findings in this area, I gleaned vital inspiration for the work ahead:

Technology is a tool for teaching and learning, and purchasing technology without thoughtful consideration of instructional goals can lead to inefficient and ineffective spending. District leaders should begin by identifying teaching and learning goals and then return to those goals to inform purchasing decisions. Ed Tech procurement is an important reflection of a district's overall vision for learning, and procurement decisions affect the long-term potential to realize learning goals. (Owens, 2014, p. 4).

Easy access to a “growing availability of affordable devices and high-quality digital content” may sacrifice grounded educational principles (Bailey et al., 2014, p. 4). Many Ed tech products are free, some are for purchase and even more have a *freemium* cost model, one that provides initial free offerings and moves to a fee for service model. “Providers often market themselves in strikingly similar ways, even when their product and service offerings are very different. Frequently, the result is confusion and frustration from educational leaders who do not know where to begin” (Bailey et al., 2014, pp. 6–22). Careful navigation of the Ed Tech space is necessary, starting with a clear needs assessment based on district-wide and coherent articulation of instructional goals and educational priorities for student learning (Bailey et al., 2014; Cuban, 2001; Horn & Staker, 2014; Owens, 2014; Morrison et al., 2014a). Strong managers start with “problem and opportunity identification” (Tushman & O'Reilly, 2002, p. 40). My research suggests that an educationally grounded procurement strategy is imperative to guide educators and prevent access-driven decision-making.

From the very beginnings of public education, teachers taught through direct instruction with the *sage on stage* model. Over time, and depending on context, a blend of discussion and text-based learning was layered on to the teacher lectures. And now

with digital technology, a new understanding of pedagogy has emerged, where a combination of direct teacher lecture, discussion, and text-based learning is joined by online or software delivery of content (Staker & Horn, 2012). “Recent national studies and reports point to technology training, or the lack thereof, as a major obstacle to the successful use of technology in schools...vendors offer ‘training’... but this training is often inadequate for meeting the needs of teachers” (Fishman, 2001). Dr. Dexter and colleagues at the University Of California conclude that “The teachers who had adopted more progressive teaching practices over time felt computers helped them change but they did not acknowledge computers as the catalyst for change” (Dexter, Anderson, & Becker, 1999). Instead, they felt personal reflection, and context and culture of the school were the stronger catalysts of change. “Research suggests that...disappointing outcomes are frequently associated with teachers lacking the necessary skills to integrate technology into the classroom” (Inan, 2010, p. 138). “A supportive context with rich professional development experiences and a professional culture that encourages reflection and trying new approaches will produce the learning necessary” for teachers to effectively use technology to improve pedagogy (Dexter et al., 1999, p. 15).

In schools and districts where Ed Tech is successful in improving student learning, educators focus on learning goals and innovatively integrate Ed Tech with instruction. Jon Deane of Summit Schools, a highly acclaimed blended learning charter system, suggests that one of the keys to Summit’s success is empowering students to own their learning and developing teachers who understand students’ familiarity with technology (J. Deane, personal communication, October 20, 2014). Since today’s students are raised using smart phones and laptops, education technology should play a

significant role in their daily learning experiences. Students at Summit use Khan Academy and other free online resources to learn new literacy and math concepts or to practice towards their mastery goals. Summit leverages technology but does not depend on it. Discussion-based learning, meaningful interactions with teachers, and small-group work are also key components of the school day experiences (J. Deane, personal communication, October 20, 2014). Due to Summit's success, the Gates Foundation has funded Dallas Public Schools with a grant to learn from Summit's exemplary practices and create their own Personalized Learning system (personal communication, October 20, 2014).

At Denver Public Schools (DPS), Deputy Director of Ecosystem Innovation, Dr. Katherine Casey, recommends that though DPS has seen some gains in student achievement through traditional pedagogy, the rate of improvement would be improved through Ed Tech integrated personalized learning. Dr. Casey explained that Denver believes personalized learning will help in that “space, time, technology...adapt to meet each student's needs” and can lead to stronger growth in learning (K. Casey, personal communication, August, 2014). Dr. Christine DeLeon, also focusing on personalized learning in Denver, writes:

One of the most resounding messages coming from operators at the schools, as well as research, was that technology was a *tool* to help achieve each school's mission and enable even stronger teaching, but not a substitute for good teaching (DeLeon, 2014).

The assertions of Drs. Casey and DeLeon cited above demonstrate a current understanding for the need to move towards more strategic thinking around instruction and Ed Tech.

In my interviews with teachers, principals, and chiefs of schools at CPS, it became clear to me that, as research indicated, few CPS leaders believe that having educational technology in a classroom will by itself transform student learning. During an interview with CPS's Network 1 and 2 Chiefs of Schools, Anna Alvaredo and Phil Salemi asked, "What is the comprehensive technology strategy for the district?" (A. Alvaredo & P. Salemi, personal communication, October 27, 2014). This question was echoed throughout my initial meetings with other principals and teachers throughout the district. I found that educators want an Ed Tech strategy and want to know how it fits into the district's vision for learning. They want to know how district leaders envision Ed Tech will help them achieve CPS academic priorities.

My investigation revealed that a district's Ed Tech procurement strategy must first articulate its overarching instructional and learning goals, and then include a plan to develop and support educator capacity. The strategy, research reveals, will be inclusive of, but not limited to procurement.

Challenge Three: Leading Change

"Developing teachers and principals to better understand this process will take time" states CPS Principal Barton Dassinger (B. Dassinger, personal communication, January 26, 2015).

"We may get stuck at the chiefs level or the schools level. We need to think through the system and its implementation carefully" posits CPS Deputy Chief of Schools Krish Mohip (K. Mohip, personal communication, October 31, 2014).

“There will have to be communications around this for the principals and chiefs but also for the vendors and the community” advises CPS Chief Communications Officer, Ron Iori (R. Iori, personal communication, January 7, 2015).

The above statements are excerpts from interviews I conducted with CPS school and central office administrators. The sentiments reflect the perspective that poorly managed change will lead to an ineffective and unsustainable Ed Tech initiative. This describes the third challenge that surfaced from my capstone research on Ed Tech procurement. The literature on successful change management is vast and scholars in this area address myriad aspects of change. Michael Fullan states “If there were an answer to how to handle change, we would have found it long ago, and there wouldn’t be a billion-dollar industry devoted to its pursuit” (Fullan, 2008, p. viii). To successfully manage change is challenging, but to choose not to address it is short sighted.

The challenges to Ed Tech procurement addressed in the first two sections of my RKA pertained to defining and articulating the scope of Ed Tech, and aligning Ed Tech with the goals and craft of teaching and learning. Though both involve diverse stakeholders within a complex organization working collaboratively towards a solution, Dr. Ron Heifetz of the Kennedy School of Government explains that challenges such as these can usually be addressed with a technical solution, one that exists or can be accessed through current expert knowledge and research. However, in the case of the third challenge, there is no perfect or preformed solution to the challenge of successfully changing adult practices and attitudes. Instead, this is an adaptive process, and leaders will need to develop the best solution in collaboration with stakeholders as the process moves forward (Heifetz, Grashow, & Linsky, 2009, pp.19–23). Though many leaders

believe that people resist change, Heifetz and colleagues posit that this is not necessarily the change that they resist (Heifetz, 2009). People want to change when change may be better, “but *people resist loss*” (Heifetz, 2009). John Kotter of the Harvard Business School states, “all people who are affected by change experience some emotional turmoil. Even changes that appear to be ‘positive’ or ‘rational’ involve loss and uncertainty” (Kotter & Schlesinger, 2008). This begs the question: What are the potential losses associated with implementing an Ed Tech system at CPS? Some answers to this query that surfaced from interviews: Principals may lose purchasing autonomy, teachers may be restricted from Ed Tech innovation, network chiefs may compromise collaborative relationships with principals, vendors may lose access to individual schools. Some of these losses will occur and others may not.

Perceived losses as barriers to change are functions of the organizational culture. Organizations with strong cultures, such as Southwest Airlines, allow for innovation and growth through collaboration (Katzenbach, Steffen & Kronley, 2012). Organizations with poor culture lead to poor collaboration and inhibition of growth. Such was the case for Sony, when after Apple released the iPod, poor culture and collaboration prevented Sony from morphing their market leading Walkman device to effectively compete against the iPod (Christensen, 2013). Change is dependent on culture. To bring about change, a leader must appreciate and honor the existing culture, identify influential stakeholders, and then leverage and empower them to be drivers of change (Biech, 2007; Katzenbach, 2012; Kotter, 2014).

Factors of Change. My investigation revealed that successful change requires managing variables throughout the process. Sirkin and Keenan, authors of *The Hard Side*

of Change Management (2011) assert that soft factors of change are often described as culture, leadership, and motivation. These are critical to success but are difficult to isolate, measure or quantify. The authors identified measurable variables that they called the “hard elements” or DICE, for *Duration, Integrity, Sponsorship/Commitment, and Effort* (Sirkin, Keenan & Jackson, 2011, pp. 155–176). “Organizations can make modifications in practices to load the DICE factors towards success” (Sirkin et al, 2011, p. 157). When asked why leadership, a variable that was prominent in almost every change theory I researched, is not a distinct DICE factor, Perry Keenan, one of the developers of DICE countered that the “single most important factor of a successful team is a top leader, and in this way, the leader’s skill is included in the *I* factor” (P. Keenan, personal communication, April 2, 2015). Though the idea of a rational framework is compelling, John Kotter of Harvard Business School asserts, “everything is made to sound a bit too simplistic. In reality, even successful change efforts are messy and full of surprises” (Kotter, 2007, p. 9). Though I do not use the framework to analyze the strategic project, DICE did validate several key variables that surfaced in my conversations with teachers, principals, and district leaders throughout my residency; 1) effective leadership, 2) talented, diverse, and committed coalition of team members, 3) stakeholder engagement early and throughout the process, 4) senior-level sponsorship, and 5) an organizational culture ready for the change process.

Change is a Process. Kotter states that many change initiatives “fail miserably” because leaders and managers “don’t realize transformation is a process, not an event” (Kotter, 2007, p.1). Figure 1 illustrates Kotter’s three stages to transforming an organization. The first stage is creating a readiness for change within the organization and

laying the foundations for a cultural shift. The steps within this stage are to advance a sense of urgency, form a talented coalition, and develop a strong vision of what the future could look like. Stage two moves the thinking and the work forward as the leader communicates that vision, empowers others, and leads the team in acquiring short-term wins. The third stage solidifies the change in that short-term wins are now translating into “still more change and finally, to institutionalization of the new approach”. Kotter cautions “short-cuts never work” (Kotter 2007, p. 1-4) and leaders must take the time and engage deeply with head and heart throughout the process.



*Kotter, John P. and Cohen, Dan S. *The Heart of Change*. Boston: Harvard Business School Press

Figure 1. Kotter’s three stages of leading change and the steps within each stage.

Kotter’s model captures the key progression of a change initiative yet may leave the practitioner wondering if leaders can realistically pursue change in such a linear

fashion or whether steps are iterative. For example, do teams go through several iterations between steps one and three before step four (communication of the vision) is attempted? Evans and Schaefer developed the *Ten Tasks of Change* that serve as a practitioner's guide. Their tasks correlate with Kotter's steps but a valuable first task advises leaders to begin with "appreciate the situation" (Biech, 2007, pp. 21-32). Here, Evans and Schaefer advise that a sound understanding of the current situation will begin to provide a leader with the knowledge of what needs to change.

Strong Leadership is Vital. As evidenced by the work of Heifetz, Williams, Fullan and other researchers, three aspects of leadership are important for successful change; 1) knowing the work and the context, 2) engaging the stakeholders, 3) and understanding oneself.

To do this work, a leader will have to surface the issues with the current state (the culture and the processes) and build a vision for the future (Kotter, 2007; Biech, 2007). For CPS, there is no Ed Tech procurement system solution that exists. No other district in my investigations has solved the multiple complex issues. Houston, Denver, Dallas, and other systems are in different stages in the change process and none of them can provide a clear path forward for CPS. A leader must understand the context; existing processes are indicative of the historical context and political situation of the organization. Heifetz guides leaders to recognize that it is a myth that the organization has to change because it is broken. Heifetz states, "every organization is perfectly aligned to achieve the results it currently gets" (Heifetz, Grashow, & Linsky, 2009, p.6). The work of a leader is to create a better vision and then to move the system towards that vision. At CPS, what are the problems with status quo? What systems are in place to keep

it this way? What would a stronger system look like? My investigation reveals that strong leaders learn from experiences and interactions and pivot as needed swiftly and in real time. This work is adaptive and “those seeking to lead adaptive change need an experimental mind-set. They must learn to improvise as they go, buying time and resources along the way for the next set of experiments” (Heifetz, 2009, p. 3).

Leaders must engage others to identify problems and empower them to implement solutions (Heifetz et al., 2009; Williams, 2005). Williams adds that this type of leadership is about ongoing stakeholder engagement, team and individual motivation, and persistence toward solutions. For creative solutions to surface and the stakeholder engagement to flourish, here, leaders must “Allow for friction, but keep people from fleeing” (Williams, 2005, pp.163–187). Leadership means being patient as team members and district stakeholders wrestle with issues. As stated before, years of leadership instability at CPS and perceived distrust between central office and schools has created an environment that requires leaders to work hard to build relationships. Relationships with senior leaders, central office colleagues and field-based practitioners must be developed and can help a leader better understand the diverse perspectives of stakeholders as well as leverage learning, support, and sponsorship throughout the process (Fullan, 2010). Transformational leadership requires a deep level of commitment and relational trust between leaders and followers, who are bound by a common purpose (Chance, 2009).

The above two points lead to the third; moving the work and engaging the people requires reflection and self-awareness. Michael Fullan advises that during the change process, trials with people, time, and resources will emerge and “leaders need to act as if

they are in control, project confidence, and talk about the future, even while recognizing and acknowledging the organizational realities and their own limitations” (2008, p. 118). Recognizing one’s limitations, however, requires honesty and effort. In *True North*, Bill George states that “by being aware of their actions and intentions, leaders act consistently in different situations and gain the trust of others” and that this can result in team members viewing the leader as open and transparent (George & Sims, 2007, pp. 70-72). Goleman’s (2011) work on the emotional intelligence of leaders identifies five skills of emotional intelligence that distinguish a good leader from a great leader: self-awareness, self-regulation, motivation, empathy, and social skills. Goleman further guides that this is not a fixed intelligence; it can be exercised and strengthened through practice. To do this work successfully, a leader must be authentic, self-aware, and knowledgeable. Through all of this, a leader must understand that transformational leadership is the shift from *I* to *We* and recognize that it is “not all about you” (George & Sims, 2007, p. 43-44).

Leadership is guiding an organization through a process of change, understanding and respecting people and practices, and managing variables as best as possible within an ambiguous environment. In summary, the Review of Knowledge for Action provides valuable understanding for the work ahead in my residency. First and foremost, my investigation uncovered the need for a clear definition and scope of Ed Tech. Then, the research stresses the importance of a comprehensive strategy that leads the work through the education, not the operations or technical frame. Finally, scholars and practitioners strongly recommend that leaders understand change is a process and recommend that leaders identify and manage change variables. Through it all, leaders must know themselves, develop the organization and the people, and move the work forward.

The CPS EdLD strategic project is meaningful because a successful Ed Tech procurement system may improve the quality of learning opportunities and instructional resources for 400,000 students. It is urgent because failure means educator practice may continue without a coherent, equitable and system-wide strategy for the procurement and utilization of Ed Tech for student learning. And it is humbling because the path forward is rife with challenges and yet also full of possibilities.

Theory of Action for the CPS Ed Tech Standards and Support System

The Review of Knowledge for Action (RKA) identifies three challenges to the development of a system-wide Ed Tech procurement strategy: 1) clearly defining Ed Tech, 2) focusing on student learning, and 3) managing change. These challenges are the basis for my Theory of Action and help to create the phases of my strategic project.

Kotter guides leaders during stage one to create a climate for change. Here, I will assemble a cross-functional team to understand the current state, clearly define the scope of Ed Tech, and surface problems with status quo. This will comprise the first phase of my strategic project.

In stage two, Kotter advises leaders to engage and enable the organization and ready it for change. This correlates with the second phase of my strategic project where I will engage internal and external CPS stakeholders to prepare the organization for change. In this phase, I am also leading the team to address the problems and develop an Ed Tech procurement system.

Near the end of Kotter's stage two and during his stage three, change is operationalized and sustained. This is the third and last phase of my work during the

strategic project. The TOA articulates the work I will do throughout my residency as well as the objective I hope to achieve for Chicago Public Schools at the end of my residency.

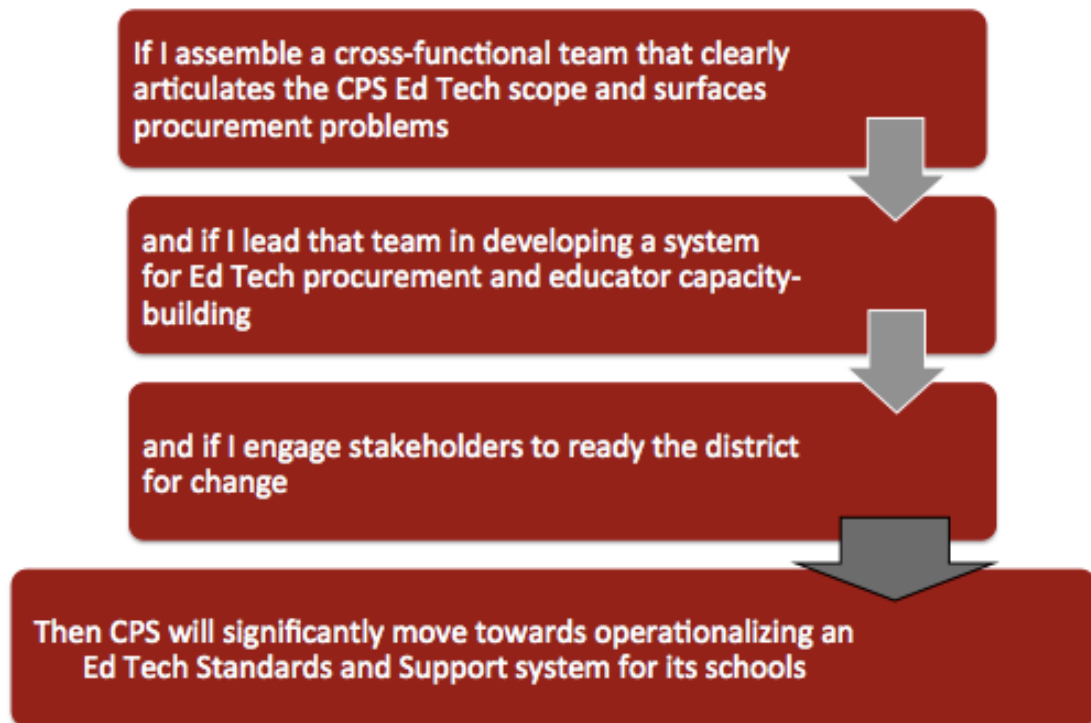


Figure 2. Ed Tech Standards and Support System Theory of Action

Strategic Project Description and Process

Appreciating the Current State and Identifying the Problems

Chicago Public Schools had been utilizing education technology software and products for over 15 years, yet no system-wide process to identify, vet and procure Ed Tech resources or to share exemplary practices and lessons learned regarding Ed Tech implementation existed within the district. Each CPS school individually identified, procured, and implemented Ed Tech in the way they saw fit based on their students' needs and educators' capacity.

I entered the district at the end of June 2015 in my role as Special Assistant on Strategic Projects to the Chief Administrative Officer. The first phase of my strategic project as a CPS EdLD resident was to leverage my background as a teacher and school leader within my current role in operations to bring together the Office of Teaching and Learning (referred to as T&L), the Office of Innovation and Incubation (referred to as I&I), the Chief Administrative Office (CAO) and other stakeholders. I was to identify and assemble a heavyweight⁴ and cross-functional team (Christensen & Overdorf, 2000) to better understand Ed Tech procurement at CPS and to surface procurement problems that several leaders at central office and at schools felt were present. During the second phase, once we had formed a team and had surfaced key problems, my responsibility was then to lead the team in developing an effective and efficient system-wide Ed Tech procurement framework. The third and last phase was to move the framework forward by garnering approval from the CPS Cabinet and operationalizing as much as possible

⁴ Christensen uses the term heavyweight team to identify those teams that consist of members that 1) possess expertise and talent on the issues, and 2) are willing to set aside their individual frame and collectively engage in the improvement of the system as a whole (Christensen & Overdorf, 2000).

during the remaining months of my residency. Success would be measured by my ability to accomplish the first two phases of the work, and the deeper I was able to move the team to operationalizing the framework, the stronger my value-add.

As I met with my new colleagues, it was clear that some Ed Tech issues already concerned CPS leaders. Troubling to the Office of Procurement was that, with little involvement from central office, each school could purchase up to \$25,000 of “Ed Tech” from any one vendor by simply sponsoring a vendor application. Were schools getting value for their money? Chief Procurement Officer Sebastien DeLongeaux states “A few principals called and asked if we recommended a specific vendor or could get a better deal for them. Mostly, though, they did it on their own.” (S. deLongeaux, personal communication, July, 2014). At another space within the Chief Administrative Office, Information Technology Services (ITS) was concerned with both student data security and compliance with current CPS technology infrastructure. Were Ed Tech products safe, secure, and interoperable? There wasn’t evidence that all principals were asking the necessary questions. ITS could not guarantee that products purchased without their consultation were meeting data security standards. ITS also found itself attempting to support irate principals or confused teachers who didn’t understand the interoperability or the Internet bandwidth requirements for the Ed Tech product they had recently purchased. “Sometimes, we weren’t familiar with the technology they had purchased and we couldn’t tell them from central office how to troubleshoot something they were using at a school several miles away” explained Chief Information Officer (CIO) Lachlan Tidmarsh. At times, thousands of dollars worth of a product was purchased but could not be used due to bandwidth issues, poor interoperability, or limited educator understanding

of the uses of a product or program. Procurement estimated that over \$10 million could be spent any given year on Ed Tech products and ITS estimated potentially thousands of hours of educator time and energy utilizing free and purchased products, yet no exhaustive inventory of which products were utilized at schools or an accurate valuation of how much was spent in total existed.

As Procurement and ITS had issues, so did Teaching and Learning. Principals and teachers often had to rely on vendor provided information. District wide peer reviewed Ed Tech evaluations were limited. The Office of Innovation and Incubation, to further complicate matters, fielded emails and calls from Ed Tech vendors attempting to introduce their product into the district through temptingly free options with a hope for potential future sales. The Office of Diverse Learners was concerned that existing products were not robust enough and did not include assistive technology products for students with special needs. And a last but critical voice was that of the Office of Law, whose attorneys warned of the potential student data security breaches, and the liability of non-bid contracts.

At our first team meeting, I asked central office representatives to introduce themselves and state the issues they were most concerned about. As we moved to compiling a list of the most pressing concerns regarding Ed Tech at CPS, it was challenging for me to validate each department's problems while still moving the group towards prioritizing the issues. I had to keep this talented team and coalition engaged in creating a vision, even if that vision was not directly addressing their own interests in the way they had initially envisioned (Kotter & Schlesinger, 2008, p. 3; Christensen, 2000). Here, I often had meetings or even lunch with individual team members to build

relationships and understand their perspective more deeply. I was new to CPS and as the leader of this strong team; I needed to have credibility but also to build trust.

The two main clients, or end-users, for our centralized Ed Tech procurement system would be principals (and sometimes teachers) who were the purchasing decision-makers, and the vendors who sold the technology. Central office leaders needed both these parties to be engaged to help create a successful Ed Tech procurement framework. The current process of Ed Tech procurement was that principals were approached by hundreds of earnest vendors a year through email solicitations, school visits, and by product mailers and samples sent by mail or shared at workshops and fairs. Teachers often came into the principal's office after a PD conference or workshop and raved about a product "we *have* to have at our school!" (P. Brandt, personal communication, November 6, 2014; Goudy teachers focus group, personal communication, November 24, 2014). Decisions were often not driven by the educators' identified instructional goals but on a perceived need to purchase a particular product based usually on an assertive sales pitch. Most purchases occurred in the environment the project team dubbed *The World* (See Figure 3). This is the open market with no formal barriers or vetting. When principals and teachers learned what Ed Tech products were out there in *The World*, they could purchase almost any of them and unless principals asked, few products were vetted for data, security, ITS, legal, or value standards. *The World* was not so scary as it was unknown. In my presentations of the Ed Tech system to internal stakeholders, I often stated, "The world was too big, the centrally vetted product options were too few, and the process to get from one to the other was too long."

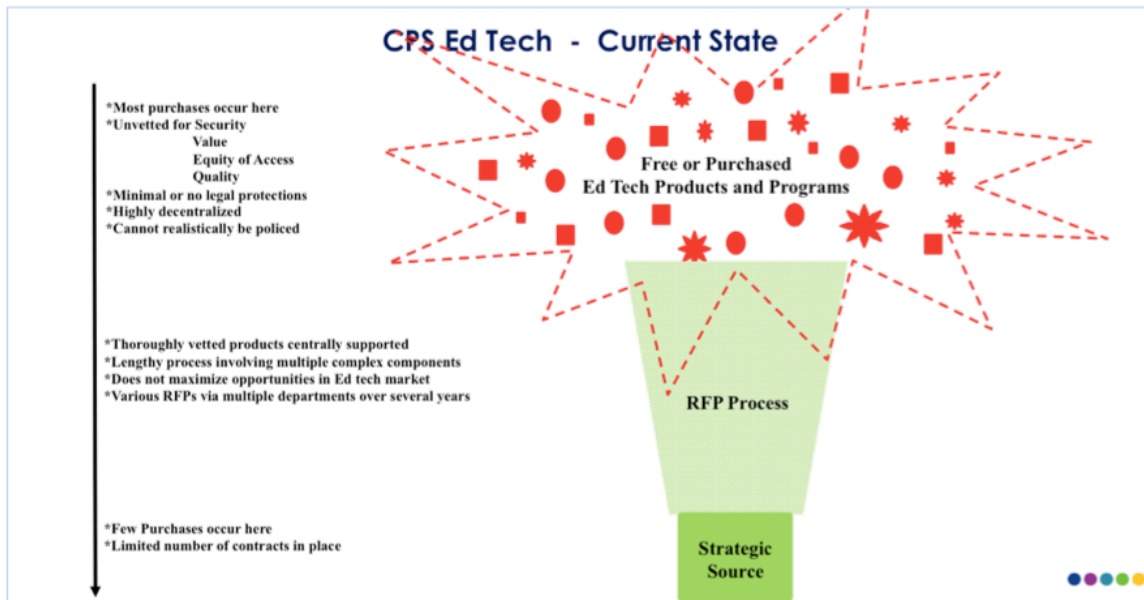


Figure 3. This figure reveals the Current State of Ed Tech procurement at CPS

At the other end of the spectrum, Ed Tech vendors currently had to go from principal to principal in a 650-school system to sell their wares. Few system-wide opportunities to showcase Ed Tech products existed. Minimal formal Ed Tech collaboration between principals meant that even a high quality product, proven to improve student learning at one CPS school, was often not visible or accessible to school leaders in others schools. The costs of hiring salespeople and pitching the product created high barriers to entry for several small but potentially valuable vendors. Other vendors capitalized on their powerful salespeople or could sell substandard products because principals often had little support in purchasing and no clear district-wide process to warn against poor quality products. Any system the project team designed would have to address all of the issues and challenges described above. Figure 4 provides a high-level plan for the project.

Ed Tech Standards and Support System Creating a Plan to Get Us There

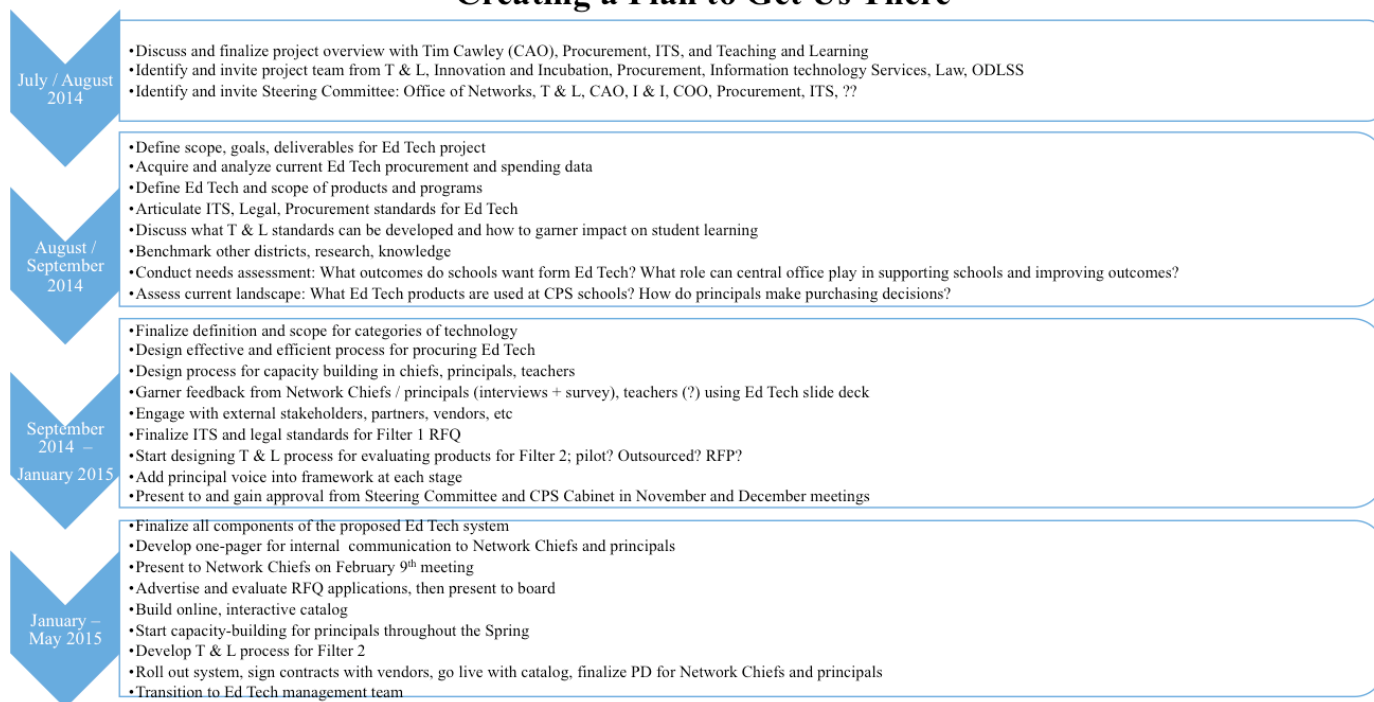


Figure 4. Ed Tech Standards and Support System Project Plan Overview.
For a detailed project plan see Appendix F.

Even though procurement was the initial focus of my project, stronger procurement practices alone were clearly not enough and could not be the system's end goal. The root problem was that teaching and learning often times were not the primary focus in deciding on technology. District leaders stated many CPS schools fell victim to, as the RKA substantiates, focusing on the Tech and not enough on the Ed. I realized the district needed to focus not only on making better decisions in selecting technologies, but also capacity building in educators to focus on choosing Ed Tech that supported the essential functions of teaching and learning. This meant that the scope of the project needed to be expanded. Team discussions revealed that some team members wanted to

focus on the initial objective of improving procurement practices. They were concerned we didn't have the time and capacity to address a broader scope. As team leader, I understood their concerns as well as the fact that we were asked initially to develop a process for procurement, ITS, and Law issues. However, I realized that capacity building for educators was vital so that teaching and learning was the focus, as the RKA substantiated. A less than comprehensive system would only be a Band-Aid solution; one that continued to put us in a compromising security and weak instructional position.

Over the next three months, the team designed a process for T&L to build capacity for educators to include teaching and learning in Ed Tech choices, and as originally tasked, the team developed a stronger procurement infrastructure that included initial vetting of products by the Law, ITS, and the Ed Tech departments. We realized we also had to ensure our plan included a mechanism to share knowledge gained across the system. Currently, when collaboration between schools occurred, it was an organic or spontaneous process. Principals interacted with other school leaders at events or teachers met each other during professional development activities. At best, Googlepalooza and Tech Talks, valuable attempts at sharing knowledge on Ed Tech and Technology Asset uses at schools, annually engaged a small percentage of the district's over 25,000 educators.

Lastly, we chose to maintain decision-making at the principal level to encourage school-based educators to buy into the new system. School level technology support varied across the district. Some schools relied on Network Chiefs or principal leadership to guide Ed Tech purchases and use. At others, Technology Coordinators (Tech Cos) were paid with discretionary funds. Still other schools had teacher leaders who drove

decisions and PD on Ed Tech. The district needed the system to advise educators of appropriate Ed Tech options and to share their feedback with other school leaders. In order to be successful, educators, not central office, had to own this process. Central office would have to collaboratively develop it with school based educators to maximize success. “The key to achieving simultaneously tight-loose organization lies more in purposeful peer interaction than in top-down direction” (Fullan, 2008, p. 41). Principal and teacher ownership while collaborating with central office is vital to ensure aligned culture of change.

My strategic project was to bring stakeholders together across the CPS landscape and lead us towards a collective, strategic, and comprehensive Ed Tech system. I was facing an adaptive challenge even as our team was tasked to solve seemingly technical problems. There were no replicable answers in the current literature or in practice across the nation that solved CPS procurement challenges. As I stated earlier, leading the team to identify the problems and to develop a system was rife with debate and delays. I was generally composed on the outside but exasperated on the inside by the slow progress. Competing frames, busy schedules, and multiple responsibilities that each team member was juggling meant I had many offline meetings and difficult conversations. I wanted individual team members to feel they were involved in an innovative opportunity to build an Ed Tech system that was potentially a model for other large urban school districts. I needed to keep in mind that evolving the strong coalition takes time and trust, and I had only been leading the team for a few weeks (Kotter, 2014, p. 29).

Defining the Scope

As stated earlier in my RKA, various definitions of education technology existed across the national and district landscape. Our team needed to define what Ed Tech meant at CPS. In a system with 25,000 teachers and over 2,000 administrators, there were many people and departments working in this space. In phase one, as I brought together the cross-functional team from Teaching and Learning, Information Technology Services, Procurement, Office of Innovation and Incubation, the Chief Administrative Office, and the Office of Diverse Learners (special education), I realized each department defined Ed Tech a little differently. The Office of Diverse Learners spoke about Assistive Technology and asked if Braille Readers would be part of the scope. ITS proposed that hardware and devices not be included in our scope because they already had current procurement initiatives addressing that. And T&L suggested we also include free Ed Tech products and programs within the scope. They were concerned about the quality and impact on student learning regardless of how something was procured; whether it was a purchased resource or available without cost through the Internet. To support their stance, T&L surmised that almost one-third of the district's teachers may be using EdModo, a free website. Most recently, password issues had tangled the district in potential litigation with EdModo. These discussions were the focus of most of our initial biweekly meetings.

Based on meetings with industry leaders, my research and benchmarked districts (complete list of meetings and interviews is in Appendix A), my team and I divided technology at CPS into four categories; 1) *Technology Assets*, which referred to all hardware and devices utilized at the district. This included interactive whiteboards,

document readers, Braille readers, computers, and tablets, 2) *Information and Learning Systems*, which referred to all data and management systems utilized exclusively by adults in the system, 3) *Internet infrastructure* which meant the level of online access and bandwidth available for student learning, and 4) *Ed Tech* referred to all technology-based software, instructional products and services directly used by students or directly for student learning. This included free or purchased applications, platforms, websites, consulting services, etc. Excluded from this list are hardware and other devices that do not come bundled with software (Braille readers, document projectors, laptops, Chromebooks, etc). If our team and a critical mass of central office staff and network chiefs adopted the terminology, this common language would provide valuable clarity as CPS moved to develop a system around Ed Tech procurement and implementation support.

Once the project team defined the scope of Ed Tech, we began the challenging work of phase two, solving the key Ed Tech problems we identified; maintaining student security, ensuring interoperability, increasing value in purchasing, providing access to products and information across schools, increasing educator capacity, and assessing impact on student quality. With a newer, wider scope, each department on the team had an increasingly vital role. At this early point, procurement policies and interoperability and technical standards were the primary focus of our work. We would then layer on a more comprehensive system that would focus on student learning efficacy. In total, the Ed Tech Standards and Support Systems that the team proposed for CPS took over five months to develop (see Appendix H for major iterations of the system). The following

turning points describe key periods of time and crucial discussions that shaped the system from September 2014 through February 2015.

The Right Vision: Presenting to Cabinet

A key turning point in the change process occurred at our first CPS Cabinet level update with Ms. Byrd-Bennett and her team in November 2014. Up until then, my supervisor Tim Cawley and I were reviewing the project every week at my Check-Ins. I had conversations garnering insights from Cabinet officers. Team members and I also had several discussions with chiefs of schools and engaged principals individually and at the network level since October. All along the way, I was leading the team towards developing a collective vision. November 18, 2014 would be the first time I presented directly to the CPS Cabinet of 20 senior leaders. And from the results, I realized I had obviously not anticipated their reaction to the vision my team had developed. I thought Ms. Byrd-Bennett would appreciate decision-making by principals because as a former principal, she often spoke about the importance of honoring their voice. Instead, she felt that a more centralized focus would lead to better standardization. I learned that Ms. Byrd-Bennett and several Cabinet members wanted us to identify high-quality Ed Tech products and then provide schools with the option to use them, or to consider limiting their use of Ed Tech altogether. The phrase “earned autonomy” repeatedly surfaced. While this was a potential route, it was contrary to my vision of maintaining decision-making and my principle (shared by several team members) of nurturing Ed Tech innovation at the school level.

I realized that I should have been clearer about helping the cabinet visualize the current culture of Ed Tech procurement and use at our schools, and then helped them understand how the proposed system better aligned all stakeholders. Upon deeper reflection, I appreciate the concerns raised by our system educators. They were rightly concerned that the result of technology in the hands of poor instructors was more poor instruction. The Cabinet leaders, as the RKA guided, wanted us to make sure technology was supporting the move towards stronger instructional practice. They took our responsibility to support schools very seriously and wanted us to ensure the products offered to schools were high quality. My research corroborated their concerns. Larry Cuban writes in *Oversold and Underused: Computers in the Classroom* (2001) “computers and other new technologies [referring to hardware and software] have had little tangible effect on either teaching or learning.” Furthermore, “teachers have been infrequent and limited users of the new technologies for classroom instruction” (Cuban, 2001, p. 105, 176–189). If one visits schools across the system in a large urban district, one will encounter computer labs in almost every school, yet in a fair number of schools, students still have limited use of the machines. And often, what they do on the computers could have been done just as effectively without them. I concluded from that Cabinet exchange that any discussion on procuring Ed Tech would have to clearly communicate how we plan to move toward benefitting students using technology and supporting educators to utilize the technology more effectively.

After this first Cabinet meeting, I deliberated on the incompatibility of my vision with those of the Cabinet members. Had I led the team in building the right vision? I knew I did not want to espouse a vision that would facilitate a command and control

management style for Ed Tech. Maybe, I thought, I had simply not communicated our vision clearly or with enough appeal. Over the next few days, several informal meetings and discussions with Cabinet members who had been privy to our work over the last few months helped me understand this was not about incompatible visions but about understanding perspectives and allowing ideas to simmer before resuming more communication. Chief Operating Officer Tom Tyrrell stated, as he was introducing me to a vendor, “She is dragging us into a conversation about Ed Tech. And if she doesn’t, we won’t go there.” Other Cabinet members commended me for attempting to tackle the issue with our respected system educators on the Cabinet who were not always comfortable with Ed Tech. I believe all their voices were valuable ones that our team needed to consider. I knew part of the pushback came because not only had I poorly articulated the current state of Ed Tech at our schools, I had not clearly connected the proposed system to potentially improved learning outcomes in students.

Every step of leadership requires that leaders get up “on the balcony” (Heifetz, 1997, p. 125). Heifetz advises leaders to appreciate struggles pertaining to values or power, and to watch for, understand and manage reactions to change. I continued to engage with senior leadership members individually to better understand their viewpoints, to clearly articulate a little more about our work thus far if I felt they were open to it. Most importantly, I hoped they understood that I was not confrontational but truly trying to understand their point of view and their apprehensions.

I was asked to present a follow-up at the December Cabinet meeting. At that meeting, as I had practiced over and over, I was succinct and explicit with the problems, the proposed solution, and the potential benefits and pitfalls. I addressed concerns

Cabinet members had shared with us over the last month. To my relief and joy, the Ed Tech Standards and Support System was approved for operationalizing at CPS schools for the 2015-2016 school year. Several Cabinet members who knew other districts were also grappling with Ed Tech policies thought CPS could learn from them as well as potentially be a model for our colleagues if we could get it right. This experience helped me understand the value of communicating the vision, and the danger if this is not done effectively. Receiving Cabinet approval was also the first major win in the change process and it would move us deep into Kotter's stage two. Our team took a moment at our next meeting to celebrate.

Getting Buy-In and Enlisting a Volunteer Army: Engaging Chiefs and Principals

“Perhaps the most important aspect of leading a 21st century school is enlisting the help of all stakeholder groups” (Schrum & Levin, 2009, p. 161). In late September, I started mapping out the landscape of people who needed to know and understand this work. This type of “mapping not only provides needed information as to groups and resources, but also provides a sense of direction” (Whitehead et al., 2013, p. 155). CPS is a large, complex organization and many times, one group of people functioned in isolation from others who were doing similar work. Overlap in projects was not recognized until teams had been working independently for some time, and this caused confusion, inefficiencies, and duplication of efforts. Several team members and chiefs were my thought-partners in understanding whose engagement and support would be needed within central office. Then I set about getting time on their calendars and eliciting their feedback; and this took more thinking and effort than I had first assumed.

In October, I led a subcommittee of the project team that began engaging Network Chiefs and principals. This was a turning point because much of what I learned, as well as much of the final system, was built from the knowledge we gleaned during these valuable conversations and the survey I asked them to complete. For the adaptive challenge of changing practices and culture to be addressed, our team would need to engage all CPS Chiefs and a critical mass of CPS principals (Heifetz, 2009). I felt this could only happen successfully if we could show them that we had collaboratively reached a solution worth changing for and that addressed their needs. But even here, it was not an easy navigation. The pushback came from those within our own team, from members who questioned the value-add in meeting so early with the Chiefs. Network Chiefs are often the link between principals and central office, but some central office managers viewed them as compliant officers who do not greatly impact the work at schools of teaching and learning. I shared with the team that as a former teacher and school leader, I felt strongly about this step in engaging the practitioners. I said I would take the responsibility of setting up and conducting the meetings and would invite team members to join the conversation if they wanted. Chief of Networks Denise Little understood the powerful value of the meetings and suggested I speak with chiefs one at a time instead of in a whole group. In this way, I could garner deeper feedback and address their individual questions and potential pushback. In all, only about four team members conducted most of the network chief meetings, but engaging with Chiefs was one of the most important aspects of the adaptive work I was able to accomplish.

The work here encompassed Kotter's stages one and two; chiefs and principals helped develop the system and also helped ready the district for change. The chiefs

became spokespeople for the project and several shared a principal survey I had developed with their entire network of principals. Three chiefs invited me to come to their next network meeting and address the principals directly. Kotter calls for the enlisting of a “volunteer army...to help communicate information about the change vision and the strategic initiatives...in ways that lead large numbers of people to buy in” (Kotter, 2014, p. 31). In all, the Chiefs helped us garner the engagement of over 260 principals and I hoped this would mean that when the system was rolled out, few school leaders would be caught unaware. After conducting dozens of individual meetings with Chiefs, their leadership teams and some network principals, on February 9th I presented updates on our progress to all 16 Chiefs and their deputies at central office. Denise Little and Chief of Teaching and Learning Annette Gurley said they felt the Network Chiefs were on board. Annette added, “If they weren’t, you would know it!”

Creating a Win: Preparing the RFQ

The irony of this strategic project is that the toughest aspect of my leadership was not the adaptive work of engaging stakeholders or changing the way people work, though this may still prove to be a challenge during the implementation phase in the Summer of 2015. The most difficult point during my residency came as the team moved towards preparing and advertising the RFQ, the first filter of standards central office was attempting to apply to all Ed Tech products. The RFQ would be the start of operationalizing the system, at the conclusion of Kotter’s stage two and moving us to his stage three. Being approved through the RFQ meant products could then be included in an online, interactive catalog similar to amazon.com for CPS Ed Tech products.

Principals would then have a robust set of vetted options they could choose from based on their students' and educators' needs and vendors would have access to all CPS schools in one space.

This critical step of preparing the RFQ for advertisement was replete with technical problems that I had not anticipated nor had much expertise in. During the preparation of the RFQ for advertisement, the Law department, the Office of Procurement, and ITS were at odds with several steps. The team spent three months solving issues that seemed minor but needed to be resolved before the news media, external partners, and vendors had access to the RFQ. If even a minor feature of the RFQ caused confusion or lacked clarity, we would have applications that did not meet the criteria or were incomplete. This would mean confused and angry vendors. For example, the Law department thought the RFQ needed to explain the whole process for vendors, from applying to the RFQ through to becoming a strategic source vendor. Procurement and Teaching and Learning said that we did not need to explicitly state the whole process at this time since we were still developing the filter for impact on student quality; it was better not to state something if we had not clearly decided it would be a pilot or another type of process. My difficult challenge was in leading deeply convicted individual team members towards consensus that would move us collectively forward. In the end, we realized as a team that we did not have enough to articulate the entire process so it was best not to include something in the RFQ that we may not follow-through with.

In January, Procurement stated the best way forward on the RFQ process was to utilize an online application, which would substantially reduce the time to review the potentially dozens of products we anticipated would apply. It had never occurred to me

that a large organization such as CPS did not already have automated applications for over 5000 vendors! I understood Procurement's request for an online application process was necessary for an organization such as CPS. The team was in agreement and we were moving forward with developing an online application system, until we realized it would take up to three months for ITS to build the online application. This would push the timeline back significantly! This was not the first technical setback I encountered during my leadership of this project and these issues revealed to me the complexities of change in a large organization and my lack of expertise in the operations side of district culture and work. It wasn't enough to have been in the sector for over two decades or to be considered an instructional expert. Senior leadership at a school district means understanding countless management and operational details across multiple departments. In the end, Procurement was resourceful in identifying and engaging a vendor that has the digital RFQ application solution needed to meet CPS needs, and the online application will launch on April 9th.

Strategic Project: Results and Analysis

Results of the Three Phases of the Strategic Project

Based on the knowledge I accessed in my RKA, I articulated a Theory of Action (TOA) to guide my work. In order to execute the TOA, I identified three phases of the strategic project: 1) assemble a cross-functional team to define Ed Tech at CPS and surface Ed Tech challenges, 2) lead the team in developing a CPS-wide system to identify and procure Ed Tech, and then 3) operationalize the system as much as possible during my residency.

The first phase of the strategic project involved assembling a cross-functional team. To do this, I met with several internal stakeholders to identify the competencies and talents I needed on the team.

Top executives, the thinking goes, should have the intellectual capacity to make sense of unfathomably complex issues, the imaginative powers to paint a vision of the future that generates everyone's enthusiasm, the operational know-how to translate strategy into concrete plans, and the interpersonal skills to foster commitment...Unfortunately, no single person can possibly live up to those standards. (Ancona, Malone, Orlikowski, & Senge, 2007)

Ancona and her coauthors debunk the myth of the complete leader who possesses all the skills a team needs. Instead, Ancona et al counsel leaders to understand their strengths and weaknesses and then to develop a team whose members individually have expertise but are also willing to collaborate (Ancona et al., 2007, p. 181). To complement my knowledge in instruction and education, I sought talent in areas of procurement, law, and technology. By August, I had assembled a team consisting of members recognized by the chiefs as some of the best talent from the Offices they represented. This completed phase one.

The second phase of my strategic project was to lead the team in developing an Ed Tech procurement system and to ready the organization for change. My team worked from August through December in understanding the current state, surfacing the problems, and coming to solutions. Here I led the team in engaging stakeholders to help build a system that meets the needs of its end-users, principals and vendors. Appendix A is a list of all internal and external stakeholder meetings conducted during this phase. In addition to individual meetings, over 260 principals completed an Ed Tech survey. All of this information helped the team develop the Ed Tech Standards and Support System. The stakeholder engagement also helped us ready the district for change. Phase two was deemed completed when I presented the team's proposed system to the CPS Cabinet and it was approved in December 2014.

The third phase of my strategic project was to operationalize the system, and this stage is not yet completed. When complete, this phase will consist of two stages within the system. In stage one of the Ed Tech system, an RFQ is used to filter vendors based on security, interoperability and legal standards. Here, the team's responsibility is to develop and advertise the RFQ and then review the submissions. Approved vendors will then be presented to the CPS Board of Education for a contractual agreement. Contracted vendors will be included in an online catalog developed by T & L and accessed by principals. Stage two of the operationalized Ed Tech system will be a process of piloting Ed Tech products at schools that then filters those products that improve student learning. Figure 6 is a one-pager developed for chiefs and principals that illustrates each step of the system.

Of the three phases of the strategic project, much was accomplished in the first two phases, but I have concerns about ongoing operationalization in the third phase. My greatest concern includes operationalizing the next steps: receiving an adequate number of RFQ applications to offer a robust selection of options for principals, obtaining board approval in June, constructing an interactive online Ed Tech catalog, and finally, building capacity in Cabinet members, network chiefs, and principals during the summer. These are no small tasks. Another concern is that principals and teachers may not utilize the system. This will occur if the catalog is poorly constructed, or if educator capacity-building is weak. My final concern is that central office leaders, network chiefs, and principals may revert to their previous practices. If leaders do not follow the proposed process and, instead, continue purchasing from the world of unvetted products, the system will be undermined. The above concerns are part of Kotter's third and last stage of change and have the potential to derail the work my team and I have accomplished. I am working diligently to communicate why the system must be completed and be given a chance to succeed.

I am cognizant that my role as resident will end before the team completes this stage and this may create additional challenges. Though the system was collaboratively developed, I led it within the CAO. Once operationalized, plans are to transition it to be led by a T&L manager. I am committed to creating a smooth transition so that the project can accomplish the goals we had set out to achieve.

Strategic Project	Status
Phase 1. Assemble cross-functional team to surface Ed Tech procurement problems	Complete
Phase 2. Lead team in developing system-wide Ed Tech framework	Complete
Phase 3. Move Work Forward A. CPS stakeholder buy-in B. Operationalize	In Process
Steps in Operationalizing	
Stage One Filter/RFQ Developed and Operationalized	RFQ Advertised/ Next Steps Set
Online/Interactive Catalog Developed and Operationalized	In Process
Chief/Principal Professional Development Planned and Executed	In Process
Stage Two Filter/PNI Process Developed and Operationalized	Emergent

Figure 5. Results to date of the Ed Tech Standards and Support System based on phases of the strategic project articulated at the start of my residency. The next steps in operationalizing are planned for April through July 2015.

CPS Ed Tech Standards and Support System

Effective Teaching and Learning Resources To Meet Academic Priorities and Common Core Standards

Defining Technology at CPS: Digital technology supports teaching and learning in four ways:

<p>Ed Tech is all instructional software, products and programs directly * used by students or educators * for student learning or access Examples are Think Through Math</p>	<p>Technology assets are all hardware and devices used by students and adults. Assets typically do not come bundled with software. Examples are laptops, interactive boards, Braille readers, tablets</p>
<p>Student information systems are digital information programs used exclusively by adults. Examples are Impact, student management systems</p>	<p>Internet access and bandwidth</p>

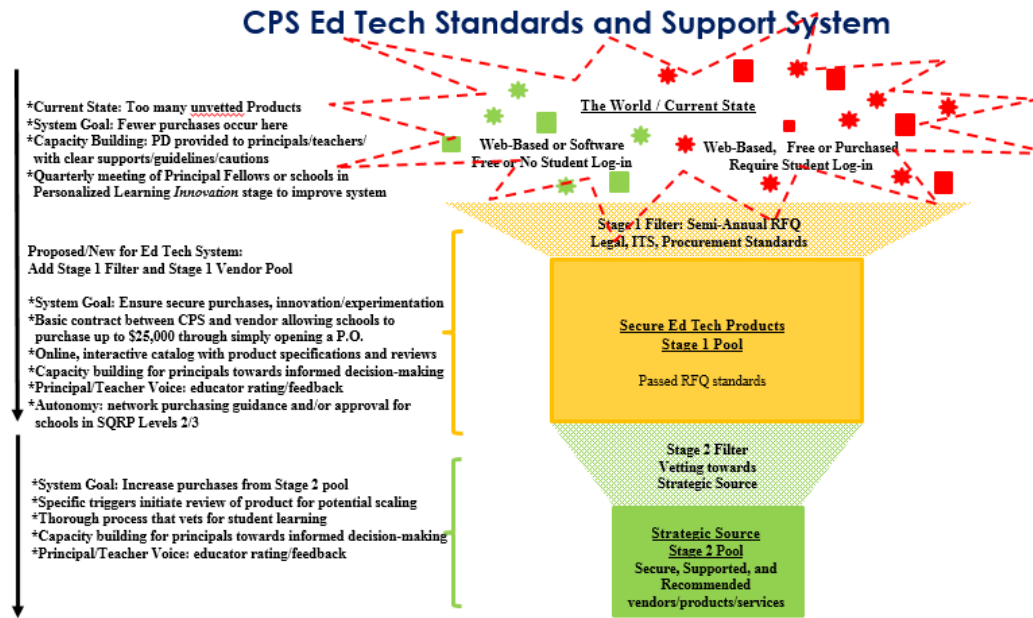
Current State of Ed Tech:

Typically, CPS schools identify, procure, implement and evaluate Ed Tech products on their own or in informal groups. The questions we need to be asking as a system are:

- **SECURITY:** Does it meet standards for student data, technology, interoperability and legal?
- **VALUE:** Is there bang for our buck if several schools are using the product?
- **IMPACT:** Does it improve student learning? How do we know it works?
- **ACCESS:** Can educators across our system share information and knowledge about products?
- **CAPACITY:** Do we know how to use it for effective instruction?

CPS Ed Tech Standards and Support System - Goals:

- The Ed Tech Standards and Support System is utilized by chiefs, principals, and teachers as a valuable tool to
1. Identify and procure high-quality Ed Tech products and programs for learning – *critical consumers of learning tools*
 2. Increase educator capacity to effectively integrate Ed Tech in instruction – *intentional educators*
 3. Share knowledge and learnings about Ed Tech products used in CPS schools – *strong collaborators*



The Ed Tech system was collaboratively developed by the Offices of Teaching and Learning, Administration, Procurement, ITS, Innovation and Incubation, Law, Language and Culture and ODLSS with Chiefs of Schools and CPS principals/educators. For support, contact Teaching and Learning, Ed Tech Department: awilliams@cps.edu, droman@cps.edu

Figure 6. This is a one-pager I developed to share the Ed Tech Standards and Support System with CPS Network Chiefs and principals during meetings.

To analyze why the strategic project unfolded in the way it did, I employ three frames that encompass the three phases of my work (assembling, developing, operationalizing). First, interviews with chiefs and the survey results from principals during phase two of the strategic project (developing the Ed Tech system and readying the organization for change) helped to identify educators' needs and to develop a stronger system. This, in turn, was essential in garnering commitment and buy-in as we presented the proposed system to district leaders as well as chiefs and principals, and led to successful completion of phase one and two. Second, I analyze my leadership using Kotter's framework on the stages of leading change (Kotter, 2014) as well as feedback from team members and my Performance Review discussion with my supervisor. In thinking about Kotter's stages of change, I also fold into my analysis the value of factors such as senior level sponsorship and the team's expertise⁵. Third, I analyze my assumptions about the technical and adaptive aspects of the strategic project. I had prepared to exercise adaptive leadership for the ostensibly adaptive aspects of the project; those mainly involving stakeholder engagement. In reality, I grappled with and needed my adaptive lens throughout the strategic project, and particularly to help the team through problematic technical strands of our work during phase three; operationalizing the system.

⁵ The team's expertise connects to phase one of the strategic project; assembling a cross-functional team.

Utilizing Input from Network Chiefs and Principals to Build the System

In October, I began sharing the team's ideas with network chiefs and recording their feedback. Their viewpoint as former teachers and principals coupled with their current experiences as Chiefs was valuable in the development of a stronger system than what central office alone could have designed. The meetings surfaced the need to expand the strategic project's focus from procurement into a more comprehensive system that would include capacity building and collaboration between educators. During one week of meetings, two chiefs asked if increasing capacity in principals and teachers would be addressed in the system. Mr. Matias spoke of the need to understand adult learning and provide development for chiefs and principals (M. Matias, personal communication, October 30, 2014). Mr. Mohip, as the RKA guided, stressed the requisite to drive Ed Tech procurement through the frame of instruction and the need for "serious PD in schools and classrooms" (K. Mohip, personal communication, October 31, 2014). Though members of the project team had surfaced these ideas, we did not explicitly include them in the system until after network chiefs underscored them. Over the next three months, a subteam consisting of T&L members and I met with 10 of the 16 CPS network chiefs individually. As a result of these conversations, a few of the chiefs invited us to address their entire network of principals and directly garner their feedback. This allowed access to in-person meetings with more than 80 principals between November and January. Engaging network chiefs and principals as levers of change meant potential input of all the principals in the district, the end-users and clients of this system. I learned, however, that central office did not engage these powerful stakeholders as often as it could and yet the RKA clearly revealed this is a factor of successful change. I agree

with Heifetz's guidance that leaders will need to develop the best solution in collaboration with stakeholders as the process moves forward (Heifetz, Grashow, & Linsky, 2009, pp.19–23). During my time at CPS, I observed at least two other projects that could have involved chiefs and practitioners earlier on in the process. Both projects struggled during some parts of implementation. Heifetz and Kotter warned that people fear loss and this results in resistance to change (Heifetz, 2009; Kotter & Schlesinger, 2008). In one case where an initiative struggled, principals feared losing autonomy in decision-making. Since they did not understand the end goals and a critical mass of principals were not engaged throughout the process, when the change was communicated at Kotter's stage three, it was too little too late, and principals pushed back. "Even changes that appear to be 'positive' or 'rational' involve loss and uncertainty" (Kotter & Schlesinger, 2008, p.3). Kotter's warning is ominous in that the initiative, initially viewed as a rational and practical move, is still struggling in stage three and time, talent, and money are all at stake. Though I know stakeholder engagement was a factor in our success and I would continue to advocate for my strategy of chief and principal engagement in every major project moving forward, I am not sure if even now, my team understands how important engaging chiefs was in our accomplishment. The Theory of Action states that I will "lead the team in engaging stakeholders to ready the system for change." In the end, we did ready the system for change, but only a few team members followed me as I led the charge to engage stakeholders.

Access gained through developing relationships with chiefs was incredibly helpful in developing ideas that have become fundamentally incorporated into the system. As shown above, to develop a system collaboratively, the principals' voice is also

necessary. I realized by November that listening to feedback from 16 Chiefs was possible through individual meetings but engaging over 530 district-managed schools in this manner was simply not possible. Therefore, I developed a short survey that would capture targeted feedback needed from principals and asked chiefs to send the survey emails directly to their network of principals. I knew a stronger number of responses was possible only if chiefs sent the survey to their network principals. Within a couple of weeks, we had 70 survey responses to add to our 80 face-to-face meetings. Almost all of the data we collected from surveys correlated with what we heard live from chiefs and principals. We utilized the 70 survey responses as a snapshot of the principals' thinking and continued to collect responses. By February, we had collected over 260 responses and again, they were proportionately similar to those we had collected in November. I use the February results for my analysis.⁶

Though I don't actually know if they *will* use the system when operationalizing is complete during the Spring and Summer of 2015, I do know that the chiefs have overwhelmingly supported it and over half of the district's principals know about it and have provided initial feedback. And I believe this is because the system addresses the top three needs that principals had identified as important to them regarding Ed Tech support from central office⁷. The following are conclusions from the 11-question principal survey

⁶ The value-add in continuing to collect surveys is that we can communicate to senior leaders that in total, the survey engaged 265 principals- 50% of the 530 CPS managed schools.

⁷ The top three areas for central office supports as requested by principals through the Ed Tech survey are 1) provide options for pre-vetted and high-quality products, 2) provide training and PD for teachers and principals, and 3) negotiate stronger procurement packages. The proposed Ed Tech system addresses these requests. Complete coded responses are in Appendix L.

(Appendix K contains complete survey results as of end of February) and reveal how they impacted either the support for, or modification of the system.

Support is strong because a system-wide procurement process is needed. The second phase of my strategic project and the second part of the TOA, both of which fall during the first phase of Kotter's change process involves developing the system with the "right vision" (Kotter, 2007). I know we were addressing a pressing concern because the principal survey revealed a need for a more efficient procurement process that helps them efficiently spend discretionary funds. Addressing this concern, in turn, kept support strong for the system. In question five (Figure 7), the majority of principals stated that their schools acquired more Ed Tech products through a purchase rather than through accessing free websites and programs. Equally important as how they acquired Ed Tech was the response to the next question that asked principals to quantify the amount spent on Ed Tech per year. Approximately 25% of principals said they did not know how much was spent on Ed Tech at their schools. A conservative estimate of \$20,000 per school based on survey data means over \$10,000,000 may be spent on Ed Tech each year at CPS. A few network chiefs had asked about expenditure data and I am certain the system will provide accurate information they can use in discussions with their principals.

Q5 Are most Education Technology (Ed Tech) software and online programs and services at your school(s) purchased or accessed free online?

Answered: 243 Skipped: 3

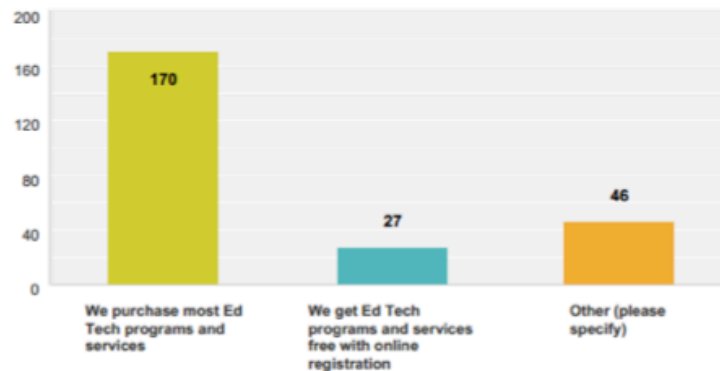


Figure 7. Question #5 on principal survey. Predominantly purchased Ed Tech products reveal the need for efficient system-wide procurement. Chiefs have asked for expenditure data that can now be easily provided.

Support is strong because system fills gap between potential efficacy of Ed Tech and teacher capacity. Question #10 (Figure 8). Again, the second phase of the strategic project, developing the system, was informed by principal feedback highlighting the need for capacity building in teachers. Principals agreed that educators understood the power of Ed Tech as a tool to improve teaching and learning but principals were not confident that teachers understood how to use Ed Tech tools effectively. This information directly supported the findings from my RKA that revealed the need for a more comprehensive system that included professional development as well as procurement; “Research suggests that...disappointing outcomes are frequently associated with teachers lacking the necessary skills to integrate technology into the classroom” (Inan, 2010, p. 138). Several comments from network chiefs revealed a concern for professional development

and their support hinged on whether vendors and central office provided opportunities for professional development as well as knowledge sharing⁸. The survey had revealed that this was important to principals early on and by November, the team made this significant adjustment from our initial strategy of focusing exclusively on procurement. Including capacity-building for chiefs, principals, and teachers in the system was a direct result of stakeholder engagement and survey responses. This, in turn, keeps support for the system strong among educators. There is a capacity gap, and principals and chiefs want the system to help them close it.

⁸ Based on the feedback from network chiefs, we added Yelp-like ratings capability to the catalog so teachers can share CPS specific reviews on products. Teachers and principals can then contact each other for knowledge-sharing and collaboration across schools.

Evaluate the following statements regarding Education Technology (Ed Tech) software and online programs and services at your school(s)

Answered: 237 Skipped: 2

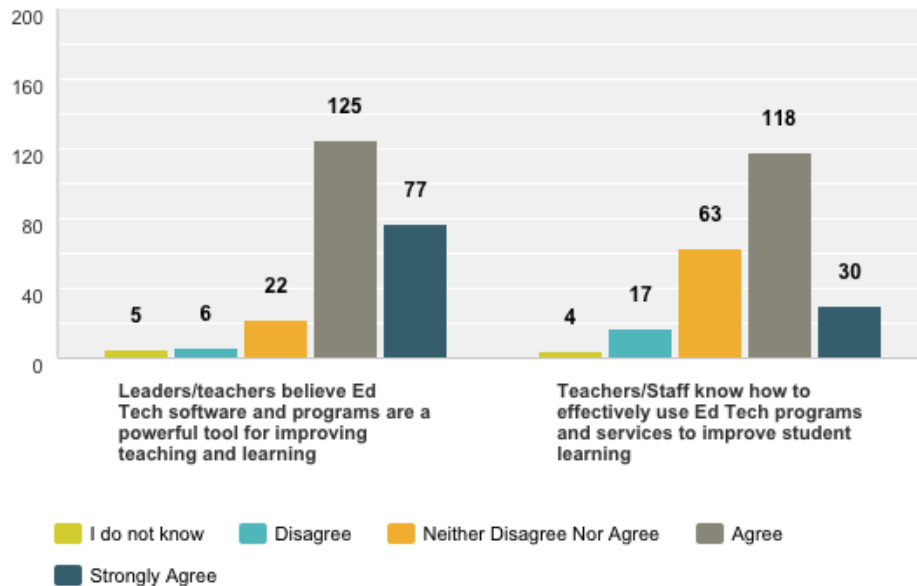


Figure 8. Question #10 on the principal survey. Principals are confident that Ed Tech is a powerful tool for improving teaching and learning but are not as confident that their teachers know how to effectively utilize Ed Tech in the classroom. The system has educator support because it helps alleviate this capacity gap.

Support is strong because system meets principals’ specific requests of central office. When I present the Ed Tech system to stakeholders and leaders, I always share that the system the project team built was informed by principals’ stated needs⁹. This reflects the work our team conducted and also maintains strong support of the strategic

⁹ Though we engaged vendors to listen to feedback on doing business with CPS, based on guidance from the Law team, we did not include vendors in building the system. The Law team explained that including some vendors would be considered a breach of ethics and may provide those vendors with undue advantage.

project at every level of the system. I continue my analysis of why phase two was deemed “complete” and why there is strong support for the system through one other set of data. The last question of the survey was open-ended and asked principals how the central office could support schools in identifying and buying Ed Tech. I coded the 130 responses to identify common themes and trends (Figure 9). Over 50% of respondents stated that central office should somehow vet products and/or provide lists or information on vetted products. The system meets this request in that the main purpose of the RFQ is to vet products for security, interoperability and legal standards so principals do not have to. Information is then shared through the online catalog. About 25% of the respondents asked that central office provide stronger centrally negotiated procurement. The system has triggers to central office Procurement staff when over 15 schools are using the same product or when over \$400,000 is spent system-wide on one product. This then allows Procurement to work with the vendor towards better pricing for all schools. Another 25% of the respondents asked for PD and/or training for teachers and principals. As stated above, the system addresses the need for educator capacity-building. A complete list of coded responses is in Appendix L. This information was not available in November and though it did not help us plan the system, several team members and I reviewed this information in February to ensure we were on the right track as we were moving to operationalizing. We then shared this information with several chiefs to continue to keep everyone motivated as well as to communicate that we were doing our due diligence throughout the process. This type of engagement, again, helps me understand why things unfolded the way they did in; when chiefs and principals know leaders have heard and have addressed their concerns in the proposed system, the fear of loss and uncertainty

that Heifetz and Kotter reveal inhibits change, are minimized. We had developed a “picture of the future that is relatively easy to communicate and appeals [to our end-users]” (Kotter, 2007, p. 5). Ms. Byrd-Bennett reviewed the survey data and commented that this information is “helpful to confirm the work we have done” (B. Byrd-Bennett, personal communication, April 1, 2015). Sharing responses to the survey in our meetings with chiefs and principals has kept the support for the system strong. We hope this will result in strong numbers of principals using the online catalog within the system in July (during phase three of my project).

Frequency	Description	Two “Good Fit” Examples
63/130 responses	Any time a response speaks of a system to vet or asks CPS to provide information on a product to support decision-making	1. It would be wonderful to have lists of vendors, quick summaries of effective <u>ed</u> tech they offer, and if schools would recommend them to other schools 2. You can support us by vetting programs that are worthwhile
34/130 responses	Any time a response speaks of negotiating or purchasing products centrally or network-wide	1. Negotiate volume pricing at district-level 2. <u>keep</u> costs down per school though a collaborative purchasing system
33/130 responses	Any time a response includes the idea of, or the words <i>training, PD, teacher support</i>	1. Provide ongoing PD for teachers and principals 2. Teachers need more time to mess with this stuff and have other teachers to support them
23/130 responses	Any time a response asks for more money or funds	1. We need funds to purchase more technology 2. We could always use more money
12/130 responses	Any time a response refers to hardware, internet connectivity or bandwidth	1. <u>bandwidth</u> will be an issue as we continue to add more devices 2. We need more computers and <u>iPads</u> in our school
6/130 responses	Any time a response refers to accessing or buying a technology Coordinator	1. Maintain a tech coordinator position 2. Work closely with our Technology expert

Figure 9. Codebook for open-ended responses to Question # 11. The principal survey reveals the top three issues school leaders want central office to support. Complete list of coded responses is in Appendix L.

Leading Through the Stages of Change

John Kotter's framework on stages of leading change is valuable in my analysis of my leadership throughout the three phases of my strategic project and my TOA (Figure 10). I also include in my analysis the influence of the following factors of change: sponsorship and team talent¹⁰.

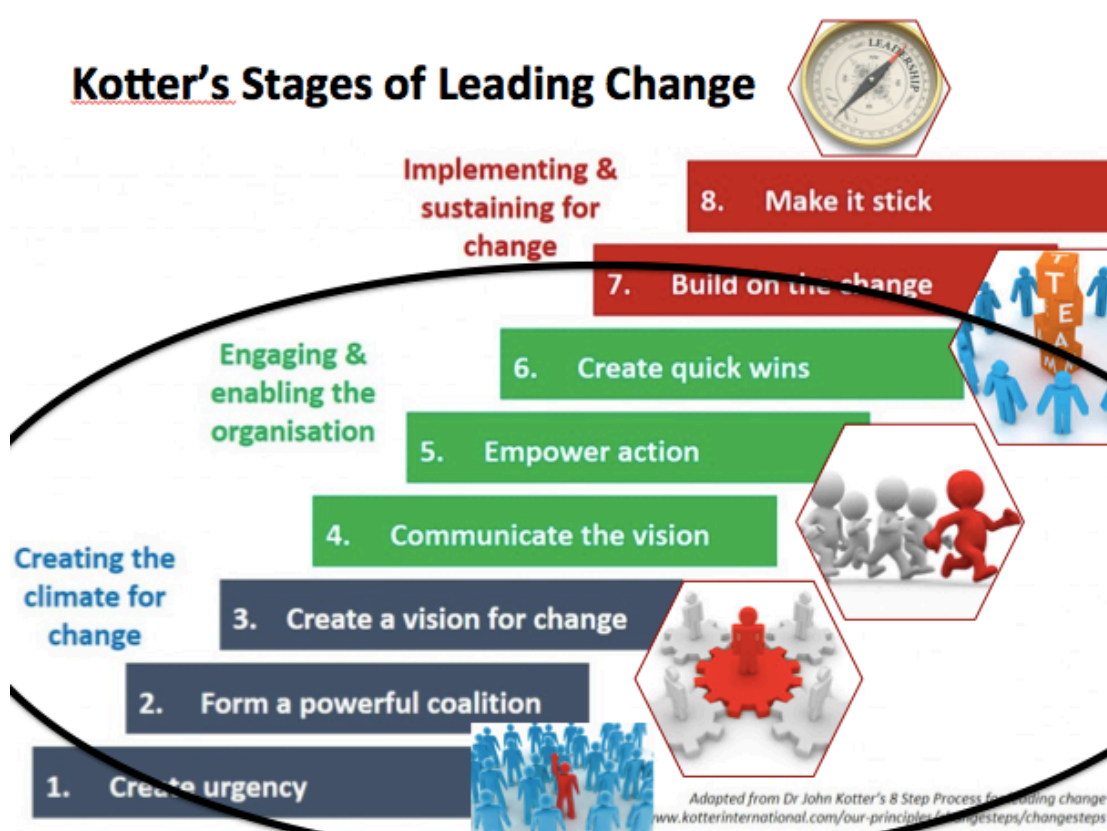


Figure 10. Analysis of my leadership through the stages of change. The black oval highlights the steps my team and I accomplished during the residency and which are the focus of my analysis. My leadership crucibles during each stage are reflected in the illustrations.

¹⁰ These are factors that are part of the DICE evaluation framework. Though I do not use the framework as my primary source of analysis, some of the factors it highlights are substantiated through other sources as well as my interviews.

I analyze my leadership in developing and working with my team because Kotter's first stage of creating a climate of change, which correlates to my TOA and phase one of the strategic project, is anchored by having the right team in place to surface the problems with the status quo. The right team could then create the urgency for change and develop a new vision of the future. As stated in the *Description*, I spoke with several leaders as I identified skills needed to successfully complete the strategic project. They pointed to key people in their departments and then I met with potential team members to understand if they would be a good fit for our team. Understanding the team's composition further underscores the complex navigation of time, talent, and resources during my residency. The ITS team member was a senior enterprise architect, familiar with building digital processes such as the online catalog. He was also the lead that would gather all security and interoperability standards that CPS would use to approve products. Our Law team member was able to refine the language of our RFQ and vendor contracts to legal standards. She also guided us on how to engage with vendors. Fairness was essential. It was important that we not inadvertently share too much information with select vendors and then only allow others access to the system when the RFQ was released. Team members from the Office of Diverse Learners and the Office of Language and Culture provided essential input that ensured we were addressing the needs of our most vulnerable student population. They helped craft the product specification information for assistive technology and language acquisition products. There were times when one of them would stop the discussion and remind us that we were making decisions that did not address the needs of students with diverse or special needs. This was valuable in helping us develop an inclusive system. Procurement team members

were often the leaders during the RFQ process. Since I had little knowledge of the RFQ process, I relied on their expertise during much of the start of the third phase of the strategic project (the second/third stages of Kotter's change process). The Chief Procurement Officer was deeply invested in developing this system and was not only at several meetings but also sponsored the work by removing barriers, facilitating conversations with Law, etc. The Office of Teaching and Learning had the most number of team members in our group. T&L managers would eventually lead the Ed Tech system once it was operationalized and their input as instructional experts was essential throughout the change process. Several departments within T & L sent representatives and the Chief of T&L was also engaged. Having multiple levels of engagement from one office meant great support but also complicated matters. I quickly learned that even though two or more team members were from the same Office, it was essential I facilitate strong communication between team members and across departments. The right team would be essential in completing the second step in my Theory of Action, developing the system. I believe I had the right team.

I was constantly at my learning edge during my residency. I came to CPS as an educator with a strong background in instruction and professional development (and some knowledge of Ed Tech). My work during my residency, however, was in the CAO, which at CPS includes everything a district does that is *not* directly connected to instruction or educator development. A fragile sense of self-efficacy permeated my residency and I often reflected on Fullan's guidance that "leaders need to act as if they are in control, project confidence, and talk about the future, even while recognizing and

acknowledging the organizational realities and their own limitations” (2008, p. 118)¹¹. I had limited understanding of procurement, technology infrastructure, or legal issues surrounding Ed Tech. Knowing this and other limitations, how would I effectively lead a team and a district through an Ed Tech change initiative, phases two and three of my strategic project?

Dilara is respected by the team and comes prepared for each meeting. She allows for discussion and collaboration but prevents the group from being sidetracked from our focus. She conveys clear expectations for offline tasks, and provides support when needed (respondent F, DICE evaluation, February 2015)¹².

Though I recognized my lack of technical knowledge in this space, I have come to believe that leadership is not about content expertise or seniority (which was my experience when I worked at schools). Leadership is about moving diverse people towards a collective vision, removing barriers to their work, and helping them persist in achieving the goals.

“Team leader is very motivational, respected by peers and has strong leadership skills, however, could improve ability to clearly define roles and expectations and holding people accountable (sic)” (respondent B, DICE evaluation, February 2015). This feedback provides valuable insights. I was very concerned during phases two and three of my project (which fall in stage one and two of Kotter’s framework), that the team respect and follow me; I was new to CPS but there was a great deal of work ahead that I would

¹¹ I referred to this, with humor, as the “fake it til you make it” style of leadership when a team member once asked how I knew about every aspect of the project.

¹² Though I do not utilize the DICE framework as a key source for my analysis, the feedback evaluators provided when I asked seven team members to complete the DICE evaluation is helpful in my understanding of my leadership and the sponsorship of senior leaders. For all responses on my leadership, see Appendix M, page 122.

require of them. I was also eager to avoid conflict before I had proven myself because I knew that at least one other person on the team wanted to lead this effort. I know these early concerns kept me from being a stronger leader in phases two and three of the strategic project. This connects to the *Immunity to Change* work I have been engaged in at Harvard with my EdLD colleagues.¹³ Though I had a formal title in the organizational structure and my supervisor provided initial cover, I had not yet proven to my team members that I had influence and could move this project forward. I was vulnerable, and through my *Immunity to Change*, I realized that vulnerability is often equated with weakness or incompetence. And if my team did not view me as competent, how could I lead them? My supervisor was very appreciative of my work and his only critical feedback during my Performance Review was that I could do a better job of reading the room and understanding team members' motivations and concerns. My supervisor connected this to empathy, and in my research, empathy is highlighted by Goleman as a vital emotional intelligence in leadership (Goleman, 2011). My residency was rife with the ongoing inner struggle to combat my proclivity to disregard empathy during situations when I felt vulnerable (when it could be most valuable). For example, a team member, Paul (pseudonym), and I had issues that began within the first few weeks of the project. I think he was testing me and I know I was failing. Colleagues had intimated that CPS central office directors and managers had a culture of wariness towards one another and especially towards new leaders (not unlike what may occur at other large,

¹³ *Immunity to Change*, based on Robert Kegan and Lisa Lahey's research was part of a module offered during the EdLD program. It investigates "self-protective motivations" that keep an individual from changing and improving. The goal is to analyze and unlock the fears and assumptions we are holding onto and to allow ourselves to move courageously forward (Kegan, 2009, p. 253-282). The content of the module honed leadership skills I found vital during my residency.

hierarchical organizations). In an early meeting, he made several comments that I perceived as putting up bureaucratic barriers when we needed to tear them down. My responses sounded combative and were equally counterproductive to moving the discussion forward. I felt vulnerable in his presence and instead of trying to understand him, I made it about proving myself so I would not feel quite as vulnerable. The team needed Paul's expertise and I needed to make it about the team and the project. Over the course of the next several months, I struggled at each encounter but whenever he surfaced potential barriers to our work, I responded by acknowledging their possibility but also encouraging team members to engage in collective problem solving so we could overcome those barriers towards success. Paul and I have come to a different place in our relationship; one not completely trust-filled but one that focuses on our growing mutual respect as well as our shared interest in moving the work forward.

Different leadership trials permeated each stage of change but every stage required careful navigation of the people, the culture, and the factors. My leadership challenge throughout Kotter's stage two (the key areas of my TOA and the strategic project's phase two) was to engage the team in owning the project, just as we were engaging the chiefs and principals in owning the system. Sometimes I was the hub through which all information flowed. At other times I was the pacesetter, racing ahead of the team and encouraging them to speed up. During this entire stage, I felt respected, followed, but sometimes alone. I shared earlier that I was alone in advocating for a strategy to communicate and get buy-in from network chiefs and principals.

Sponsorship from senior leaders was a key factor in our success during stage two of change. At one Cabinet meeting, the Chief of Innovation and Incubation spoke in

support of the system's design when several Cabinet members were concerned about an aspect of the RFQ Filter. To accelerate the change, a leader's role is "knocking down the barriers to making ideas a reality" (Kotter, 2014, p. 97). One cannot knock down barriers if one cannot get access. Earlier, I wrote of the support of the Chief of Networks in accessing stakeholders in the field. CPS' President of the Board Education and his Chief of Staff are Harvard alumni. These leaders have provided access throughout my residency to network with partner organizations and connect with internal leaders. I used it strategically and respectfully, but this type of sponsorship was essential in gaining visibility and support for the project. Kotter writes "In cases of successful transformation efforts, the leadership coalition grows and grows over time. But whenever some minimum mass is not achieved early in the effort, nothing much worthwhile happens" (Kotter, 2007, p. 4). A middle manager intimated, "You got instant credibility as you walked into the room with Tim [Cawley] during those first few weeks." I know I navigated the system well, but part of the value of the EdLD residency is having the CEO or a Cabinet member as one's supervisor, and at a large urban district such as CPS, this strong senior sponsorship was critical.

One unintended negative consequence of sponsorship was that it focused on me. I was the visible face of the project and I was at the hub of this project. At one point, two team members shared that they were concerned about the project's success if I left. This deeply concerned me because I planned to transition out of this role at the end of my residency. A truly effective leader builds capacity in others and develops systems that can be continued long after they exit. Institutionalizing new approaches happens when leaders "create development and succession plans consistent with the new approach"

(Kotter, 2007, p. 1). If team members were apprehensive that the project would not be sustainable after I left, then I had work to do to ensure that it was. I realized I was doing too much of the managing and communicating between members and across offices and this meant they didn't have to. Learning this in January, I modified my leadership style during the last two months towards engendering more ownership from individual team members and releasing responsibility. By the time the RFQ advertisement date neared in April, I was working behind the scenes and in peripheral roles and Law and Procurement members were leading the process. By the end of stage two of change, I was (almost) just another team member.

The third stage of Kotter's change process (and the last phases of my TOA and strategic project), will occur from May through July. This stage is crucial and I am anxious as competing priorities surface and motivation fluctuates. I am also concerned that the existing culture at CPS of distrust between central office and schools, and of strong relationships built between chiefs, vendors, principals, and community partners may undermine the process we have worked so hard to develop.

Vendors solicit through multiple channels. If an existing relationship is leveraged by a vendor for access to schools without going through the RFQ, will a chief or a principal adhere to the process we have developed, or will they go back to business as usual? This is the test of our efforts to shift culture and sustain change. For example, one central office chief who has been a strong sponsor of the project was recently approached by a vendor who independently acquired a grant for CPS that covers almost all of the costs of purchase, with CPS responsible for, in their words, "only a minor part of the expense". Will the chief request that the vendor to go through the RFQ and follow our

process or will the vendor get to bypass the process because they have a relationship with this senior leader and are bringing grant funds to the deal? I am hoping to present to the cabinet one more time before I transition out to share these concerns and communicate what I hope they will do to support the system. My hope is that chiefs, principals, and teachers utilize the system to become intentional educators integrating high-quality Ed Tech resources for strong instruction. I will leverage all relationships I have built to support the team through a leadership transition that puts the system in a position to be successful across CPS.

Kotter states, “everything is made to sound a bit too simplistic. In reality, even successful change efforts are messy and full of surprises” (Kotter, 2007, p. 9). I found that during the project, it was helpful to be cognizant of the three stages because the change process moves progressively through the stages. I found, however, that my team and I toggled between the stages of *Creating the Climate* and *Engaging the Organization* before moving fully into that second stage. For example, the step of “getting the vision right” took weeks of leading difficult conversations between team members. As stated in the *Description* section, after I presented to the Cabinet, I went back to ensure we had the vision right. I foresee that when I am “making it stick” in stage three, the team may have to go back and “communicate the vision” (in stage two) to newer leaders to garner their buy-in. All of these situations result in a complex and “messy” process. In Figure 11, I illustrate how I view the stages somewhat differently than Kotter’s neatly arranged steps. Kotter presents a new idea in his theory of “8 Steps of Change” in *Accelerate XLR8* published in 2014. This idea is similar to the eight steps but describes them not as steps but as accelerators of change (Kotter, 2014, pp. 27-34). These accelerators are illustrated

through a circular diagram and I agree with Kotter's *Accelerate*, published in 2014 in that they are not linear steps towards an end. A caveat I would explicitly add at the very start is to "appreciate the current state" (Biech, 2007). I think this is foundational to getting the vision right and to progressing successfully through the steps/accelerators. I spent weeks at the start of my residency meeting with central office leaders to better understand and appreciate the current state. In the *Description* section, I realize I struggled with the Cabinet during my first presentation because though I had done this work, I did not clearly communicate the current state and the problems with status quo.

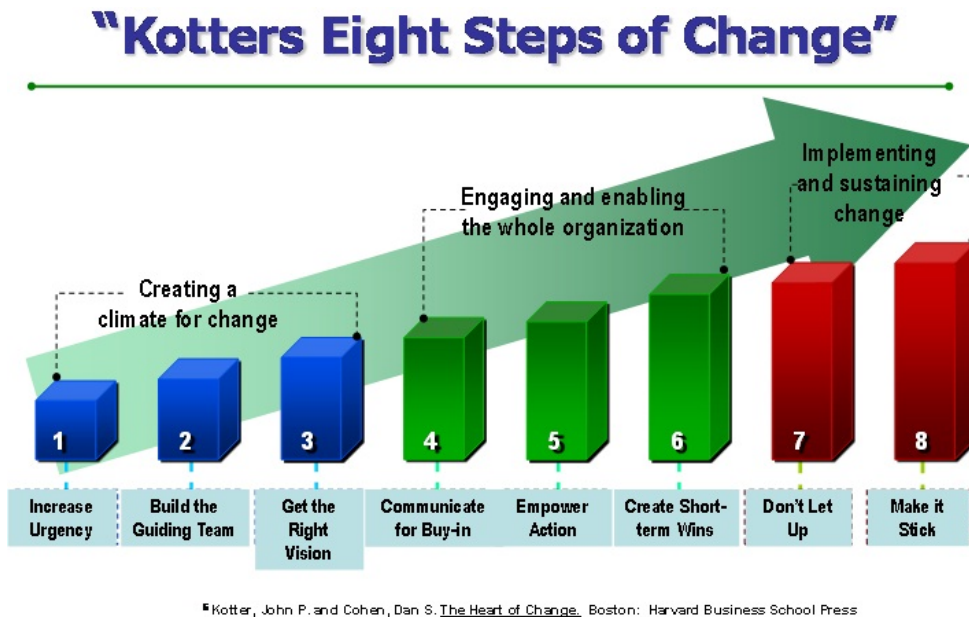


Figure 11. Kotter's stages as depicted in his pre-2014 publications.

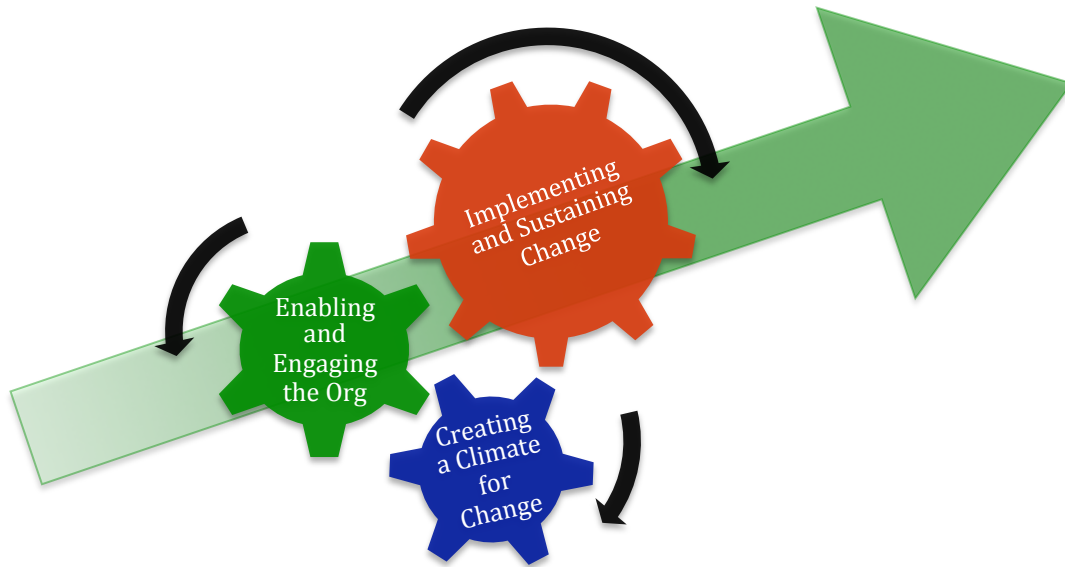


Figure 12. In my analysis of leadership through the change process, I view the stages as interactive, leading towards change. Shifts within one stage impact the others with the hardest to complete being stage three, Implementing and Sustaining change (this is where culture shift is complete).



Figure 13. Kotter's 2014 accelerators. I appreciate the shift from a linear structure to a cyclical one. I find, however, there are even more interactions between the accelerators than portrayed here.

Getting to Technical Solutions Requires Adaptive Leadership

My research and experiences have underscored the necessity that a leader be cognizant of the technical and adaptive aspects of their work. Technical challenges require accessing expertise and available knowledge and employing the knowledge towards a solution. Adaptive challenges do not have a distinct solution and a leader must engage the team in the problem and they must collectively arrive at a solution. Here, the leader does not need to know all the answers, but he or she does “need to ask the right questions” (Heifetz & Laurie, 1997, p. 124). I knew the adaptive challenges during my residency would involve successfully engaging my colleagues and superiors at central office as well as chiefs and principals in the field, and ensuring that we collaboratively built an effective and efficient system. This was going to be my main work during the second phase of my project, developing the system and readying the organization for change. Prepared to wrestle with this complex work and equipped with what I believed was the skill set to be effective, I carefully accessed and managed respectful relationships with senior leaders, central office department team members, as well as with practitioners at the network chief and principal levels throughout the residency. I strove to understand the specific needs within CPS to help my team build a system that meets those needs. My supervisor stated I had earned “a great reputation, which means you move the work” (T. Cawley, personal communication, March 27, 2015). What I was not prepared for was that the work of solving a simple set of technical problems transformed into disconcerting adaptive work. This required continually motivating the project team to stay engaged

through a frustratingly gradual process and persist towards solutions. What I am certain about now as a result of leading this strategic project is *that it's all adaptive*.

The technical aspects of the system presented adaptive challenges for the team more often than I had anticipated. In essence, since we were building a system without a model; we were innovating. As I spoke to leaders at Houston and Denver, my investigations concluded that no other district had yet built a process for procurement and knowledge sharing such as the one CPS was striving to do. Technical challenges such as grappling with the definition of Ed Tech, revising the language of the RFQ, and designing the digital platform for the RFQ application surfaced complications that I didn't have the expertise to understand or the institutional memory¹⁴ with which to access resources. And though Procurement team members knew about RFQs and ITS team members understood interoperability, every team member had some technical aspect of the system that they were learning for the first time. This is where the technical work became adaptive for me as the leader of the project team. I had to allow team members to grapple with the problem from their individual department's lens while still ensuring we collectively came to a resolution that worked for the CPS context. As an example, an objective was to develop an RFQ for Ed Tech products that communicated the district's rigorous security standards yet also incentivized vendors to apply. The team spent several weeks debating the level of security standards and student data that central office should vet. At one point, a team member reproached another member for subverting student learning and product security in an effort to make the RFQ easier for vendors. I

¹⁴ By "institutional memory," I mean the processes, protocols, guidelines and know-how of CPS. I was one of the newest members of the team and was just starting to build interpersonal relationships and contextual understanding of CPS.

had to motivate the team to persist through the process, even when individual team members were in danger of disengaging or becoming frustrated with the technical discussions. In Houston, the Ed Tech department is located within the Office of Technology. At CPS, it is within the Office of T&L. Encouraging T&L team members to co-lead this thinking with ITS was difficult because T&L members wanted to stay in the periphery until all discussions on technology and security standards were complete and the student learning impact tools were being developed. I needed T&L to understand that if they do not engage in every discussion through their expert educator's perspective (as the RKA guides), the project would be in peril of becoming an operations initiative and not advancing effective instruction. To be sure, we could not have developed the technical aspects of the system without the leadership from T&L, but moving T&L team members to assume part of that leadership throughout the process was adaptive work.

Throughout the operationalizing phase of my strategic project (end of Kotter's stage two and start of stage three), I found myself needing to reach for adaptive skills while struggling through technical issues. This may be one reason why the third phase of my strategic project has been slow in moving forward. In January, Procurement recommended that we develop a digital system for the application to replace the current manual application process. It would take time to develop this system. Some team members became frustrated and disengaged. They felt we had come so far, were ready to advertise the RFQ, and now this could result in months of delay. I started the next meeting with an apology, sharing that I was disappointed in myself for not anticipating this delay and for failing to know more about the RFQ process. Several members spoke up and also stated they did not know about automated versus manual applications and

said they understood that we were in this together. In the end, we realized this was simply another hurdle in our quest and decided waiting for an online application system was the best course. Technical challenges such as developing an online RFQ application led to adaptive challenges of helping team members persist toward the goal and “engaging the people with the problems in the work of finding solutions” (Heifetz, 2009 need page number here). We were anticipating approximately 100 RFQ applications and a manual process would be time-consuming and prohibitive. In the end, members of the Procurement team were great problem-solvers. They had been searching for an automated application tool and took the lead here to identify a solution that did not need to set the timeline back more than a few weeks. This was the point that I knew the team was taking ownership of the process and each member was working adaptively.

My strategic project was a powerful leadership experience. I developed a deep understanding of the importance of appreciating the existing CPS culture and of utilizing stakeholder engagement, sponsorship, and a talented team to create change. Having the theoretical knowledge and analytical frameworks from my last two years at Harvard, experience as an educator and consultant, and access to a supervisor who was a critical thought-partner were instrumental in helping me maintain motivation and persistence to lead the team.

Implications for Self

Understand Leadership versus Management. John Kotter states “management is about coping with complexity. Good management brings a degree of order and consistency” (2001, p. 4). Kotter juxtaposes this with the current thinking around leadership, which involves setting direction, aligning people with goals, and, in essence, motivating people to thrive through change. Kotter posits that leaders need both, the leadership skills stated above as well as the managerial skills of budgeting, organizing, and building capacity in direct reports (Kotter, 1988, p. 124). During the course of my residency, my Check-Ins with my supervisor were replete with intense reflection on my actions, our objectives, the team’s next steps, and team members’ engagement. These conversations helped me reflect on being a leader and being a manager. To lead, my role was to set direction, garner sponsorship, build a coalition and communicate with stakeholders. I accomplished this usually between whole team meetings, in small group settings or one-on-one interactions. At whole team meetings, I worked explicitly in management mode: articulating next steps, following up on team member responsibilities at each phase, “controlling and problem-solving.” Leadership means engaging in both balcony-style thinking as well as dance-floor stepping. I agree that “different contexts call for different leadership strategies” (Williams, 2005, p. xii). In future roles, I will continue to think about how leadership and management intersect and the role I may play as a leader ensuring the work is effectively managed.

In striving to be a stronger leader, I reflect on my sense of self-efficacy and my vulnerability. This was a large part of our modules and coursework over the last two years at Harvard. I shared throughout the *Description* and *Analysis* sections that I

attempted to maintain a strong sense of self-efficacy. Days were filled with doing the work and evenings were often time to strategize and plan next steps. Large organizations such as CPS have complex cultures, and navigating ambiguous situations and unclear relationships is humbling. But unsuccessful navigation of this space may mean an initiative does not gain traction, or visibility, or reach its intended outcomes. I felt alone during much of the residency. This is because at senior levels, each leader is trying to decipher complex situations yet it seems there isn't enough safety to share our challenges with others. I haven't completely unpacked this and am trying to understand why this is so. One reason could be the instability in senior leadership at some organizations. Leaders themselves do not know if their job is secure. This instability seems to promote a culture tinged with anxiety and instant accountability, and this impacts those lower in the organization's hierarchy. I don't know how, but leaders need to develop a transparent culture to help their employees feel more secure in their positions. This will better support employees in moving the work forward.

Even as I share the inadequacies I felt internally, I modeled Fullan's advice that "leaders need to act as if they are in control, project confidence, and talk about the future" (2008, p. 118). Team members and others at central office often commented that I always seemed in control. And again, this leads me to think about my *Immunity to Change*; I felt I had to project confidence in this large organization in order to be effective. At the same time, I realize no one relates to another who seems to have it all together all the time. How did feeling vulnerable impact the way I worked? How did trying to seem invulnerable impact the way others worked with me? Just as I need to find

the right space on the continuum between management and leadership, I need to find the right space between vulnerability and implacability.

Sponsorship Is Key. While I had limited recognition as a leader and limited formal authority in the organization, my supervisor enjoyed universally recognized “leadership with authority” (Williams, 2005). As explained in the *Analysis*, his sponsorship of me was a vital component in my project’s success. As I think more about sponsorship, I wonder what it really means. My observations point to sponsorship at times as a form of political cover. At other times, sponsorship opens doors or removes barriers. During my residency, I knew sponsorship was valuable. But as I reflect upon it now, I think it is essential. Good ideas from competent people without any sponsorship by the next level of leaders often do not gain traction. One of the key factors of success in my research as well as in my experience as a resident at CPS is senior sponsorship.

I have learned that, in order for me to be an effective leader, I must provide my direct reports with strong support and sponsorship. Moving forward, I will set aside time for weekly Check-Ins with my direct reports to surface challenges to their work. I will be a thought-partner to help them strategize. I will remove barriers so they can be successful. And finally, I will celebrate their efforts and their successes.

The Real Work Occurs at Every Level. One of the most difficult days of my career was the day I acknowledged I would no longer be a classroom teacher. I was excited about moving to another space in the sector, but deeply conflicted with the thought that I may lose sight of the students and the real work of schools. A few years later, when entering the Harvard EdLD program, I was again anxious that the next phase of my career would find me at a central office; far away from the students I wanted to

serve. During the residency, however, I met several educators at central office who were doing powerful work that helped improve student learning. Though there is inefficiency, ineffectiveness, bureaucracy, and politics in the complex culture at the central office, developing a system-wide framework such as the one my team and I helped built for Ed Tech could not happen if all educators stay in classrooms. We need educators to be with students in schools, but we also need educators to step away from the classroom to do system-building work. I am completing my residency understanding that the real work of improving student learning happens at every level of the sector.

Though the work of improving student learning happens at all levels, I must acknowledge that in a large school system, the farther away a department is from the work in the classroom, the less I observe its members seem to understand and appreciate the difficult work of classroom educators. As difficult as it may be for teachers to understand central office functions, it is also difficult for central office administrators to appreciate the challenges of instruction and of leading schools. Though the above may be true, both parts of the organization are vital in the education system. The work our team engaged in during this year leaves me hopeful that educators and central office leaders can collaborate on initiatives that benefit students. Network chiefs and principals shared their top three concerns about Ed Tech, technology experts at central office provided standards that would ensure student data privacy and interoperability, lawyers developed the RFQ language as well as the vendor contracts. Once the system is operationalized, teachers will provide reviews of products and increase the organization's knowledge of effective Ed Tech. These are all powerful examples of how the real work happens at every level.

Implications for Site

Address Tension Between Ed and Ops. With the strong leadership team CPS currently has, there is an opportunity to improve collaboration between the offices that focus on education and the offices that focus on operations. The Chief Technology Officer stated at the start of my residency that my experience as an educator may allow me to be a bridge between the Ops and the Ed sides of the Ed Tech work. When Teaching and Learning and the operations departments disagreed on whether or not to include restrictive language in the framework, despite my background as an educator, I agreed with the operations viewpoint. In other situations, I have observed non-education administrators fail to understand the decisions of education leaders who they perceive as lacking management expertise. It is disconcerting that the phrase “We know better” may inhibit both sides from working more cohesively towards a greater goal.

I refer to the Ed and Ops dichotomy throughout the *Implications* section because it is one of the most salient challenges to the education system. Community members protest the interference of business interests in charter schools and accountability reforms. Business leaders point to career educators as poor managers who cannot balance budgets or develop employees. People within the system highlight the differences between career educators, finance professionals, lawyers, and operations professionals as a reason why we can't develop effective policies. We need to understand that the education sector has changed. Districts now have professionals who come from diverse backgrounds in business and law who are making decisions on resources, policies, and strategies that directly impact teaching and learning. To move the work forward, we will have to stop putting up walls between our spaces in the building, and we will have to start

leveraging individual expertise. The vision is clear; every student must graduate ready for college and career. Regardless of whether one is an Ops or Ed professional, all employees bring a needed skill set and expertise to this work. When we began the strategic project, team members would sit around the table divided in groups by department and office. As we began working together to solve multiple issues and develop a complex solution, our respect for each other's expertise grew. During the last two months, I observed team members walking into meetings and choosing to sit cross-functionally. A central office employee can belong to one or the other side of the building. The key to our success, however, will be to ensure that though each side of the building brings a unique set of expertise and talent, both sides of the building are working collaboratively towards improving student learning.

Build a Culture of Trust With Stakeholders. Almost daily, a news story highlights a potential CPS mismanagement issue. The last couple of years were filled with angry stories on the school closings and teacher strike. This school year opened with allegations of the mismanagement of maintenance outsourcing to Aramark. The latest media concern involves the financial crisis. These are issues between CPS and the community. Within CPS, most principals and vendors I interviewed were wary of our initiative. Some even bluntly stated this might be another system built by central office that principals would work around or ignore. All of the above point to a lack of trust between the stakeholders within our school system as well as between the system and the community. Distrust is difficult to repair, but CPS leadership must persist in authentic attempts at engagement, communication, and collaboration. There is no other way.

To add to our challenges in building trust, constant turnover at the senior leadership level hinders the building of long-term relationships between stakeholders. A recent article in the Wall Street Journal highlighted the struggles at McDonald's and linked them with the revolving door of leadership at their highest level. After Arnie Duncan left to go to Washington, DC in 2008, CPS had four different CEOs within six years. Over the last two years, Ms. Byrd-Bennett brought continuity of leadership to a district that desperately needed it. It is clear from listening to employees throughout the district that, during past transitions, leaders may have been busy learning about the enormous scope of their job and operating in constant crisis mode. There was little capacity to identify strategies or build systems. Several employees told me that even a year of not having to deal with school closings, a teachers' strike, and other immediate fires means that more time and energy is now spent building systems and developing processes. Core Curriculum and Professional Learning has implemented regular Principal Institutes and teacher leader professional development. CPS leaders are working hard at breaking silos and working in cross-functional teams across "The Wheel" (see Appendix O). I am certain that the Ed Tech strategic project was possible this year because the Chief Information Officer, The Chief Procurement Officer, and the Professional Learning team have been in place for the last two years. The challenges with the current state of Ed Tech procurement surfaced and leaders recognized them. With my entry into the system, they were able to identify a space that needed change, and agreed on a point person to lead that change.

By the time this capstone is completed and published, the 2015 mayoral election will have been held. There may or may not be a new CPS CEO for the upcoming school

year and either way, at least a few Cabinet members will change. This is what seems to happen at urban districts throughout the nation. The next year for CPS will bring a “maintenance challenge,” one where Dean Williams identifies as needing leadership that holds an organization “together when it is under threat” (2005). The threat here may be a drastic change in leadership, in core work, and in massive reorganization. The threat is real, but if systems are put in place during this year that codify the “way we do business” as Tim Cawley refers to it, new leadership will make changes, but may also maintain effective existing policies and processes.

Address Need for Comprehensive Technology Strategy. My very first set of meetings with network chiefs, principals, and even central office team members surfaced questions regarding the district’s comprehensive strategy for technology in education. The Ed Tech system my team developed focuses on instructional software and products, but how does this connect with devices, Internet bandwidth and information systems? And how do all of these areas integrate with teaching and learning? I asked the Chief Information Officer about this and his response was that though he could speak to his office’s approach for certain aspects of the work, no system-wide strategy explicitly articulates how education and technology are integrated at CPS. The CIO further explained that to develop a comprehensive technology strategy at CPS, he believed instructional experts, not IT professionals, must lead the process. To lead this work, I believe the department of Ed Tech (within the Office of T&L) must have greater influence and resources and be positioned to provide key leadership in collaborating with other departments across CPS. In speaking with leaders in Houston and Denver, however, I recognize that CPS is not an outlier in its struggles. District leaders everywhere are

wrestling with a strategy for technology in education. The current state finds districts overwhelmed with issues regarding increasing Internet bandwidth, managing purchased resources, and ensuring student data security. There seems to be little time to step off the dance floor, get onto the balcony and think strategically.

Implications for Sector

Develop Leaders who are Educators *and* Managers. I spent over 12 years of my career as a classroom or school-based educator, five years in developing teachers and principals, and the last few years gaining strategy, management and operations acumen. This combination of instructional leadership, strategy and management skills, and operations experience is unique in our sector and yet I still know I have much to learn. Educators are not explicitly trained in business and operations skills, and this means private sector managers are needed in the education arena. Today, non-educators make key decisions at school districts, and sometimes these decisions are made with little understanding of the impact on teaching and learning. Leadership with diverse and multiple perspectives will strengthen our sector but I also know we need to grow our own education leaders who are also strong managers. Just as medicine and law have M.D. and J.D. as their practitioner degrees, EdLD should be the senior-level education administrator degree. I hope this program becomes a model for others across the nation.

Support Integration of Technology with Instruction. Technology in education is now a multi billion-dollar industry. Dr. Puentadura, developer of SAMR, identifies the three key trends driving Ed Tech adoption as 1) the shift to deeper learning (with the Common Core State Standards), 2) the increasing use and availability of hybrid learning designs such as digital texts, online content interventions, etc., and 3) the long term “rethinking of how schools work” (Puentadura, 2014). The education sector is changing the way we are approaching pedagogy. This was no more apparent than during my trip to San Francisco to visit Summit School and Bright Horizons School. Each school was very different from the other. Summit clearly is a Personalized Learning model with a blended

learning pedagogy and with Ed Tech as a key resource. Bright Horizons is also a personalized learning model but they focus on experiential learning, small group discussions, and other pedagogical strategies as well as blended learning.

Clearly, technology can be a powerful tool in improving instruction. But as my RKA reveals, it is about the Ed not the Tech. Education leaders must develop a vision of student learning, then work backwards to design the instruction and identify the tools to help students get to that vision. In some cases, a rich small-group discussion may actually be the best instructional strategy and in other cases, a technology product will provide the optimal learning experience. To successfully integrate technology into instruction, a two-prong approach is needed where 1) district leaders develop strategy and manage infrastructure, and 2) educators integrate technology into instruction as critical consumers of Ed Tech.

Central office can develop strategy; place the focus on student learning, ensure a strong Internet infrastructure, pre-vet products for basic standards, offer opportunities for piloting and innovating, and finally, create a system for knowledge-sharing. Their expertise lies in being able to get onto the balcony and look across the system to identify problems and develop solutions. Teachers and principals, working directly with students, must be critical consumers of technology to effectively integrate it into instruction. The skills to do this should be developed at teacher and principal education programs and then nurtured during the first years of teaching within a district. When I taught in the department of education for two different universities, the quality of the courses on technology integration of instruction needed improvement. Professors had little practical knowledge so they invited practitioners from the field, teachers who shared training on

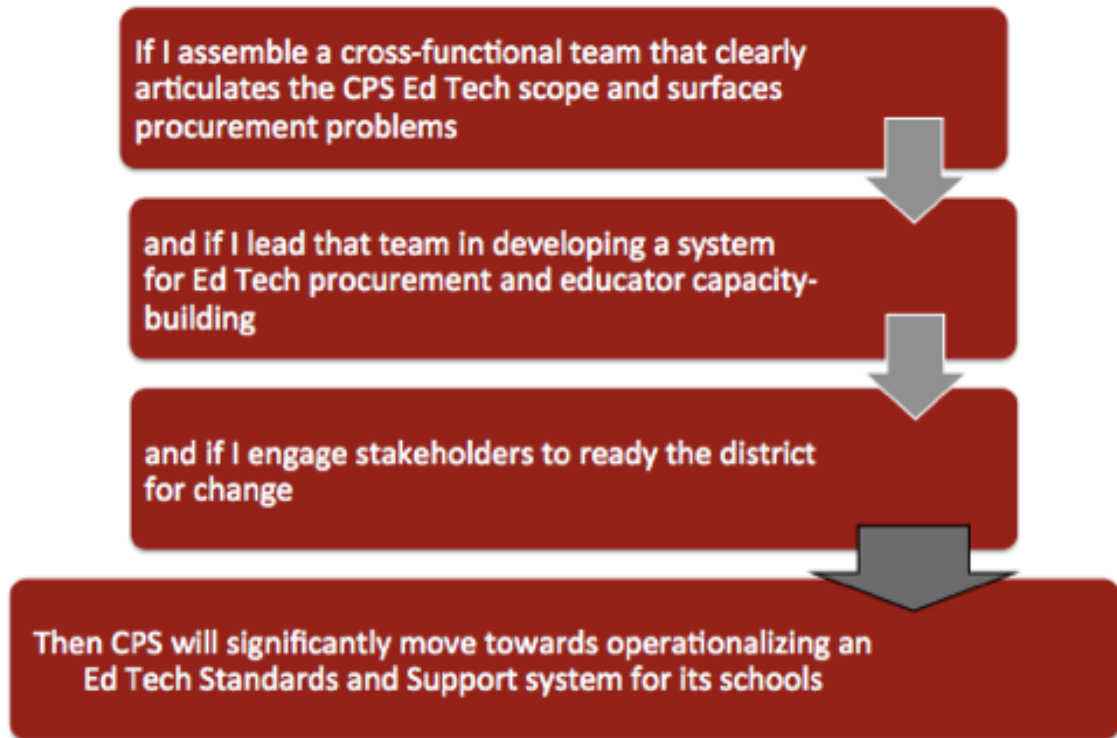
the tools they liked best. Aspiring teachers and principals may need some specific training on a product, but what they really need is to develop an understanding of the learning outcomes they are striving for, the best pedagogy to employ, and the skills to distinguish which amongst the myriad of products will be the most effective tools for their students. Developing school leaders and teachers to be intentional educators and then critical consumers of Ed Tech will help ensure instructional time is maximized during the school day. Both central office leaders who can think systemically and school-based practitioners who are focused on their students' learning are needed for effective technology integration.

Conclusion

Fifteen years ago, as a fifth grade teacher, I was excited to be in the new learning space called educational technology which I knew would engage my students and provide me with valuable differentiated instructional strategies. I strove to make my classroom a place to innovate in teaching and learning and I discovered that my students were eager partners in consuming effectual Ed Tech. That year, my students' favorite software application was Type to Learn, a CD-based program that taught keyboarding skills and provided me with instant data on student learning. It also made learning to type fun. I, myself, appreciated the videos on United Streaming that helped my students visualize the signing of the Declaration of Independence and the battles of the Great War. They complemented my storytelling-style of teaching United States history. These supplemental instructional materials were valuable, and student growth data revealed positive impact on student learning.

During the late 90s and early 2000s, there were relatively few Ed Tech companies in the education sector. Teachers and administrators were novices in harnessing the power of technology in the classroom and districts were just starting to become consumers in the marketplace of technology-based products and services. Today, districts and school systems are facing “an explosion of EdTech solutions” sold by hundreds of vendors and developers (Bailey et al., 2014, p. 37). And yet, many educators and districts are still novice consumers. There are a great many and still growing “number of affordable devices and high-quality digital content” (Bailey et al., 2014, p.1), but there is an equal amount of confusion and frustration. And this was the focus of my strategic project at CPS.

I developed the three phases of my strategic project directly from the research and the Theory of Action that I articulated at the end of my RKA.



As articulated in my *Results and Analysis* I was able to assemble the cross-functional team, to lead them in developing an Ed Tech procurement system and, through stakeholder engagement at multiple levels of the district, ready the district for change. These were the first two phases of my strategic project. The project is now being operationalized, the third phase of the project. I am not sure I have helped CPS “significantly move towards operationalizing” the system by the end of my residency, but I know it is possible by the summer if a vital step, the RFQ, is advertised as planned by April 9th.

The goal of my strategic project was initially concerned with procurement, but expanded to include developing and operationalizing a comprehensive Ed Tech Standards and Support System for CPS. The framework would support network chiefs, principals and teachers in identifying and procuring high-quality Ed Tech products and programs for instructional use. The robust system would also increase capacity in CPS educators to intentionally integrate Ed Tech into the pedagogical practices that help students meet Common Core State Standards. Structures would also be in place for educators across the district to share knowledge and exemplary practices of integrating technology with instruction.

My EdLD residency had a very clear strategic project. Stakeholders acknowledged me as the team leader, the first level of credibility I needed in this large, hierarchical organization. My team was talented and thoroughly immersed in the work of changing the way CPS managed Ed Tech, collectively devoting hundreds of hours to develop and operationalize the system. Cabinet members were powerful sponsors of the work and their guidance pushed our thinking. Network chiefs and principals provided valuable input that required the project team to wrestle with the original intention to address procurement and to expand the breadth of the project to include capacity building and knowledge sharing. Looking in from the outside, many things seem to fall into place and I am gratified that our efforts resulted in moving the work of the district forward.

At the same time that the work was moving forward, as a leader, I was at my learning edge every moment of this residency. Technical complications that I had little knowledge with which to solve resulted in months of delay in the release of the RFQ. Complex relationships between central office leaders, vendors, external partners, network

chiefs, and principals meant that I was navigating a complicated web of people and politics. Several principals said they would work around a poorly constructed system, two network chiefs stated a system without professional development was doomed to fail, central office leaders continued meeting with vendors whom I knew should be going through the RFQ, one board member asked why we hadn't engaged a particular partner to help with this work, and Law told us this same partner could not be engaged. Days were filled with meetings and evenings were time to get off the dance floor, onto the balcony, and strategize. We did develop a strong Ed Tech system but my team did not complete the operationalizing of the system. I am working to ensure clear plans are laid for the next few months. My goal is that the system is valuable to chiefs, principals and to our vendors as schools make decision for the 2015-2016 school year.

I strove to push internal stakeholders to think more broadly from Ed Tech procurement towards a comprehensive technology strategy that integrated technology assets, Internet bandwidth, online and software student learning products, and management software with teaching and learning. Ed Tech procurement is one piece of the puzzle and my hope is that our work provides some learning for others working in this space. To truly impact student learning and instruction through the integration of technology and instruction, a critical number of Cabinet level leaders will need to appreciate the fact that we are preparing our students, as the CPS vision states, for “success in college, career, and life” and that we are doing it in the *digital world*. In Houston, superintendent Dr. Grier is leading the efforts to “Power Up,” Houston’s initiative to seamlessly integrate technology and instruction. At CPS, I was not able to actually help CPS leaders develop a comprehensive strategy for technology integration or

come to agreement on the need for one, but I hope the work we did this year highlights the fact that more focused efforts and resources in this space are necessary. Districts are watching each other and learning from each other in this evolving space of Ed Tech. The work CPS is engaged in to bring clarity and transparency to the Ed Tech space can be a model for other districts.

My residency at CPS has been immensely satisfying and engaging. The work was meaningful and I believe I was a value-add to the district. Leading the strategic project tested and honed my leadership skills, and developed my capacity for political navigation. This was complex and complicated work, and I thoroughly enjoyed it. My supervisor, Chief Administrative Officer Tim Cawley, was a powerful sponsor for the project and an advocate for my leadership at the Cabinet level and with stakeholders.

I am a product of the public school system and it is a challenging and exciting time to work in the education sector. When I left teaching in the classroom several years ago, I didn't know if I would be able to find the same level of meaningful work in other areas of the education sector. Over the next few years, however, I found that working with aspiring teachers and principals to develop their skills was rewarding. Today, as I complete my capstone and look towards graduation, I do not know where I will spend the next phase of my career. But if it includes serving our students, educators, and community and helping to improve our schools, then I will be in the right place.

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Appendices

Appendix A Meetings and Interviews with Stakeholders

The following is a list of internal as well as external interviews and focus group meetings I held with stakeholders and partners over the course of the strategic project. Each section is in chronological order.

Chicago Public Schools:

Name	Role at Chicago Public Schools	Date of Personal Communication
Tracy Martin	Chief of Schools, OS4 Network	July 16, 2014
Tom Tyrrell	Chief Operations Officer	July 21, 2014
Lily McDonough		July 24, 2014
Adam Anderson	Deputy Chief of Staff, CEO	August 14, 2014
Denise Little	Chief of Networks	October 14, 2014 January 7, 2015
Anna Alvarado	Chief of Schools, Network 1	October 27, 2014
Phil Salemi	Chief of Schools, Network 2	
Ernesto Matias	Chief of Schools, Network 4	October 30, 2014
Dan Gomez	Principal, Hayt Elementary School	October 31, 2014
Krish Mohip	Deputy Chief of Schools, OS4 Network	October 31, 2014
Mike Biela Yashika Tippet Rich Miller Fred Aguirre Ferdinan Wipachit Steven Rouse	Principals, Service Leadership Network Principals	November 1, 2014
Pamela Brandt Stephen Tow	Principal, Goudy Elementary School Teacher Coordinator, Goudy Elementary School	November 6, 2014
Chip Johnson	Chief of Schools, Network 6	November 12, 2014
Julie McGlade Janette Medellin	Principal, Garvy Elementary School Assistant Principal, Garvy Elementary School	November 12, 2014
Naomi Titean	Teacher, Swift Elementary School	November 12, 2014
Colonel Kevin Kelley Ardis Relf Scott Kochheiser	Chief of Schools, Service Leadership Academy Network Assistant Director of Programs and Budget at Chicago Public Schools Director of Army Instruction (JROTC) at Chicago Public Schools	November 16, 2014
Focus Group	Principals, Network 6	November 17, 2014

Barbara Byrd-Bennett and CPS Cabinet	Cabinet Meeting	November 18, 2014 December 16, 2014
Shawn Jackson	Deputy Chief, Teaching and Learning	November 25, 2014 December 23, 2014
Focus Group	Goudy Elementary School Teachers	November 24, 2014
Focus Group	Principals, Network 4	December 3, 2014
Katherine Hagstrom	Principal, Walt Disney Magnet School	December 12, 2014
Abigayil Joseph	Chief of Staff, Board of Education	January 7, 2015
Ron Iori	Chief Communications Officer	January 7, 2015
Janice Jackson	Chief of Schools, Network 9	January 20, 2015
Tracey Ginwright	Deputy Chief of Schools, Network 5	January 20, 2015
Minerva Sanchez	Deputy Chief of Schools, Network 10	January 22, 2015
Karen Saffold	Chief of Schools, Network 13	January 22, 2015
Barton Dassinger	Principal, Chavez School	January 26, 2015
John Barker	Chief of Accountability	February 2, 2015
Mary Beth Cunat	Principal, Wildwood School	February 6, 2015
Barbara Byrd-Bennett	Chief Executive Officer	April 1, 2015

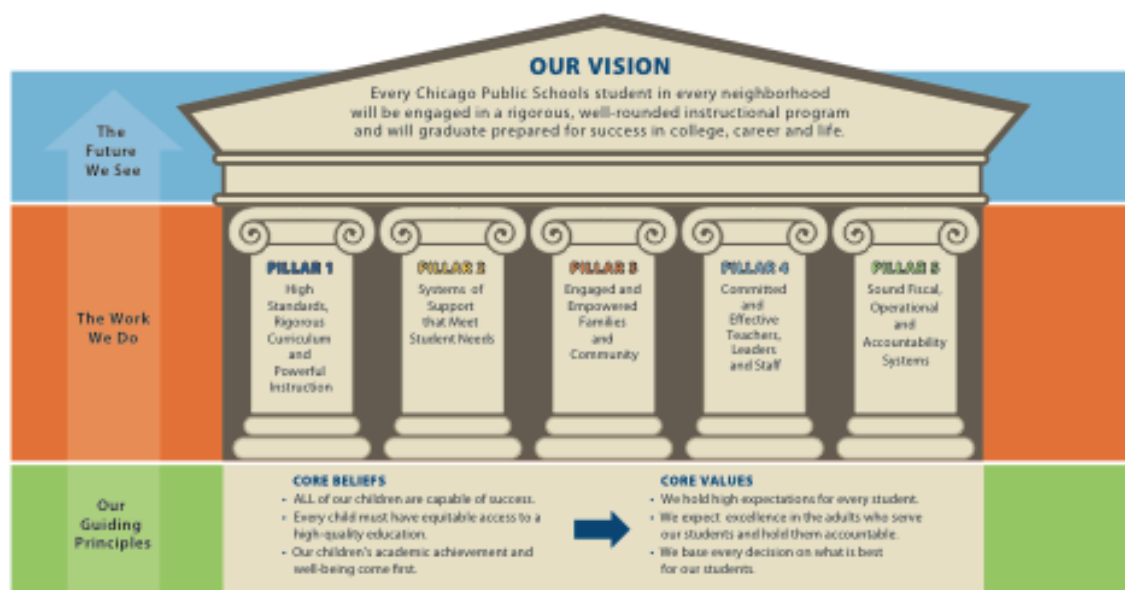
District Benchmarking Contacts, CPS Partners, CPS Vendors:

Name	Role, Organization	Date of Personal Communication
Casey, Katherine	Deputy Director, Ecosystem Innovation at Denver Public Schools	August 14, 2014
Zoe Stemm-Calderon	Harvard Education Leadership Doctoral Resident, Bill & Melinda Gates Foundation	August 22, 2014.
Deneice McClary	Personalized Learning Broad Resident	August 25, 2014
Ben Kutyllo	Director of Program Investments, The Chicago Public Education Fund	September 12, 2014
Karl Wendt	Discover Create Advance, Founder	September 16, 2014
Doannie Tran	Founder, Teaching Genome	September 17, 2014
Myetie Hamilton	Deputy Chief of Schools, Network 9	September 23, 2014
Jeff Grace Manish	EdModo Team	September 26, 2014
Gever Tully	Founder, Bright Works School	October 20, 2014

Jon Deane	Chief Information Officer, Summit Public Schools	October 20, 2014
Mike Wood	Founder/CEO, SmartyAnts	October 22, 2014
Parisa Moradi	Founder, LeapFrog	
Phyllis Lockett	Vice President at Smarty Ants, Inc	
	CEO, LEAP Innovations	October 22, 2014 November 25, 2014
Arnie Rivera	Deputy Chief of Staff of Education, Office of Mayor Rahm Emanuel	October 23, 2014
Katherine DuBose	Business Development Director, MasteryConnect	November 14, 2014
Ashima Gupta	Kellogg MBA Student and former CPS Procurement staff member	December 9, 2014
Hal Friedlander	CIO, NYC Department of Education	December 11, 2014
Mark Dunetz	Vice President, New Visions for Public Schools	
Dr. Chris Dede	Professor, Harvard University	January 16, 2015
Dr. David Dockterman	Lecturer, Harvard University	January 16, 2015
Zak Ringelstein	Founder and CEO, UClass	January 16, 2015
Chris Cook	Regional Director, Lexia Learning	January 20, 2014
Scott Pionek	Account Executive, Lexia Learning	
Steven Hodas	Center for Reinventing Public Education (CRPE)	January 20, 2014
Tricia Maas		
Debra Britt		
Alison Krupnick		
Jat Pannu	Chief Strategy Officer, Aegis Identity Software	January 30, 2015
Perry Keenan	Developer of the DICE framework, Boston Consulting Group	April 2, 2015

Appendix B The Chicago Public Schools Vision and Action Plan

The Next Generation: Chicago's Children – Our Framework for Success



At CPS, our vision is that **every student in every neighborhood** will be engaged in a rigorous, well-rounded instructional program and will graduate prepared for success in college, career and life.

1 First: we need **high standards, rigorous curriculum and powerful instruction** for all students regardless of their neighborhood, diverse learning needs or level of English language proficiency. We must go beyond the basics to ensure that children become critical thinkers, effective communicators and responsible global citizens. The definition of core instruction must be expanded to include the arts, health, physical education and extracurricular activities.

2 Second: we need robust **systems of supports that meet all of our students' needs** because every student is unique. High expectations for all students must be coupled with a holistic approach that supports the individual needs of each. We must also remove barriers to learning with practices that promote children's health and safety, social and emotional development, school attendance and college and career preparation.

3 Third: for students to achieve at the highest level, the district needs **engaged and empowered families and communities**. Parents must be empowered as leaders who can advocate for their children and for all the community's children. Meanwhile, school and district leaders must be resourceful in identifying community partners who can support children's growth and learning.

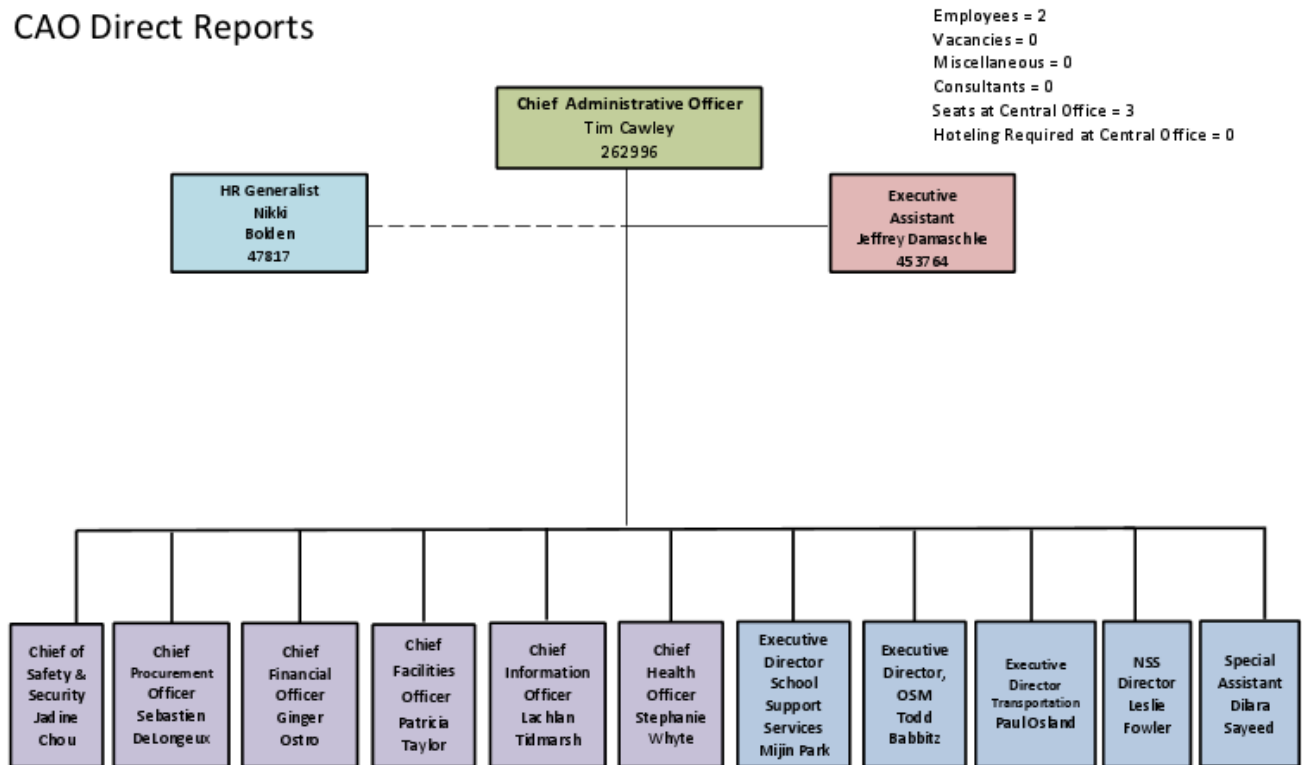
4 The fourth pillar is to ensure **committed and effective teachers, leaders and staff**. Our teachers, principals and administrators will be valued and developed, will hold themselves accountable and will be rewarded for success. We must ensure we are the place where the best talent comes to work.

5 And the fifth and final pillar is that we need **sound fiscal, operational and accountability systems**. Priorities that lead to student success must drive planning, spending and accountability at the school and district level. Every employee needs to be held accountable for student outcomes and also provided with useful data and guidance in working toward those goals.

Appendix C Chief Administrative Office (CAO) Organization Chart

During my EdLD Residency, I served as Special Assistant on Strategic Projects for the Chief Administrative Officer (CAO) and I was a direct report of the CAO. Tim Cawley, my supervisor, and I carefully crafted my entry and this initial planning provided a level of great access and credibility within the organization as I started my residency. During my strategic project, I led a cross-functional team within the CAO departments of Procurement, Information Technology Services, and across the Offices of Teaching and Learning, Innovation and Incubation, Diverse Learners, Network Support, Language and Culture, and Law.

CAO Direct Reports



Appendix D One Potential Scope of Ed Tech

This slide is part of the deck shared by Chief Procurement Officer Sebastien deLongeaux by a former colleague in Procurement, Ashmita Gupta (2014). It reveals the potentially vast scope of Ed Tech and underscores that there is no standard definition of Ed Tech across the education sector.

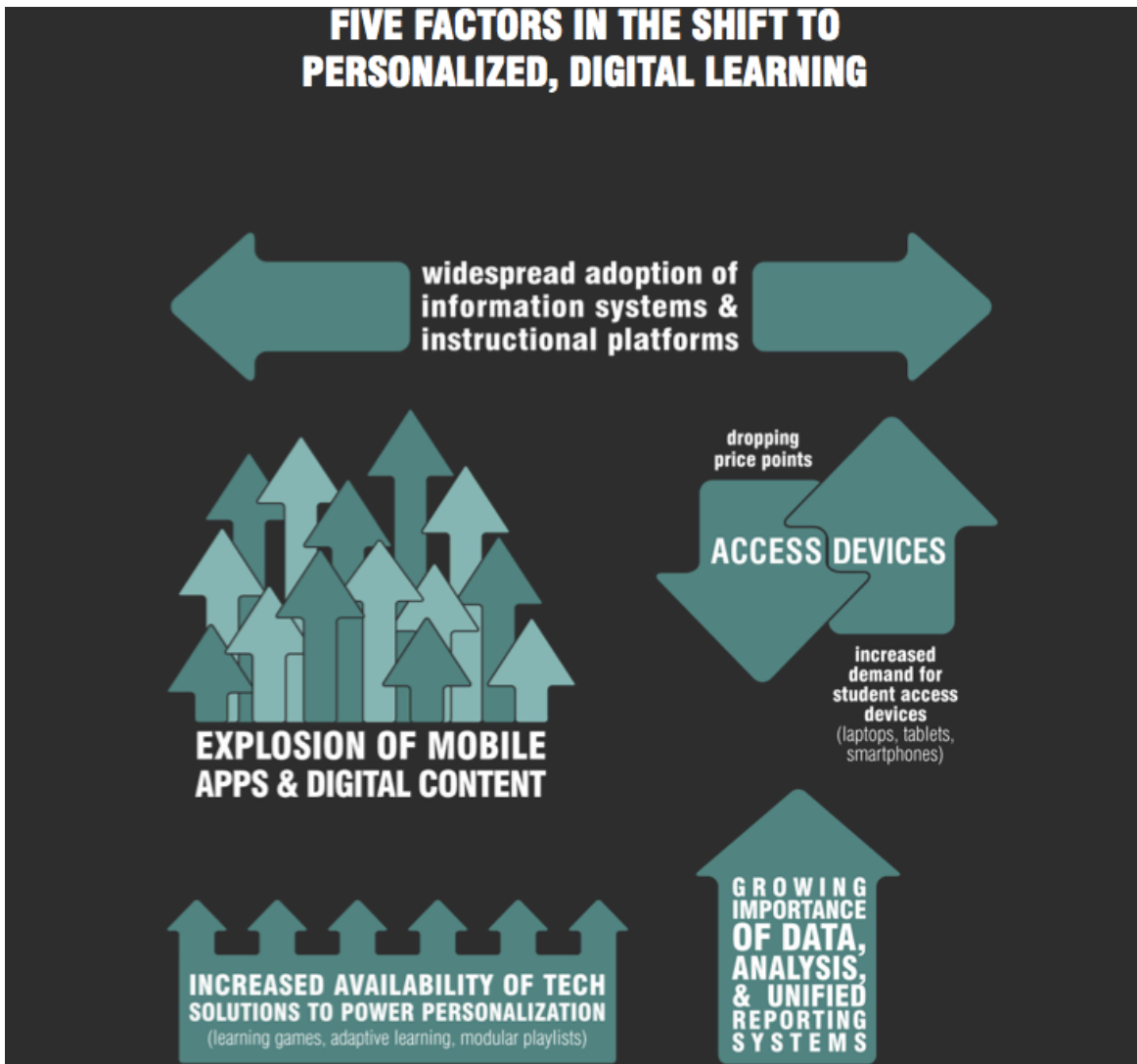
Scope of EdTech is Expanding



Pre-K	K12	Post-Secondary	Lifelong Learning
Entertainment	Individualized Learning	Textbook Rental	Reskilling
Bedtime reading	Teacher Evaluation	Digital Textbooks	Professional Development
Mobile Games	Student Assessment	Test Prep	Certification
Developmental Apps	Learning Management Systems (LMS)	Social, Learning	Corporate Training
	Common Core	Online Learning	Language Training
	EduGaming	Mobile Apps	eLearning

Appendix E Key Factors in the Shift to Digital Learning

This is a graphic from *The Smart Series Guide to Ed Tech Procurement* by Digital Learning that explains the key factors that have impacted the shift in the education sector to Personalized Learning.



Appendix F Detailed Project Timeline

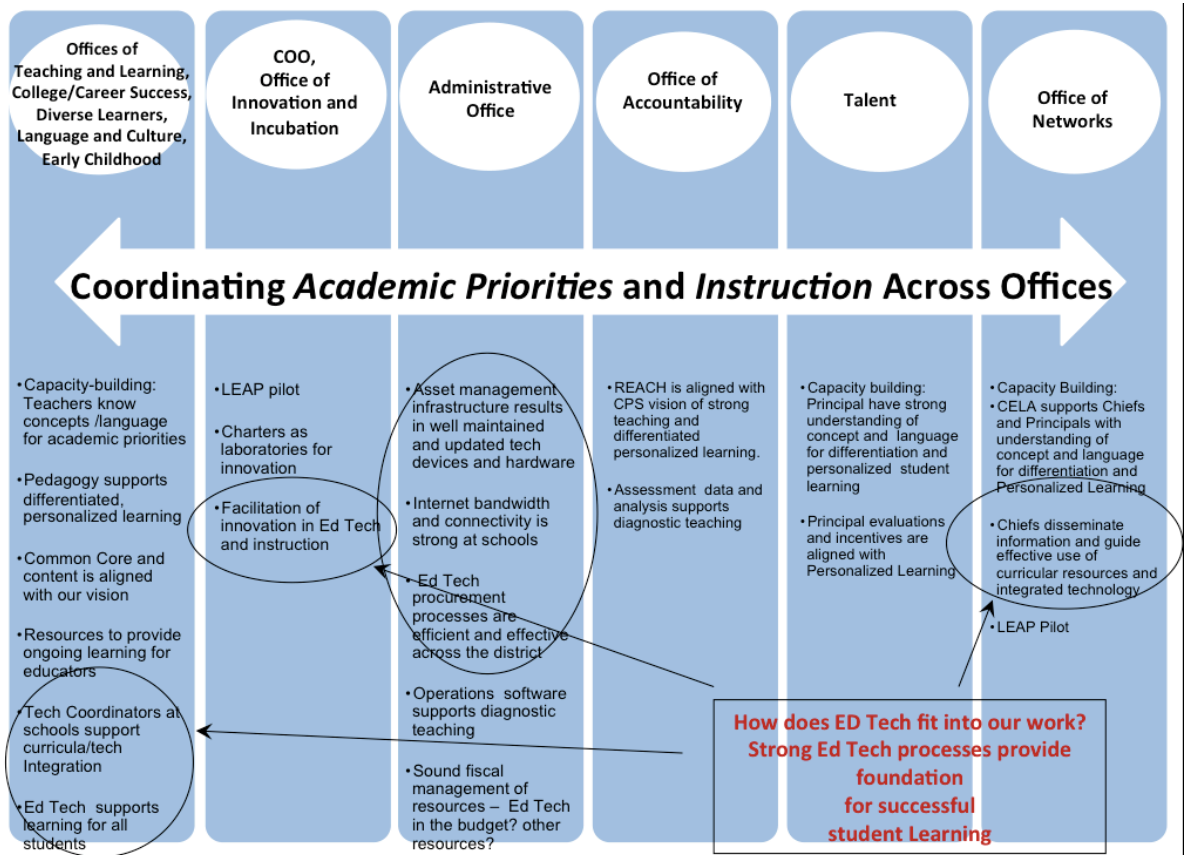
The following is the detailed project plan as of December 19, 2014 that explains the team's efforts between July 2014 through March 2015. The team did not utilize this plan as much as I thought they would but I used it to keep me focused on the end of my residency and what I hoped to accomplish by then.

Jack, Sebastian, Abbey, Alex, Amanda, Mike, Lachlan, Gavin, Joanne, Julie K., Jennifer, Julie M., Annette, Deneice, Shawn, Susan, Lauren, Donna, Tony, Tim, Dilara							8/27/2014	9/3/2014	9/17/2014	10/1/2014	10/15/2014	10/29/2014	11/5/2014	11/19/2014	12/3/2014	12/17/2014	1/7/2015	1/21/2015	2/4/2015	2/18/2015	3/4/2015	3/18/2015
#	Overall Deliverable	#	Tasks	Owner	Status	Start Date	End Date															
1	Form Steering Committee	1.1	Identify, share project info, confirm commitment	Dilara	complete	7/18/2014	8/27/2014															
		1.2	Monthly updates	Dilara and ...	in-progress																	
2	Project Committee Initializing	2.1	Identify, share project info, confirm commitment	Dilara	complete	7/18/2014	8/27/2014															
		2.2	Identify scope of the project	Project Team	complete	9/3/2014	10/1/2014															
		2.3	Meet first, third and fifth Wednesdays	Project Team	in-progress	9/3/2014	1/23/2015															
3	Ed Tech Procurement Framework		Identify Benchmarking Districts	Project Team - owners delineated in Google spreadsheet: "Ed Tech Benchmarking Districts"	in-progress	9/3/2014	10/1/2014															
			Identify products/services to test prototype	Project Team	in-progress																	
			Articulate steps in procurement process	Project Team	Complete (Review if needed)	8/27/2014																
			Continue revising framework based on new learning	Project Team	Complete (Review if needed)	9/3/2014																
			Test prototype	Project Team	in-progress	10/1/2014	12/17/2014															
4	Glossary of technology terms	4.1	Articulate definitions for ed tech, different products and services in Google Doc	Lauren, Donna, Dilara	complete	9/3/2014																
		5	Filter A Develop RFQ	Project Team	complete	9/3/2014	10/1/2014															
5	Filter A Develop RFQ	5.1	Finalize scope of work	Project Team	complete	9/3/2014	10/1/2014															
		5.2	Develop ITS Standards for RFQ	Lachlan, Gavin, Edward	complete	9/3/2014	10/29/2014															
		5.3	Develop Procurement Standards for RFQ	Sebastian, Michael, Alex	complete	9/4/2014	11/5/2014															
		5.4	Develop Legal Standards for RFQ	Julie, Jennifer	in-progress	9/5/2014	11/12/2014															
		5.5	Finalize RFQ details	Alex, Abbey, Dilara	complete	10/15/2014																
6	Initial Feedback from Stakeholders/Clients	6.1	Share and Garner Feedback from Network Chiefs	Dilara, Donna, Deneice, Anthony, Alex, Amanda, Jack	in-progress	10/15/2014	11/19/2014															
		6.2	Share and Garner Feedback from Principals	Dilara, Donna, Deneice, Anthony, Alex, Amanda, Jack	in-progress		11/19/2014															
		6.3	Share and Garner Feedback from Teachers/Parents/Community Members	Dilara, Donna, Deneice, Anthony, Alex, Amanda, Jack	in-progress		11/19/2014															

Jack, Sebastian, Abbey, Alex, Amanda, Mike, Lachlan, Gavin, Joanne, Julie K., Jennifer, Julie M., Annette, Deneice, Shawn, Susan, Lauren, Donna, Tony, Tim, Dilara							8/27/2014	9/3/2014	9/17/2014	10/1/2014	10/15/2014	10/29/2014	11/5/2014	11/19/2014	12/3/2014	12/17/2014	1/7/2015	1/21/2015	2/4/2015	2/18/2015	3/4/2015	3/18/2015
#	Overall Deliverable	#	Tasks	Owner	Status	Start Date	End Date															
7	RFQ Implementation and Results		Produce and Disseminate	Alex/Michael,	in-progress	11/12/2014	12/3/2014															
			Collect and Evaluate	Project Team	in-progress																	
			Evaluators and Meetings Set Up	Alex, Dilara	in-progress																	
			Vendor Meeting to answer questions	Alex, Dilara, Shawn, Lauren, Donna, Tony				3/25/2015														
8	Develop Category 1- Managing Unvetted Vendors		Develop one-pagers for principals, PD plan	Donna Tony, Dilara, Jennifer	in-progress	10/15/2014	11/19/2014															
			Plan with PD, communication stream, etc	Lauren, Donna, Tony, Dilara	in-progress	10/15/2014	12/3/2014															
9	Develop Category 2 Plan		Online, interactive catalog	Gavin, Lauren, Donna, Dilara	in-progress																	
			Develop Filter B- Vetting Process for Quality	Lauren, Susan, Donna, Deneice, Julie M, Dilara, LEAP- Phyllis, The Fund	in-progress	10/15/2014	?															
10	Develop Category 3- Strategic Source List of Vendors		Change Process in Action	Lauren, Donna, Julie M.,		10/15/2014	?															
			Reflections and Revisions	Project Team		12/3/2014	3/11/2015															
			Trainings and Professional Development																			
14	End Stage Feedback from Stakeholders to move to sustainable change	14.1	SSC Training	Donna, Anthony, Dilara		2/1/2015																
		14.2	Principal Institute Q 3 Training	Marie, Donna, Anthony, Dilara		2/1/147																
		14.3	ISL, Ed Tech Co, ILT, ??? trainings	Donna, Anthony, Dilara		2/1/147																
15	Category 2 Roll Out		Share and Garner Feedback from Network Chiefs	Dilara, Donna, Tony, Lauren, Shawn		1/29/2014	3/11/2015															
			Share and Garner Feedback from Principals	Dilara, Donna, Tony, Lauren, Shawn		1/29/2014	3/11/2015															
			Share and Garner Feedback from Teachers/Parents/Community			1/29/2014	3/11/2015															
15	Category 2 Roll Out		Online catalog launch	Annette, Susan, Lauren, Dilara, Donna, Tony		2/2015																
			Demo Day/Vendor Fair	Lauren, Donna, Tony, Dilara		4/1/2015																

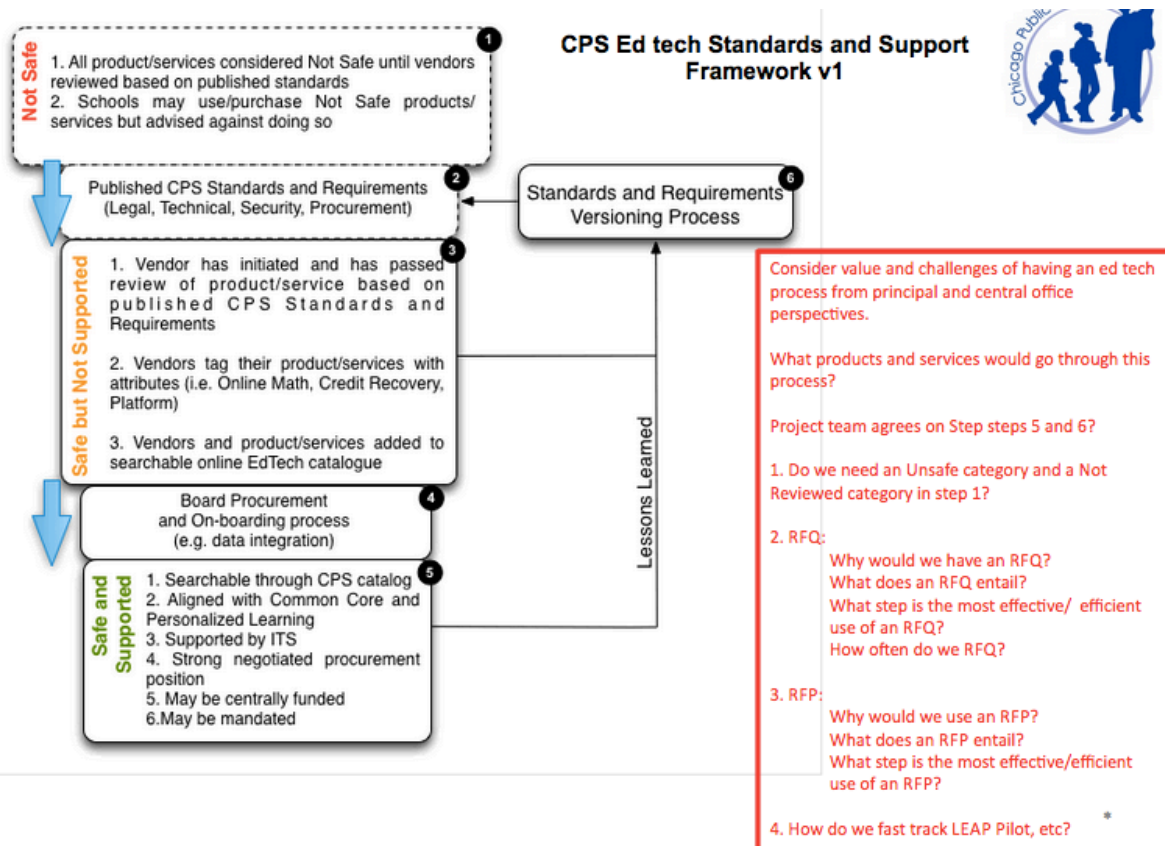
Appendix G How Ed Tech Fits into CPS Vision and Academic Priorities.

Coordinating Academic Priorities and Instruction Across Offices. This figure shows how a strong Ed Tech system is foundationally integral to successfully reaching our teaching and learning vision at CPS.

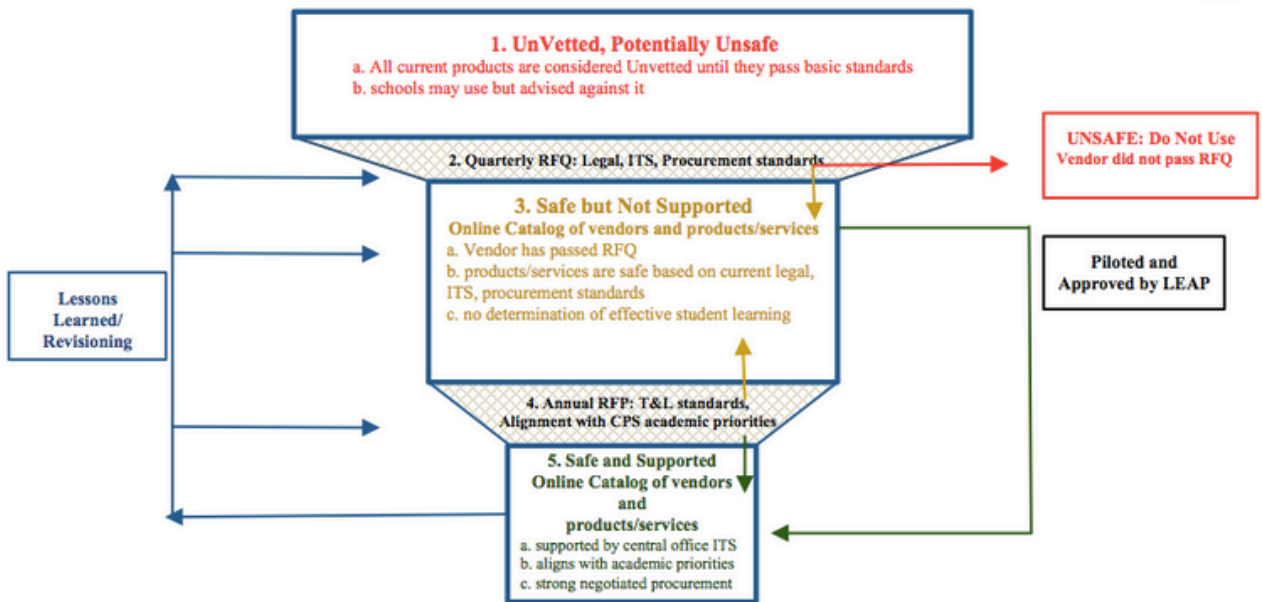


Appendix H Iterations of Ed Tech Standards and Support System Framework

The Ed Tech Standards and Support System Framework went through several iterations based on stakeholder feedback and team discussions. The very first version was written on scratch paper in an initial meeting by Sebastien deLongeaux, Chief Procurement Officer. The following reveal major changes between Framework iterations.



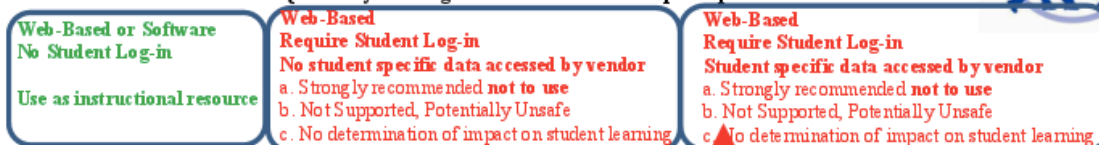
CPS Ed Tech Standards and Support v2.0



CPS Ed Tech Standards and Support Framework v5



Category 1: Current Status / UnVetted Ed Tech Products and Services
 Clear guidelines/restrictions provided to principals/teachers
 Quarterly meeting of *Innovation Network* principals



Goal: The Ed tech Standards and Support System is utilized by principals and teachers as a valuable tool in decision-making for Ed Tech access and procurement

2014 – 2015:
 *Operationalize Categories 1 and 2, and Filter A by March 2015.
 *Support and PD for Chiefs, principals, and teachers offered throughout Spring and Summer 2015.

Entire system completed by Fall 2015

Category 2: Secure Ed Tech
 Informed Principal decision-making

- a. Product Promotion via online catalog, vendor fair
- b. Product/services have Passed RFQ: standards
- c. Principal/teacher rating system
- d. Product provides specifications information
- e. Articulated plan/demonstrated past success in impact on learning

Filter B: Vetting based on robust T&L impact standards, Alignment with CPS academic priorities, teacher/administrating, student engagement rating, pilots at CPS schools, etc

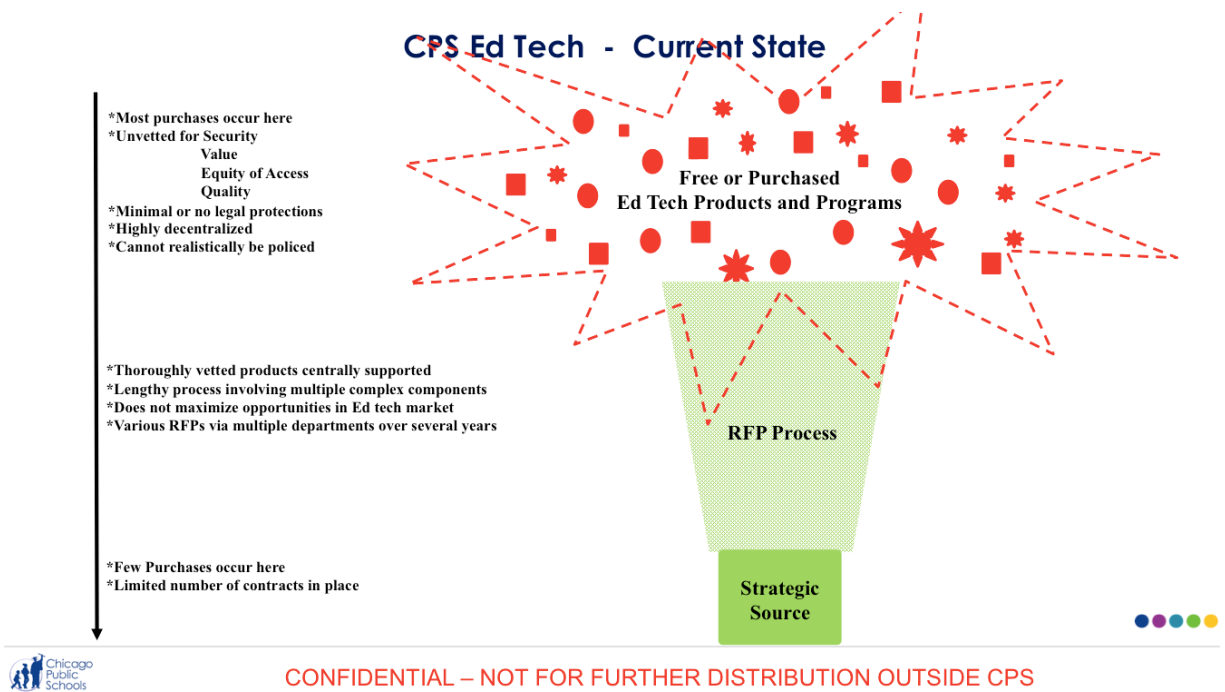
Category 3:
 Secure and Supported Strategic Source of vendors/products/services

- a. Clear impact on learning
- b. Supported by central office ITS
- c. Aligns with academic priorities
- d. Strong procurement position

SQRP Level 3 schools may only purchase from Category 3 or with approval from T&L Ed Tech

Appendix I Approved Ed Tech Standards and Support System

The following version was presented and approved by the CPS Cabinet on December 16, 2014. The first slide illustrates the Current State and why it is inadequate. The second slide illustrates the proposed comprehensive system including procurement processes, educator PD, Principal voice, and knowledge-sharing via an online catalog.



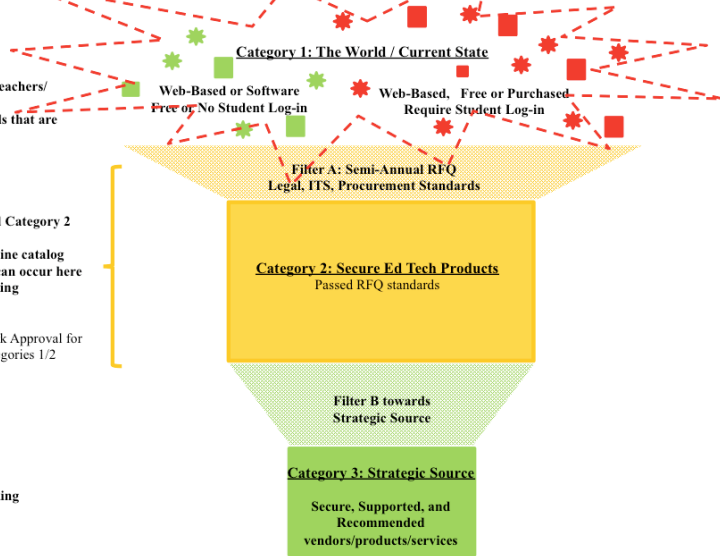
CPS Ed Tech Standards and Support System - Proposed

*UnVetted Ed Tech Products and Services
 *Goal: Few purchases occur here
 *Capacity Building: PD provided to principals/teachers/with clear supports/guidelines/restrictions
 *Principal Voice: Quarterly meeting of principals that are in Personalized Learning *Innovation* stage

Proposed/New for Ed Tech System: Filter A and Category 2
 * < 6 months to basic central contract
 *T&L product specifications/information in online catalog
 *Goal: Secure purchases and experimentation can occur here
 *Capacity Building for Informed Decision-Making
 *Principal Voice: educator rating/feedback

*Earned Autonomy Option: Restrictions/Network Approval for schools in SQRP Levels 2/3 to purchase from Categories 1/2

*About 1 year process
 *Goal: Many purchases occur here
 *Capacity Building for Informed Decision-Making
 *Principal Voice: educator rating/feedback



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Appendix J Ed Tech Team Works Streams

I developed the following projected work streams that will be required to operationalize the system as well as to sustain the framework in the first year of implementation, 2015-2016.

	Procurement	Teaching and Learning / Ed Tech	ITS	Legal	Networks	All other CTS Departments
The World Category 1	Work with T and L in providing PD for principals on 1. engaging vendors to move through system, 2. Ed Tech exemplary procurement practices	Provide PD (resources) to principals/teachers on 1. planning and executing intentional conversations for Ed Tech access, 2. aligning Ed tech resources with instructional priorities 3. better managing vendors in Category 1	Monitor schools' access to Ed Tech as needed		Provide PD (resources) to chiefs on guidance for principals on: 1. planning and executing intentional conversations for Ed Tech access, 2. aligning Ed tech resources with instructional priorities.	CEO, TandL, and Office of Networks: Meet with "Innovation Network" IN principals to discuss potentially valuable products in Category 1 to target for RFQ and pilots
	Communication and engagement with vendors on moving them to next semiannual RFQ. Forward emails and all vendor contact info to TandL Ed Tech department.					
	Iterate and improve RFQ					
Filter A: Semiannual RFQ Process	Guide RFQ process	*Engage multiple departments in reviewing RFQ applications. *Promote RFQ (to vendors and principals)	Evaluate the RFQ	Finalize RFQ-passed contract language		*Engage in RFQ evaluations. *Provide feedback to improve process
		User Groups. Provide revisions for Scope of Work and Standards				
Secure Ed Tech Category 2		Provide PD and resources to schools				
		Plan and execute "Ed Tech Demo Day" - teachers and principals share exemplary instructional practices using Category 2 and 3 products.				
		Data analysis of Category 2 (number of types/vendors), as well as efficacy data to inform Filter B				
		Review online interactive Catalog and revise as needed				
Promote and participate in Ed Tech Demo Day						
Engage products in Category 2 and 3 at tech fairs, GooglePalooza, Principal Institutes, and other promotional opps throughout the year						
Filter B:	Create/revise contract for Strategic Source products	Lead pilot program to determine impact on student engagement, learning. Make final recommendations.		Finalize/Revise Strategic Source contract language		
		Create Filter B plans for SY15-16				
	Submit additional standards if applicable					
Identify potential products for piloting at schools						
Strategic Source of Secure, Supported, and Recommended Products Category 3	Add products that have passed Filter B to Strategic Source List.	Provide PD for principals and teachers on exemplary practices with Category 3 products	Support Strategic Source products at schools as needed			Office of Networks: Ensure Level 2 and 3 schools purchase products from appropriate category or request approval
	Engage products in Category 2 and 3 at tech fairs, GooglePalooza, Principal Institutes, and other promotional opps throughout the year					

Appendix K Principal Survey

I used surveymonkey.com to garner feedback from district stakeholders and end-users as well as to provide data to be analyzed for my Results and Analysis sections. I realized early on that garnering feedback from chiefs through face-to-face interviews was more valuable so I excluded chiefs' responses from the analysis. I also realized garnering over 20,000 teachers' insights was not feasible; so I also excluded the few responses from teachers we were able to collect. We collected 246 principal responses from about 530 CPS-managed schools by mid February, when I wrote my Analysis section.

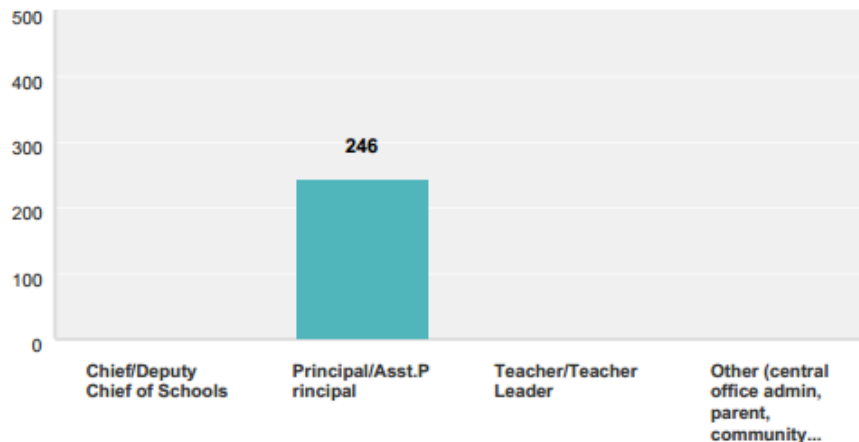
For Question #11, I coded the principal survey responses for themes that surfaced. It is interesting to note that the system we developed addresses the top three supports principals requested from central office regarding Ed Tech. The following is the survey reports on the responses to multiple-choice questions.

CPS Ed Tech Standards and Support System - Initial Survey

SurveyMonkey

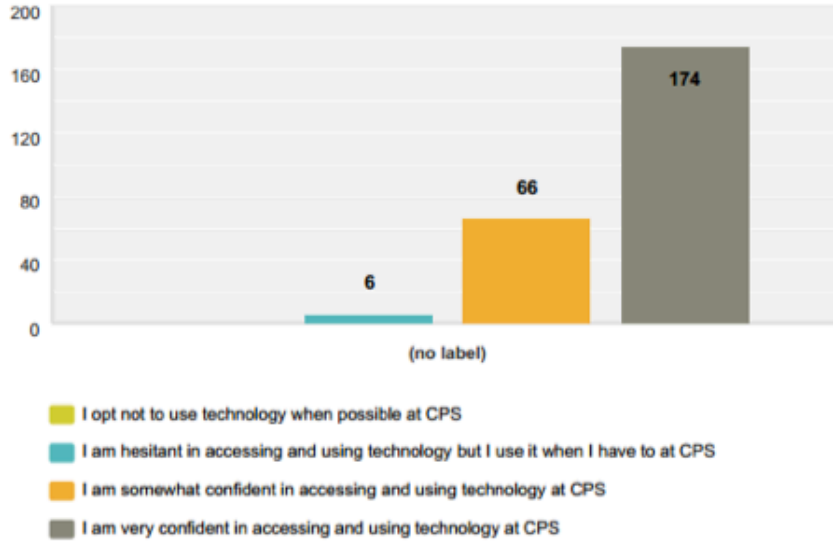
Q1 What is your CPS role?

Answered: 246 Skipped: 0



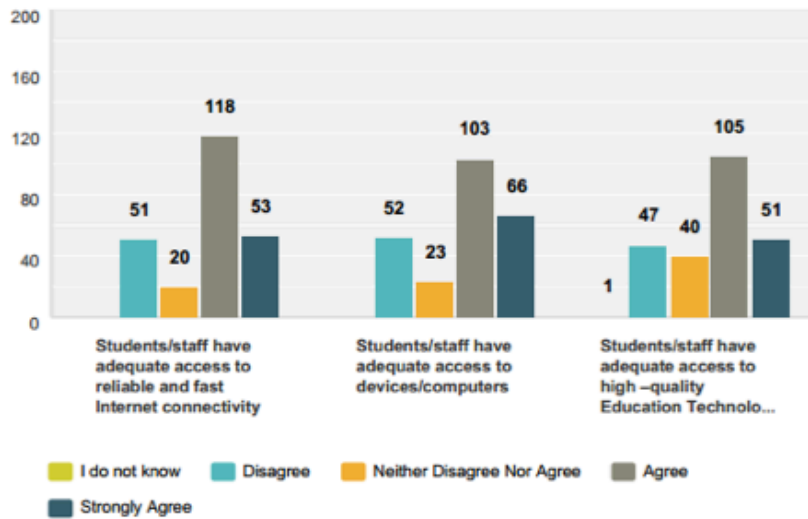
Q3 What is your level of confidence in accessing and using technology at CPS?

Answered: 246 Skipped: 0



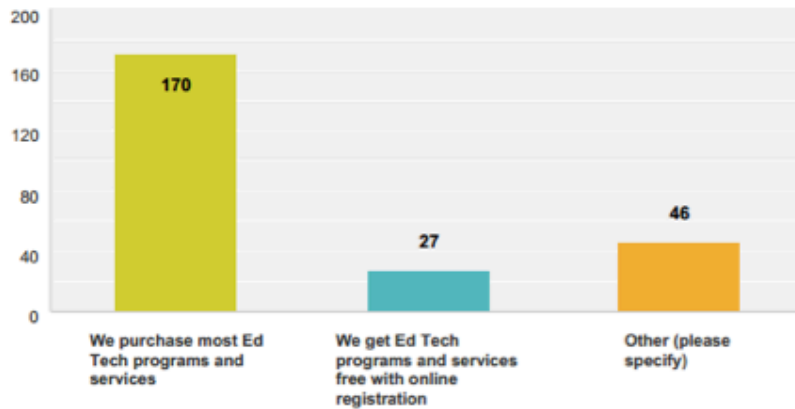
Q4 Evaluate the following statements about access to technology at your school(s)

Answered: 244 Skipped: 2



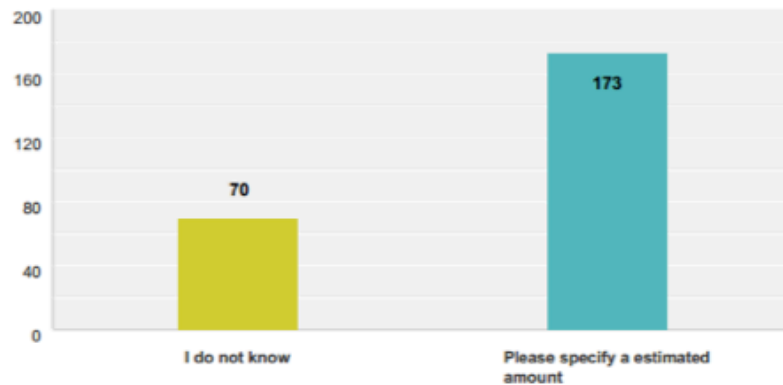
Q5 Are most Education Technology (Ed Tech) software and online programs and services at your school(s) purchased or accessed free online?

Answered: 243 Skipped: 3



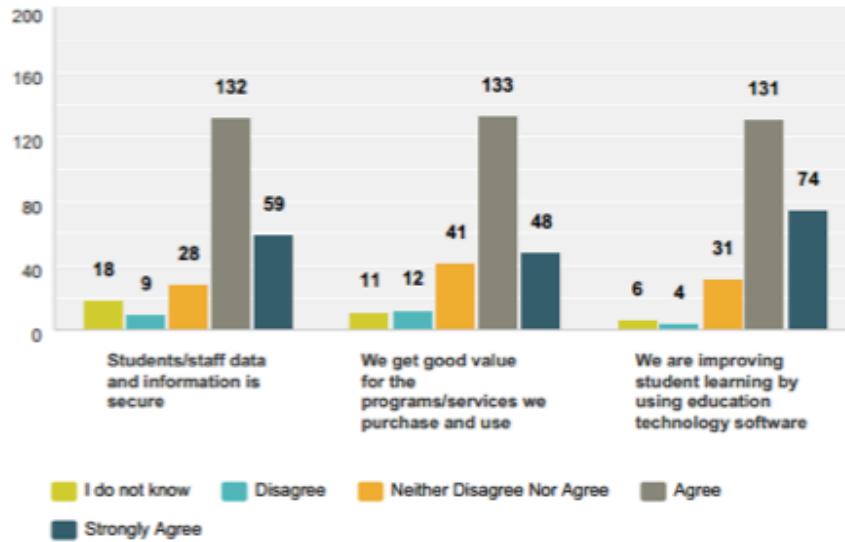
Q7 Approximately how much does your school (If Chief- per school) spend on Education Technology (Ed Tech) software and online programs and services directly used for student learning and teaching

Answered: 243 Skipped: 3



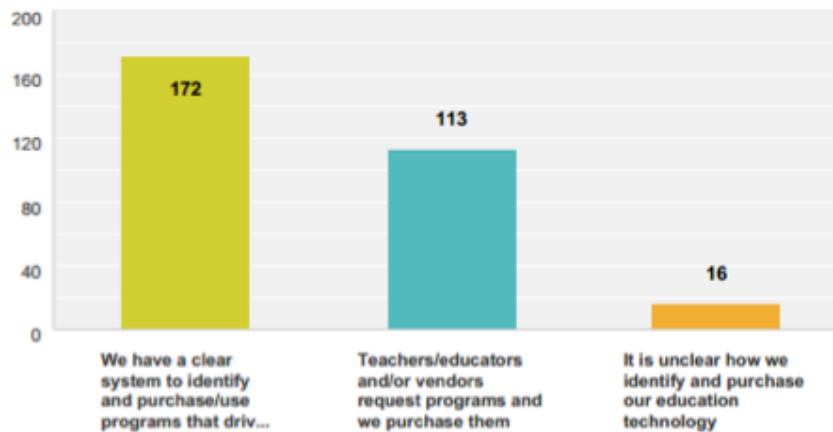
Q8 Evaluate the following statements about Education Technology (Ed Tech) software and online programs and services at your school(s)

Answered: 246 Skipped: 0



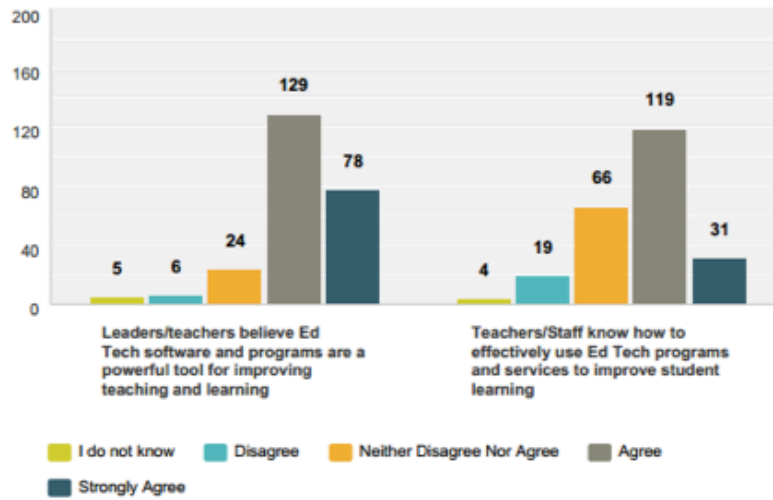
Q9 How does your school/network identify and purchase Education Technology (Ed Tech) software and online programs and services? Check all that apply.

Answered: 241 Skipped: 5



Q10 Evaluate the following statements regarding Education Technology (Ed Tech) software and online programs and services at your school(s)

Answered: 244 Skipped: 2



Appendix L

Coded responses to Principal Survey Question #11.

CPS Ed Tech Standards and Support System - Initial Survey

SurveyMonkey

Q11 How can we support your school in identifying and buying Education Technology (Ed Tech) software and online programs and services?

Answered: 130 Skipped: 112

- 63 Vetting or providing info on products
- 33 Training, PD, teacher support
- 34 Negotiated or free products that are procured centrally or network-wide
- 23 Give more money, funds
- 12 hardware and Internet connectivity /bandwidth
- 6 underlined in red- access, funding for tech co or expert teachers

#	Responses	Date
1	Suggest best practice research based software in reading and math that has proven results.	2/17/2015 1:00 PM
2	It all depends on teacher use and investment- variable and unfortunately idiosyncratic	2/16/2015 10:00 AM
3	We need an assessment of what programs currently work for our students and what we need to consider to improve learning.	2/16/2015 9:53 AM
4	Continue to identify quality programs	2/14/2015 3:53 AM
5	Give us more money or fund things downtown so we don't have to individually purchase reliable programs.	2/13/2015 1:45 PM
6	Provide affordable pricing or free products.	2/13/2015 10:27 AM
7	Give us the funds to do so. :-)	2/12/2015 5:53 PM
8	Provide approved vendor list.	2/12/2015 1:29 PM
9	Share free services; keep cost down per school through a collaborative purchasing system (for instance, if 30 schools purchase Stride Academy, those licenses should be rated reflecting purchases from CPS rather than per school.)	2/12/2015 11:38 AM
10	Provide a list aligned to CPS priorities.	2/12/2015 7:44 AM
11	upgrading equipment and software Ed Tech Strategic plan aligned to hardware and software upgrades	2/12/2015 12:40 AM
12	Align vendors and evaluate the programs objectively Provide strengths and weaknesses of these programs and the areas which are best address in the content Leverage purchasing power in volume with CPS	2/11/2015 11:07 PM
13	PD for teachers is important	2/11/2015 9:18 PM
14	Negotiate Volume pricing at District Level. Provide ongoing PD for Teachers and principals	2/11/2015 8:06 PM
15	We need to know we can spend funds on online resources primarily as the core curriculum. We need support with purchasing more devices at once. We need an approved list of Ed Tech software and programs for different levels of achievers (high achievers)	2/11/2015 5:00 PM
16	Strategic sourcing. Vendor fair where we can learn about the programs and have access to various programs that exist to supplement our curriculum.	2/11/2015 2:23 PM
17	If needed, feedback on programs that maybe a better fit than what we have been currently using, additional resources...	2/11/2015 11:06 AM
18	Additional funding sources	2/11/2015 10:36 AM
19	It would be wonderful to have lists of vendors, quick summaries of effective ed tech they offer, and if schools would recommend them to other schools.	2/11/2015 9:18 AM
20	We need funds to purchase more technology.	2/11/2015 7:47 AM
21	As schools like ours develop a use for more technology, the infrastructure becomes very difficult to manage locally. It is hard for us to determine if the bandwidth will be an issue as we continue to add more devices. It is also hard to complete compliance measures such as asset inventory. We would like proactive assistance in these areas so that we are not having to spend time on compliance measures, and so that we don't have to worry that adding technology will have unforeseen problems. Please contact me at cgraves3@cps.edu	2/11/2015 5:38 AM
22	Provide us with products and services that support CPS and local school priorities. Free ones are nice too!	2/10/2015 9:51 PM

23	We need more free options driven by core subjects. It would also be interesting if we could Skype live classrooms for best practices in core instruction.	2/10/2015 8:19 PM
24	We have asked for a couple of years for this from it and more so the last year from network. no help no support	2/10/2015 8:13 PM
25	Make recommendations based on knowledge and experience.	2/10/2015 7:56 PM
26	Provide information. Get reduced rates.	2/10/2015 7:50 PM
27	Having site visits and collaborative time with ILT's around vetting software.	2/10/2015 7:27 PM
28	Create a market place with reviews Amazon style	2/10/2015 7:25 PM
29	We could always use more money.	2/10/2015 6:40 PM
30	It would be helpful to have a rating system attached to products provided by the district. Ideally, the rating would provide us with information regarding the quality of the program/services and the ways in which others have used it successfully.	2/10/2015 5:55 PM
31	CPS needs to secure better prices for programs that many schools purchase rather than each of the schools operating as independent purchasers.	2/10/2015 5:22 PM
32	If the teachers truly understand and use the program with fidelity, it is very beneficial for students. Time to learn, use, and interact with students and their technology is an obstacle.	2/10/2015 5:12 PM
33	Develop a "Yelp" like site to access reviews on programs.	2/10/2015 4:42 PM
34	dont know	2/10/2015 4:32 PM
35	This survey is a start. Creating an inventory of products used by schools and letting school evaluate these products with a 5 star system similar to Amazon product reviews.	2/10/2015 3:37 PM
36	show models of how they can be used in schools; allow time for teachers to talk/collaborate/etc. -- this one is more towards CPS as a whole. Teachers need more time to mess with this stuff and have other teachers to support them. it is essential.	2/10/2015 3:00 PM
37	Provide free subscription trials with research backing it up. Often new programs have no research to indicate they are useful or effective. We have a sense of urgency about student learning and we need someone to vet the education technology market for us.	2/10/2015 2:46 PM
38	Provide funds. Inform us about any valuable programs that might fit needs of our school.	2/10/2015 2:44 PM
39	Provide more training. create strategic vendors who are held contractually to increased training AT EACH BUILDING at decreased rates from sticker price	2/10/2015 2:39 PM
40	Since it is more effective to purchase site licenses, perhaps the network can purchase licenses for schools so the products reach more students for less cost.	2/10/2015 2:36 PM
41	any suggestions on good/free programs	2/10/2015 2:33 PM
42	Provide lists of FREE on-line software. list schools utilizing subscription-based software.	2/10/2015 2:33 PM
43	Finding enough time to fit in EdTech training is a challenge given all the other demands of time to inservice staff but nonetheless, it is one we focus on covering	2/10/2015 2:30 PM
44	Budget supports, pd support, new programs,	2/10/2015 2:30 PM
45	funding help; identifying best practice resources	2/10/2015 2:29 PM
46	You can support us by vetting programs that are worthwhile and then paying for them.	2/10/2015 1:47 PM
47	Promote them, align them with district and network expectations	2/10/2015 1:44 PM
48	Identify something that provides the same services as the products that most of us are buying, and get a network, or district-wide license. Provide PD, expectations, support.	2/10/2015 1:18 PM
49	We need support in developing a foundation of equipment to access software etc.	2/10/2015 12:33 PM
50	Vet programs for CCSS alignment and high quality, provide comprehensive descriptions, get discounted pricing	2/10/2015 12:31 PM
51	Provide more affordable resources, funding, and tech specialist to help with implementation.	2/10/2015 12:10 PM

75	Product demos for teachers and administrators	2/10/2015 8:03 AM
76	DO AN EXPERT ASSESSMENT OF ED TECH WITH POSITIVE AND SUPPORTIVE FEEDBACK! SUGGESTIONS OF WHAT MAY HELP SUPPORT THE SCHOOL IN A WAY THAT IS THE BEST USE OF FUNDS.	2/10/2015 8:00 AM
77	Perhaps an online catalog wherein we can select quality software programs	2/10/2015 7:41 AM
78	I would like to have previews or access to programs so that we can determine what would be best for our students. In addition, we need money from the system to support these programs.	2/10/2015 7:35 AM
79	By making various educational technology available to schools through PD. In addition, funds are needed to purchase these various programs that would benefit our students.	2/10/2015 7:33 AM
80	You can support the schools by providing the necessary PD for teachers and parents.	2/10/2015 7:32 AM
81	We appreciate the CPS purchase of Think Through Math.	2/10/2015 7:22 AM
82	Fund the software and technology needed to advance our students learning.	2/10/2015 7:14 AM
83	Develop a site to access lists and sample trials of the software.	2/10/2015 5:43 AM
84	Maybe there can be a technology fair or a technology review forum for the different software. I'd like to also get feedback from other administrators on how it is used and how it works.	2/9/2015 5:46 PM
85	We would like information on programs that have been effective. Provide contact information to set up demonstrations or practice opportunities.	2/9/2015 5:34 PM
86	Give information about available resources to simplify our searches.	2/9/2015 5:09 PM
87	Allow stakeholders to select the technology and software that they would like to use in their instruction. Provide training for any programs that are being purchased so teachers can implement them with fidelity.	2/9/2015 4:16 PM
88	Informing schools about programs and availability.	2/9/2015 3:26 PM
89	Survey, research the market and decide what is working. Provide 2-3 choices, pay and/or provide funds to buy.	2/9/2015 2:30 PM
90	Listing of vendors and related research.	1/26/2015 1:37 PM
91	Informational sessions for principals by Network?	1/26/2015 9:40 AM
92	Work closely with our Technology expert Angel Avalos. Increase bandwidth in our buildings.	1/25/2015 12:27 PM
93	Best practices, support for district-wide initiatives like Think Trough Math integrated with the Office of Math.	1/25/2015 11:45 AM
94	The the district could negotiate strategic pricing	1/23/2015 6:26 PM
95	Provide more funding specifically for technology; there should be a 1:1 student to technology component in schools.	1/23/2015 5:09 PM
96	Have some kind of a rating system for software, answering the questions: Is it effective in improving achievement? How do you know?	1/23/2015 5:02 PM
97	Funding	1/23/2015 3:26 PM
98	Vet all of the vendors and software before allowing an organization to appear in ORACLE. Ensure that the school receives an appropriate amount of training included in the cost of a license.	1/23/2015 2:32 PM
99	Access is the issue and time - stop sending unfunded mandates. Stop making purchase of software complicated.	1/23/2015 11:59 AM
100	No comment at this time.	1/23/2015 11:04 AM
101	Presentation and ease of usage for staff, students and parents. Quality monitoring tool	1/23/2015 9:43 AM
102	Notify us of free Ed Tech programs that are effective and instrumental in student learning and growth, n	1/23/2015 9:17 AM
103	My school needs support with identifying Education Technology.	1/23/2015 9:10 AM
104	Collaborating about the effectiveness of programs. Supports in using them.	1/23/2015 8:11 AM
105	Continue to provide research based options with a track record of improving student achievement.	1/23/2015 5:29 AM

106	I would say that teachers need to generally be exposed to these opportunities and to learn more about how to use programs and services to enhance instruction. New learning and also finding time to explore new programs is always a challenge for teachers in my opinion.	1/23/2015 1:23 AM
107	Place research base programs on a site so that educators can go to one place and read how the programs work with data of success	1/22/2015 10:52 PM
108	Have a CPS tech fair with various vendors.	1/22/2015 9:08 PM
109	Have a Ed Tech Software fair or a rep come out to schools and demonstrate/showcase what is available and its value.	11/19/2014 3:46 PM
110	We have several programs through the network that we are getting for free (thank you), please continue to provide the economical support to sustain these programs.	11/19/2014 11:03 AM
111	Each school should be given funds to maintain a tech coordinator position.	11/19/2014 8:51 AM
112	Have an updated list of programs and software that are available to review at the network office.	11/18/2014 1:07 PM
113	Bring more alignment to the Ed Tech programs and software used across the district with proven results toward improved student achievement as opposed to schools having to make most choices on our own.	11/17/2014 4:21 PM
114	Continue to do as you have been--allowing schools to try before we buy. Supporting us be providing already paid-for or free resources. Also, it would be helpful to understand the recent acquisitions that CPS has purchased.	11/17/2014 3:19 PM
115	Funding is the primary area of concern. We have a great I.T. that is able to identify our tech needs.	11/17/2014 1:01 PM
116	Please provide Galileo with additional technology software, programs, services and training.	11/17/2014 12:42 PM
117	Secure more funding for additional technology.	11/17/2014 12:32 PM
118	We need to know what our needs are and how to effectively use these programs to help facilitate learning.	11/17/2014 12:26 PM
119	Provide additional information regarding online programs	11/17/2014 12:23 PM
120	We are still struggling with effective use of virtual learning technology	11/17/2014 12:21 PM
121	Volume purchasing programs.	11/15/2014 3:33 PM
122	Because we have so little experience with much of what is available, I think a vendor fair would be quite helpful. Also, as a district we must do a better job getting and keeping our instructional staff up to speed on educational technology as a whole.	11/13/2014 2:06 PM
123	Research and recommend programs that have been vetted through our schools Create a FAQ to house problems and solutions that impact CPS schools Create an idea sharing site Provide PD stands or online PD for commonly used Ed Tech such as Promethan Plant, Google in the classroom, using PodCast for teaching etc. Negotiate volume discounts for popular programs	11/13/2014 4:49 AM
124	We need a clear picture of what we have and what we need to do to improve our current standing.	11/12/2014 12:17 PM
125	Help pay for it.	11/11/2014 10:53 AM
126	We have access to several programs and it becomes difficult to use them with fidelity. We could use help with acquiring additional technology for students in the primary grades that do not require them to know their Google accounts. We feel that students at this grade level may not use these accounts properly.	11/5/2014 10:08 PM
127	The best support we could receive would be for the Board to provide a Technology Coordinator for every school.	11/3/2014 9:36 AM
128	More funding for tech A centralized process for certifying or badging digital citizenship for safe, responsible, and effect student and teacher use	10/31/2014 11:55 PM
129	We have hardware issues that first need to be addressed (slow, outdated laptops), then we need teacher training on technology, lastly we need to determine which pieces of education technology can best support the students.	10/31/2014 10:11 AM
130	Provide a review or table of the online services with grade, subject, costs, benefits, drawbacks, teacher usability, etc.	10/30/2014 5:21 AM

APPENDIX M DICE Evaluation

The DICE Evaluation Framework was considered during the strategic project. The following is the Google Form that I asked eight CPS team members and leaders to anonymously complete, as well as the responses collected. The information provided a pulse check of the work and my leadership. Though I do not use the framework for analysis of the strategic project, I do reference direct comments on my leadership within my analysis.

Page 1 of 1

DICE Evaluation - Ed Tech Standards and Support System

Duration - D*

Think About: Do formal project reviews occur regularly? If the project will take more than two months to complete, what is the average time between reviews? (whatever you consider as a review in this case- during meetings, at formal leadership reviews, presentations with feedback, etc) Score: If the time between project reviews is less than two months, you should give the project 1 point. If the time is between two and four months, you should award the project 2 points; between four and eight months, 3 points; and if reviews are more than eight months apart, give the project 4 points.

1 2 3 4

Less than two months between reviews More than eight months between reviews

Duration - D

Please explain your rating for D

Integrity and Talent of Performance - I*

Think About: Is the team leader capable? How strong are team members' skills and motivations? Do they have sufficient time to spend on the change initiative? Score: If the project team is led by a highly capable leader who is respected by peers, if the members have the skills and motivation to complete the project in the stipulated time frame, and if the company has assigned adequate amount of the team members' time to the project, you can give the project 1 point. If the team is lacking on all those dimensions, you should award the project 4 points. If the team's capabilities are somewhere in between, assign the project 2 or 3 points.

1 2 3 4

Highly capable leader and team Lacking in leadership and capacity

Integrity and Talent of Performance - I

Please explain your rating for I

Senior Management/Leadership Commitment C1*

Think About: Do senior executives regularly communicate the reason for the change and the importance of its success? Is the message convincing? Is the message consistent, both across the top management team and over time? Has top management devoted enough resources to the change program? Score: If senior management has, through actions and words, clearly communicated the need for change, you must give the project 1 point. If senior executives appear to be neutral, it gets 2 or 3 points. If managers perceive senior executives to be reluctant to support the change, award the project 4 points.

1 2 3 4

Committed Senior Leaders ● ● ● ● Reluctant Senior Leaders

Senior Management/Leadership Commitment C1

Please explain your rating for C1

Local-Level Commitment from Chiefs and Principals, C2*

Think About: Do Chiefs and Principals (most affected by the change) understand the reason for it and believe it's worthwhile? Are they supportive or worried and obstructive? Score: If employees are engaged to take on the change initiative, you can give the project 1 point, and if they are just willing, 2 points. If they're reluctant or strongly reluctant, you should award the project 3 or 4 points.

1 2 3 4

Engaged Impacted Employees ● ● ● ● Reluctant Impacted Employees

Local-Level Commitment from Chiefs and Principals, C2

Please explain your rating for C2

Effort - E*



Think About: What is the percentage of increased effort that employees must make to implement the change effort? Does the incremental effort come on top of a heavy workload? Have people strongly resisted the increased demands on them? Score: If the project requires less than 10% extra work by employees, you can give it 1 point. If it's 10% to 20% extra, it should get 2 points. If it's 20% to 40%, it must be 3 points. And if it's more than 40% additional work, you should give the project 4 points.

1 2 3 4

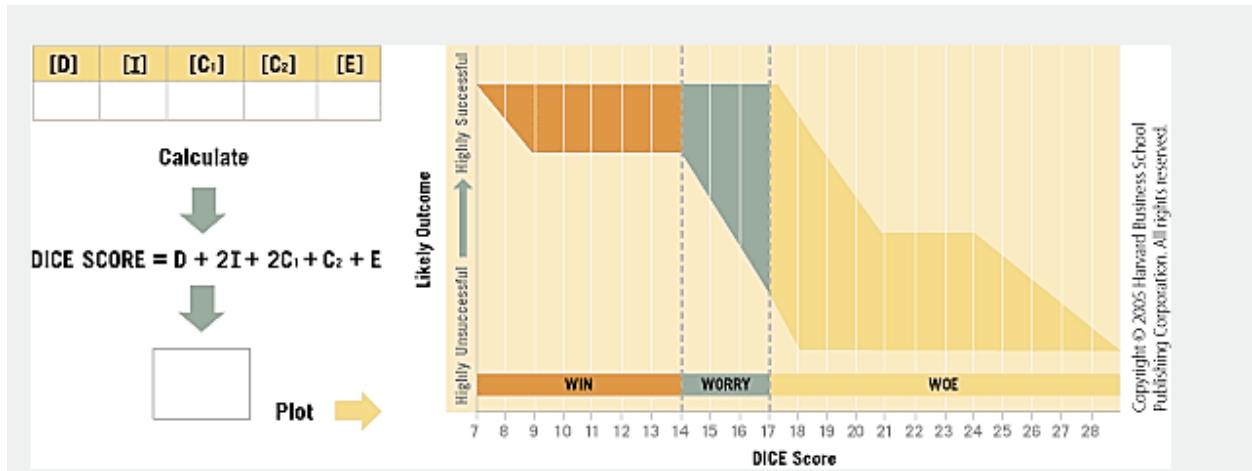
Less than 10% additional work by impacted employees ● ● ● ● More than 40% additional work by impacted employees

Effort - E

Please explain your rating for E

The following reveal the DICE responses and results. The first table shows how to calculate the DICE result and represents what the numerical total means. The second chart captures the numerical evaluations and the comments and qualitative responses provided by the seven evaluators. I responded before I saw any other responses so as not to bias my evaluation, and my responses are on the first row.

The mean DICE result (excluding the outlier of 7) is 12.2. This puts our project in the *WIN – Likely to Succeed* zone.



Timestamp	Duration D	Integrity and Talent of Performance I	Senior Management/ Leadership Commitment C1	Local-Level Commitment from Chiefs and Principals C2	Effort E	DICE Results
2/10/2015 10:11:14	2	1	1	2	3	11
2/11/2015 12:53:13	1	2	2	2	1	12
2/11/2015 19:13:50	1	2	1	2	2	11
2/12/2015 12:34:04	1	2	2	2	2	13
2/12/2015 14:24:28	1	2	1	2	3	12
2/12/2015 16:58:35	1	1	1	1	1	7
2/16/2015 21:18:37	1	2	2	2	3	14
					Mean DICE Score	11.4
					Mean DICE Score excluding outlier of 7	12.2

DICE Results	Duration - D	Integrity and Talent of Performance - I	Senior Management/Leadership Commitment C1	Local-Level Commitment from Chiefs and Principals, C2	Effort - E
11	Tim and I reviewed the project during our weekly Check-Ins. The project was reviewed by Cabinet twice between July and December, and the team also reviewed regularly.	I felt I had the respect of the team. I spent a great deal of time and energy reflecting on our progress and strategizing next steps. The team was very talented but not all were committed at the level I needed them to be (I spent time working with them offline)	I know one of the main reasons we were successful was the incredible visibility and sponsorship Tim, Jack, Lachlan, Sebastien, and others gave this project! I realize now how valuable this is as I move into system-level leadership roles.	Since Denise was on board and encouraged me to connect with Network Chiefs, I was able to get great support at this level as well.	The principal survey responses show this is a needed system and principals want central office to vet and provide information on products. The change in practice is not a low lift because we are asking educators to think about teaching and learning more. The procurement aspect is the easiest change!
12	We have been having scope-phase reviews every two weeks (at least) and plan to have monthly committee meeting once the RFQ is rolled out.	Team leader is very motivational, respected by peers and has strong leadership skills, however, could improve ability to clearly define roles and expectations and holding people accountable.	Some senior leaders have supported this project, while others have been reluctant to create a catalog of products that are unvetted for efficacy.	Some Chiefs and Principals have expressed a need for process around ed tech, however, there is often distrust of Central Office processes and schools have a tendency to continue with their own internal processes.	It is hard to say the additional work, because it will vary by department, and is difficult to predict what vendor participation will look like.
11	In one way or another, this project is being reviewed nearly weekly. Through regular check-ins between the project lead and her manager, as well as other stakeholders, and a bi-weekly meeting with all who are involved in the project. These reviews tend to be fairly comprehensive and give a good assessment of strategy and direction.	I was first inclined to rate this a "1", however I wonder if some of the delays and surprises along the way are attributed to the fact that key people have not spent a sufficient amount of time thinking through the issues. They show up to meetings, are productive when specific tasks are given, but aren't spending enough time in preparation or exploration to ensure that they have a more complete perspective.	I think this has been done really well, with the caveat that not ALL of senior management is bought in. Rather, the key influencers and cabinet level people who are responsible for the outcomes of the project are highly invested, able to communicate the mission, vision and goals, and frame the discussion when their colleagues - who are infrequently involved - need to weigh in on a particular piece.	I have not had enough experience with chiefs and principals to accurately respond to this question. Please disregard the rating.	I think the amount of effort varies widely by team and where the project is as far as its progression. I continue to worry that the IT team underestimates the workload during the review process and that the procurement and Teaching and Learning teams are not prepared for the volume of applications. We've made some headway in that discussion recently, but if we receive a hundred applications, it will likely test our turnaround time commitment. That said, up until now, people have willingly committed time to this project and are generally enthusiastic about it. So, while it may be actually "more work", it's not a project that people have to be dragged into.
13	Regular meetings are held every 1-2 weeks, and attendance seems good.	Very strong leadership by Dilara. Engaged team members; some may be a touch passive, or not as driven as others or as needed.	I think there has been good communication from senior leadership, but I don't think that all members of Cabinet fully understand the project and why it is needed (or they have partially-informed thoughts about possible direction).	Excellent effort to gain input from Chiefs and Principals. They key question in my mind is whether that input will translate into a relevant (to the universe of principals and other school staff) approach on execution.	This SHOULD reduce effort for employees, but it may also be perceived as a "hurdle" that they now need to navigate. AT the least, some of our suppliers will see this as a hurdle vs the current way of doing things, which needs to be overcome.
12	Very frequent progress review which helped moving the subject forward	Good leadership... We might have been better off if we had a better define core team structure. It seems that we merged working team and steering cttee	Great work to escalate the subject to the highest level to make sure it is in anyone's calendar. For this type of project where there is no obvious burning platform and involved multiple departments, it was necessary	Survey demonstrates positive expectation from schools.	Probably the highest risk of this project (think Legal / IT). Success or failure will be on our capacity to build an initial screening phase that is nimble and doesn't require too much of departments' time
7	Whole group meetings are scheduled bi-weekly, and small group and 1:1 meetings happen in between.	Dilara is respected by the team and comes prepared for each meeting. She allows for discussion and collaboration but prevents the group from being sidetracked from our focus. She conveys clear expectations for offline tasks, and provides support when needed.	The message has been very consistent and it has been supported by key senior managers in several areas. The message is clearly communicated through the process and with different audiences, both verbally and with a consistent graphic.	Principals and chiefs have been engaged and none have really shown reluctance or apprehension. All seems to see the need and support the process.	Most people will have less work when the process is in place. It is not yet clear how the people running the system will be impacted yet.
14					
11.4	Mean DICE Score				
12.2	Mean DICE Score excluding outlier of 7				

Appendix N Performance Review Criteria

My supervisor and I independently reflected on my performance based on the following criteria. We then used this as the basis for my Performance Review discussion in February 2015

"What Counts" for leaders/managers in CAO team

Business Leadership

- Develops and articulates a clear vision and priorities for their area of responsibility, and beyond
- Takes initiative to focus others on critical priorities
- Supports attainment of organization goals by establishing an effective organization infrastructure (accountability, resources, processes)
- Recognizes and develops opportunities that improve effectiveness and/or save money
- Effectively balances the competing priorities of different stakeholder constituencies (schools, students, community members, employees, suppliers)
- Acts with integrity in all matters; maintains unquestioned ethics and integrity
- Advocates own opinion as to right course of actions

People Leadership/Working with Others

- Rallies commitment to a common organizational vision and shared values
- Builds productive relationships and promotes teamwork throughout the district
- Influences and negotiates to promote ideas and shape opinions
- Fosters respect for diversity; shows appreciation for difference among others
- Inspires trust by showing consistency between words and action
- Positively motivates others to personally invest, buy in

Critical Thinking

- Applies broad knowledge and experience when addressing complex issues
- Suggests new ideas after exploring their payoff possibilities
- Links problems and symptoms to identify underlying strategic issues
- Leads change and responds effectively in new and ambiguous situations

Personal Motivation and Drive

- Demonstrates a sense of urgency to realize concrete results
- Champions innovative ideas and initiatives
- Moves resourcefully to achieve important objectives *despite obstacles*
- Consistently manages multiple priorities and deliverables

Communication

- Fosters open communication, promoting expression of ideas of opinions
- Listens attentively; receptive to the ideas of others
- Communicates clearly, concisely, and persuasively, orally and in writing

Development of Others

- Develops successors and talent pools for key positions
- Coaches for optimal performance through specific, timely feedback and open dialogue
- Takes action to provide access for employees to developmental opportunities

Appendix O The CPS Wheel

The Following is The Wheel, a CPS collaboration and communication strategy implemented by BBB. The purpose of The Wheel is to ensure initiatives are communicated and integrated with other departments across The Wheel. One implication for the site is that CPS deepen its utilization of this Wheel to strengthen collaboration and communication across central office departments, amongst the operations and education areas, and between central office and the 650 schools in this, the third largest school district in the nation.

