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Policy Advocacy: Adoption the 4 C's Rubrics into Illinois Vision 20/20

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Abstract

The focus of this policy advocacy is to add evaluation language to the Illinois Vision 20/20 policy specific to 21st Century Learning. The Illinois Vision 20/20 policy pillar of 21st Century Learning already identifies that students in Illinois develop skills of critical thinking, creativity, communication, and collaboration. The policy does not provide an explanation for school districts on how to achieve this goal. This policy advocacy adds language to the 21st Century Learning pillar through rubrics. These rubrics, specific to the skills described above and referenced throughout this dissertation as the 4 C's, provide standard definitions for each of these skills. The first step of good pedagogy is standards to which you align your instruction. These rubrics provide these standards. The rubrics also provide a performance continuum for teachers and students to reflect on skill progression and mastery of each of these 4 C areas.

The dissertation examines several critical components of this policy advocacy. The dissertation begins with a description of the policy recommendation and delineates the critical issues related to said policy. Section two expands the analysis of the policy by review of the advocated policy through lenses of impact: educational, economic, social, political, and moral/ethical. The dissertation continues with a detailed policy argument, implementation plan, and assessment plan. The dissertation concludes with a summation of the overall impact of this policy were the policy added and executes throughout the Illinois education system.

Preface

The value of the National Louis Educational Leadership doctoral program is the relevancy that can take with topics and your workplace. Throughout all three dissertations in this program, I have found opportunities to embrace being John Maxwell's 360° Leader (2005). John Maxwell encourages leadership up to your superiors, down to those you supervise, and across to your peers and equals. As I reflect on three years of doctoral work, I see how topics of program evaluation of a 1:1 pilot, defining a business model to sustain a 1:1, fiscal transparency for our leadership team, and policy advocacy for 21st Century skills have impacted so many in my organization. This list includes past and current superintendents and associate/assistant superintendents, building principals and their associates, department chairs, teachers, students, and families in my district. The dissertation work has also impacted fellow colleagues with whom I interact with at conferences and within professional organization. The work has influenced my doctoral peers and hopefully my professors. The exciting reflection is that the work is still ongoing, and the change in education is just on the cusp of transformational pedagogical change. This transition time will be challenging, but my doctoral work can inform and guide those along the change journey. Thank you John Maxwell, and Roger Grinnup, a former professional colleague, who asked me to read the Maxwell book.

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SECTION ONE: INTRODUCTION

Vision Statement

Vision 20/20 is a joint Illinois policy advocacy movement comprised of the Illinois Association of School Administrators (IASA), Illinois Association of School Business Officials (IASBO), Illinois Principals Association (IPA), Illinois Association of Regional Superintendents of Schools (IARSS), Illinois Association of School Boards (IASB), and the Superintendent's Commission for the Study of Demographics and Diversity (SCSDD). In November 2012, several of these organizations began a process to “develop a long-range blueprint for improving public education in Illinois” (Policy Brief, 2016, p. 1). The goal of this joint advocacy is to provide a single legislative message representing the major stakeholders of education organizations, advocating for the State of Illinois legislature to take action.

Illinois Vision 20/20 is comprised of four pillars: Highly Effective Educators, 21st Century Learning, Shared Accountability, and Equitable and Adequate Funding (Policy Brief, 2016, p. 3). Illinois Vision 20/20 believes that, “The uniting purpose shared across zip codes and political party lines in Illinois is the overwhelming belief that public education plays a defining role in ensuring equal opportunity. It is our collective duty to do all we can to guarantee every student, no matter his or her demographic or geographic identity, has equal access to a quality education” (Policy Brief, p. 3). For purposes of this paper, my policy advocacy is the adoption of “4 C’s” rubrics into the Illinois Vision 20/20 21st Century Skills “pillar.” The 4 C’s are: communication, collaboration, critical thinking, and creativity, identified as necessary learning skills by the Partnership for 21st Century Learning (www.P21.org). My Program Evaluation assessed the efficacy of a 1:1 Chromebook Pilot, and my Change Leadership paper identified strategies for a sustainable business model to implement a 1:1 technology initiative in a school

district. As a district leader with a passion for addressing Wagner’s “Global Achievement Gap” for all students, selection of this policy advocacy topic was a natural choice. Providing a statewide tool to measure 21st century skills will move all Illinois students forward to be ready for the global marketplace.

Awareness of Policy Issue

Illinois Vision 20/20 has been a topic discussed by my district superintendent for the past several years, as she has served in leadership roles for IASA, IASB, and the American Association of School Administrators (AASA). As Illinois Vision 20/20 was being developed, my superintendent was involved on the ground level, working with executive directors, lobbyists, fellow superintendents, attorneys, and Illinois legislators with a passion for education. My superintendent has served in her current role for twelve years, and has built extensive leadership networks with state and national level leaders in education and politics. Her expertise and access to these human capital resources have kept our district administrative team at the forefront of policy change.

As Illinois Vision 20/20 was crafted and marketed, I initially did not spend much time reviewing the core pillars and tenets. The Illinois Vision 20/20 whitepaper appeared to be for an audience of superintendents and legislators, and not for district/building administrators working with day-to-day responsibilities. As my National Louis University dissertation program developed, the advocacy for this policy began to take shape. Three resources and/or events helped to raise the awareness of this policy even further.

The first event that expanded my awareness of Illinois Vision 20/20 was a meeting with an educational consultant with one of our district business partners. This consultant introduced myself and another district administrator to the Future Ready Schools Framework –

www.futureready.org. A project of the Alliance for Excellent Education (www.all4ed.org), “Future Ready Schools® (FRS) is a bold effort to maximize digital learning opportunities and help school districts (public, private, and charter) quickly prepare students for success in college, a career, and citizenship.” (Future Ready Brief, 2017, p. 1). At the core of the Future Ready Schools is a digital learning tool, the Future Ready Framework. This researched-based framework is comprised of seven gears, and includes a self-assessment tool for school districts to evaluate their readiness for 21st century education. The seven gears of the assessment are: Curriculum, Instruction, and Assessment, Use of Space and Time, Robust Infrastructure, Data and Privacy, Community Partnerships, Personalized Professional Learning, and Budget and Resources (Future Ready Brief, p. 1). Reading information about the Future Ready Schools Framework and completing the self-assessment as a district leadership team was the first step that increased my awareness of the need for policy advocacy on a state level, as the national Future Ready Schools initiative defines a “comprehensive set of issues” (Future Ready Brief, p. 1) to transform education and prepare students for 21st century jobs..

The second factor leading to the awareness and need for this policy is Ken Kay and Valerie Greenhill’s book *The Leader’s Guide to 21st Century Education* (2013). In this book, the author outlines seven steps for school districts to transform schools, working to address the global achievement gap. Kay and Greenhill also discuss eight societal changes affecting the global economy, and reasons why schools must be intentional in developing student skills in the areas of communication, collaboration, creativity and innovation, and critical thinking (Chapter 1). This book outlines the changes schools districts will make as they transform pedagogy and classroom learning, incorporating the 4 C’s skills that are advocated in this policy.

The third and most impactful reason for the selection of the policy advocacy is learning about a professional organization, EdLeader21. EdLeader21 is a consortium of school districts working along the same seven-step school transformation journey outlined in the Kay and Greenhill text. Kay and Greenhill envision transforming traditional, teacher-centric schools into modern student-centered, technology-rich institutions that prepare students for the new global economy. School districts that are members of the EdLeader21 professional organization have created professional learning communities called working groups that meet online and face-to-face. The working groups, again focused on transforming education, have developed resources to challenge teachers and students to be intentional in incorporating the 4 C's into all curricular subject areas. One set of resources I found very beneficial are rubrics for measuring communication, collaboration, creativity and innovation, and critical thinking. All too often schools talk about being 21st century institutions, providing spaces for teachers and students to be creative and innovative. The EdLeader21 working groups have collaboratively developed assessment rubrics ranging from early elementary to late high school, giving education leaders tools that define and measure skills necessary in the 21st century workplace. These rubrics define the skills necessary for exemplary performance in communication, collaboration, communication, and critical thinking. The rubrics provide goals for students to strive towards and language for teachers to model and evaluate student success in each 4 C area. Districts have common characteristics for each of the 4 C's as well as rubrics for students to identify and self-assess. All too often rubrics assess content knowledge, but these rubrics provide a structure for developing students 21st century skills. The rubrics are not aligned to any single content area, rather they are cross-curricular, and shape the skills all students need to be Future Ready.

Critical Issues

The first challenge faced in this policy advocacy is copyright permission from EdLeader21. The 4 C's rubric are only available to school districts with paid EdLeader21 memberships, and this professional organization would need to change their copyright permissions to allow this policy advocacy project to get off the ground. My goal is to advocate for and share publicly the rubrics created by member school districts, and these rubrics can only be accessed by member districts participating with Edleader21. For example, my district pays \$3,000 annually to be part of this consortium. An Edleader21 partnership with Illinois school districts to access these rubrics would have to be negotiated.

The second and likely more challenging critical issue is Illinois politics. Education reform has been a challenge in Illinois, whether one looks at teacher evaluation, pension reform, education funding, property tax freezes, etc. While I have not spoken to leaders of IASA or IASB, I assume adding these rubrics to the Illinois Vision 20/20 policy recommendation would involve many different politically inclined stakeholders. These stakeholders have existing ideas or thoughts on what 21st century skills need to look like, and there may be some corporate business partnerships already “supporting” Vision 20/20 that may not agree with the tenets of the 4 C's rubrics. Breaking through those politically charged structures might prove challenging.

Policy Recommendation

Illinois Vision 20/20 is a policy platform for educational reform developed by stakeholders from several education-based professional associations. The goal of this policy platform is to begin to address funding inadequacies, as Illinois is “ranked nearly last nationally in state education funding” (Policy Brief, 2016, p. 7). The stakeholders writing this policy brief believe that, “Central to the mission of education in our democracy is providing equal

educational access and opportunities to all students. To accomplish that end, it is time to update the state's funding system, which cynically fails to fund our poorest schools" (Policy Brief, 2016, p. 21). Illinois Vision 20/20 lobbyist from several Illinois Educational professional associations successfully advocated for an evidence-based funding model, which was passed by the Illinois legislature in August, 2017. With this major hurdle completed, their policy advocacy will move forward with the other three pillars of education reform, one of which is 21st Century Learning.

The Illinois Vision 20/20 Policy Brief begins by stating, "Education is an investment in our children's future, our state's future, and our nation's future" (Policy Brief, 2016, Letter from the Vision 20/20 Partners). To prepare our students for this future, I believe that school districts around the country need to transform teaching and learning, modernizing the school and its classrooms so that students regularly practice skills that prepare them for the new global economy. No longer can the teacher-centric, "sage on the stage", or industrial economy education model prepare current and future student students to be successful and well prepared for the global economy. The Illinois Vision 20/20 pillar for 21st Century Learning identifies the following vision for 21st Century Learning:

Education in Illinois should modernize its approach by delivering 21st century instruction that provides all students access to modern learning environments. Education should allow students to learn and apply knowledge, think creatively, and be well prepared for a global citizenry. The definition of learning should be expanded to include social and emotional development, creativity, innovation, and higher-level thinking where student inspiration, engagement, and motivation are goals of the education process. Learning is not limited to the classroom or school day.

A 21st century education must address the role of technology in the broad definition of learning. Technology is an important tool that can enhance and augment the teaching and learning processes in our schools by increasing efficiencies, encouraging higher-level thinking, increasing student engagement, aiding in individualized instruction, and enhancing adult collaboration. However, there is currently a technology gap in Illinois schools, with less affluent schools unable to provide their students the benefits of

technology in instruction. Partnerships with local businesses, organizations, and colleges can enhance student educational experiences, expand and improve communication, put more resources in the classroom, and expand instruction to better prepare students for college and the workplace. (Policy Brief, 2016, p. 15)

The recommended Illinois Vision 20/20 policy addresses supporting “student creativity and innovation” and “incorporating technology in State Learning Standards” (Policy Brief, p. 18), but nowhere within the policy brief does the document discuss how creativity and innovation are to be measured. My policy advocacy paper asserts that the Illinois Vision 20/20 21st Century Learning pillar needs to include clear, cross-curricular, and measurable standards regarding the 4 C’s. While I agree with the tenets of the 21st Century Learning pillar, the policy advocacy can be more effective by including resources that standardize proficiency and excellence in 21st Century schools, classrooms, and graduates. The 4 C’s rubrics provide a uniform tool for data collection of academic progress across the state if implemented with fidelity.

Policy Efficacy

Reform in schools takes significant time, especially when schools have traditionally been taught in teacher-centric models. Incorporation of 21st Century Learning and the use of technology in schools will be a significant shift in education, and teachers, administrators, school boards, and families will not buy in unless there is measured success and a means by which individual schools can measure the success in their own district. In this writer’s program evaluation, the research of *Project RED* (Greaves, Hayes, Wilson, Gielniak & Peterson, 2012) demonstrated measured academic gains on standardized state assessments from technology integration and the emphasis on 21st Century skills in Klein ISD, Texas (Greaves, et al., p. 38) and Mooresville, North Carolina (Greaves, et al., p. 44). To see these types of academic gains for students in Illinois schools, the Illinois Vision 20/20 policy advocacy can demonstrate these examples of measured academic success, and promote the adoption of the 4 C’s rubrics to

provide teacher professional development as well as a tool for district data collection. This policy will only be effective if teachers, administrators, and communities embrace the need for students across all curricular areas to regularly practice instructional lessons that intentionally incorporate 4 C's skills of communication, collaboration, critical thinking, and creativity.

SECTION TWO: ANALYSIS OF NEED

The proposed policy advocacy of 4 C's rubrics added to Illinois Vision 20/20 must provide a benefit and/or address a deficit for educators, politicians, parents, and students to support. Section two of this dissertation will review this policy through the lens of five different disciplines: educational need, economic need, social implications, political implications, and moral/ethical implications.

Educational Analysis

Educators should not find it surprising that research reports the U.S. education system focused on low-level knowledge retention and not high order skills and applications of learning (Dintersmith & Wagner, 2015, p. 42). Dr. Allen Glenn, from the University of Washington and quoted in Chen, put it simply, "We all think we know what a school is and how a classroom is organized, since we spent eighteen years in them during our formative years" (Chen, 2010, p. 11). Educators have a model they follow, and the "biggest obstacle to school change is our memories" (Chen, p. 11). Dintersmith and Wagner report that most American schools are focused on lecture-based models, and that these types of courses "contribute almost nothing to real learning" (2015, p. 7). They add that, "U.S. Education is largely a hollow process of temporarily retaining the information required to get acceptable grades on tests" (Dintersmith & Wagner, p. 42). Michael Fullan adds that students report that they are "increasingly bored in school and evermore as they go from grade to grade" (2013, p. 23).

U.S education has evolved into a school model where "academic success" is driven by standardized tests such as PARCC, Smart-Balanced, ACT, Advanced Placement, Stanford Achievement Test, Measures of Academic Progress (MAP), The Iowa Test of Basic Skills, STAR, TerraNova, and the WorkKeys to name a few! States such as Illinois developed updated

legislation involving teacher evaluation system, requiring measurable student growth as a component and recommending standardized assessments as one form of measuring growth. These types of standardized assessments do not evaluate the success needed in the global marketplace, as Wagner explains.

In Wagner's *Global Achievement Gap* (2010), he states that only "one-third of high school students' graduate prepared for college" and that "sixty-five percent of college professors report that what is taught in high school does not prepare students for college" (Wagner, p. xix). Wagner adds that the U.S high school graduation rate is about seventy percent, well behind European and Asian counterparts. Of those students successfully completing college, Wagner recently mentioned in a "Ted Talk" that fifty-four percent of college graduates could not find a job in the global economy (Wagner, 2012). Wagner puts it simply, "Schools haven't changed; the world has...and our schools are obsolete" (2010, p. xxi). Schools "...were never designed to teach all students how to think" (Wagner, 2010, p. xxiii), and this is seen in the lack of intellectual challenge found in most classrooms.

Wagner identifies that "all students need new skills for college, careers, and citizenship" (2010, p. xxi). The global economy has transformed from one where most people worked "with their hands" to one with "their heads" (Wagner, p. xxiv). The "new competition is in innovation and invention, creativity, productivity, and vision" (Greaves, Hayes, Wilson, Gielniak & Peterson, 2012, p. xvi). Knowledge is readily available on the internet, in video, and no longer is the teacher required to be the traditional disseminator. Dintersmith and Wagner (2015) said it best that, "What matters most in our increasingly innovation-driven economy is not what you know but what you can do with what you know" (p. 27). "Americans can no longer rest

assured that our long run of productivity, prosperity, and preeminence will continue unabated or unchallenged” (Vockley, 2007, p. 2).

The skills identified for college and career success are identified in both Tony Wagner’s Global Achievement Gap as well as by The Partnership for 21st Century Learning “P21”.

Wagner identifies seven “Survival Skills” critical remaining competitive and prosperous. These skills are:

- Critical thinking and problem solving
- Collaboration across networks and leading by influence
- Agility and adaptability
- Initiative and entrepreneurialism
- Effective oral and written communication
- Accessing and analyzing information
- Curiosity and imagination (Wagner, 2010, chapter one)

P21 identifies similar threads as Wagner, classifying Learning and Innovation Skills that include creativity, innovation, critical thinking and problem solving, communication, and collaboration. P21 also emphasizes the need for Information, Media, and Technology Skills, as “citizens and workers must be able to create, evaluate, and effectively utilize information, media, and technology” (“Framework for 21st Century Skills,” 2015, 21st Century Outcomes Number 3). P21 maintains the need for content knowledge of core subjects and fine arts, but also echo Wagner in the need for Life and Career Skills that include flexibility and adaptability, taking initiative and being self-directed, personal productivity and accountability, and finally leadership and responsibility. Schools can no longer send out students with just information, they must have these types of skills modeled and practiced in every day learning experiences. Greaves, Hayes, Wilson, Gielniak & Peterson (2012), in *Project RED*, notes a profound statement by colleague Seymour Pape, “It is no longer good enough for schools to send out students who know how to do what they were taught. The modern world needs citizens who can do what they were not

taught. We call this learning learning” (p. xvi). Greaves, Hayes, Wilson, Gielniak & Peterson understand that successful students must have the ability to step back, be metacognitive, see patterns and trends, and apply knowledge and skills to bring personal success. Students must have the ability to recognize a problem and determine what skills and tools to implement. For students to be economically competitive, schools must incorporate 4 C’s skills of communication, collaboration, critical thinking, and creativity in lessons and assessments.

Economic Analysis

Advocacy of the adoption of the 4 C’s rubrics into the Illinois Vision 20/20 platform and ultimately into Illinois Learning standards has economic implications for implementation and for student marketplace competitiveness. As stated earlier, the 4 C’s rubrics have been developed by school districts that are members of the EdLeader21 consortium. These member school districts pay an annual membership fee that provides rights/access to the 4 C’s rubrics and educational materials for incorporating the rubrics into a school system. EdLeader21 owns copyright to these rubrics, and permission for a state entity to adopt and use these would likely mean negotiation of a state membership cost for all Illinois schools. That economic cost would need to be assessed.

The second economic impact and more critical implication is the changing workforce in the global economy. Kay and Greenhill, in *The Leader’s Guide to 21st Century Education* (2013) state, “Workforce skills and demands have changed dramatically in the past 40 years. Our system of education was built for an economy that no longer exists” (p. 3). Kay and Greenhill reference the research of economists Levy and Murnane, noting the “steady declines in routine work...(because) it is easier to digitize. Once the work can be digitized, the work can be automated or it can be ‘off-shored’” (p. 3). The authors continue, noting that education systems need a model that, “will prepare people for analytical and interactive work” (Kay & Greenhill, p.

4). The 4 C's are the current skills necessary for students to be competitive in the modern global economy. "The workforce of the 1950s did not require critical thinking, communication, collaboration, and creativity skills" (Kay & Greenhill, p. 5). These skills are now a necessity and the "ticket up the economic ladder" (Kay & Greenhill, p. 5).

Social Analysis

Two aspects of the policy advocacy for adopting the 4 C's rubrics into the Illinois Vision 20/20 platform align with developing the whole child and increasing family technology literacy. Illinois Vision 20/20 Policy Brief identifies the need to "Align Social and Emotion Standards" (2017, p. 17). The Illinois Vision 20/20 recommendation is this:

As student outcomes expand from a pure academic focus to the 'whole child,' the measures by which we evaluate school effectiveness should also change. Current social and emotional standards should be clarified and aligned with the new Illinois Learning Standards. Appropriate instructional resources should be made available to support districts interested in incorporating social and emotional learning best practices. (Policy Brief, 2017, p. 17)

The 4 C's rubrics support this aspect of the whole child in that it intentionally supports a student's ability to be creative, to individualize their learning, and to pursue their passions. School can no longer be institutions that teach memorization and have student complete rote tasks and worksheets. Michael Fullan's statements about "increasingly bored (students and schools)" (2013, p. 23) identify that the 4 C's rubrics can be used with good teaching to engage students and foster student creativity and innovation. The 4 C's rubrics support the Illinois Vision 20/20 advocacy for students to, "follow their own pursuits and passions that will motivate (students) to be life-long learners" (Policy Brief, 2016, p. 17). The earlier students are engaged with the learning process, the earlier students can love learning.

The second social outcome of incorporating 4 C's rubrics into the Illinois Vision 20/20 policy advocacy and ultimately into Illinois K-12 schools is increasing collaboration and self-directed learning for students. Successful people in the global economy are commonly those that are skillful in the areas of information literacy and human networks. Illinois students must develop skills of communication, collaboration, critical thinking, and creativity to be successful in the 21st century workplace. Students of any socio-economic background, especially those in impoverished areas, must have these skills developed to be successful in the global marketplace. Kay & Greenhill quote Thomas Friedman and Michael Mandelbaum's *That Used to Be Us* (2011) regarding the importance of connectedness and information, "With so many more people to connected...so many more people (are) able to connect with others who are also connected, and so many people are now empowered to find other people of like minds to collaborate with" (Kay & Greenhill, 2013, p. 6). Schools not only have a responsibility of developing skills to learn information, but must also foster interpersonal communication skills. The ability to communicate and collaborate effectively, and then to maintain these human networks will be critical for Illinois students. Incorporating the 4 C's rubrics and implementing the rubrics with fidelity throughout a curriculum will advance these skills.

Kay & Greenhill (2013) argue that education must be intentional about developing student collaboration skills, and add that students must learn to be "self-directed" (p. 6). "Thus the flat world requires individuals who are self-directed. As one corporate executive at Apple told us, in today's environment, 'if a person needs to be managed they are no longer employable'" (Kay & Greenhill, p. 6). Schools are entities where structures are top-down, and often classrooms reflect this same structure. Classrooms historically have been teacher-centric, with limited opportunities for student voice, student choice, or student passion. Kay & Greenhill

(2013) state that, “creativity and innovation should be embedded in every subject” (p. 15).

Creativity and innovation can begin with a shift to student-centric, constructivist teaching models that honor student voice and student choice. While it is difficult to imagine what this could like, educators have a responsibility to engage students around what they love. It is our societal responsibility to prepare students for the next phase of life. Self-direction is clearly another social skill necessary to be successful and schools can embrace this through 4 C’s learning activities.

Political Analysis

To say that politics play a major role in Illinois education policy would be an understatement, largely due to the current stalemate in agreement between Governor Bruce Rauner and the legislative branch. The governor’s position on education funding includes an expectation of property tax and pension reform if additional revenues are to be added to the education budget. Governor Rauner states that, “Speaker (Michael) Madigan’s Democrats say they want to help CPS [Chicago Public Schools]” (Illinois Gov. News, 2017, para. two), when in actuality the Governor believes reforms are needed in Chicago schools and not “a bailout” (Illinois Gov. News, 2017, para. two). The legislature, led by Speaker Michael Madigan in the House and John Cullerton in the Senate have countered the governor, with their latest legislative changes called “The Grand Bargain.” All the education funding and reform bills are tied together; meaning that for one to pass, all must pass.

The Grand Bargain’ is a collection of bills that look to overhaul state government...Bills in the package include pension changes, new revenue streams, additional borrowing, a property tax freeze, mandate relief and a school funding formula overhaul. While parts of the "Grand Bargain" are not finalized, most noticeably the funding formula changes, the real question is whether or not the votes will be there to pass all of the components. (IASA Alliance Legislative Report 100-07, email report)

The funding formula change is one component of the Illinois Vision 20/20 Policy Advocacy, but collaboration between the governor's office and the legislature has been contentious, and only in the last hour in August 2017 was legislation passed for an evidence-based funding formula for Illinois education.

Adding the 4 C's rubrics to the Illinois Vision 20/20 policy may also be very political. The development of the initial document came about as professional organizations representing different educational stakeholders came together and realized that, "No single legislative attempt at school improvement can be developed, implemented, or find success without the support, devotion, and hard work of all stakeholders." (Policy Brief, 2016, p. 1) The Illinois Association of School Administrators, Illinois Association of School Business Officials, Illinois Principals Association, Illinois Association of School Boards, and Illinois Association of Regional Superintendents collectively represent the administrative side of school district management. As one collective voice, they wield significant representation of the need for reform in Illinois education policy. The policy brief states that Illinois Vision 20/20 represents, "over 500 school districts...and 800,000 students" (Policy Brief, p. 1). The working committee may be at a stopping point as the policy brief is published and the professional associations advocating for Illinois Vision 20/20 are currently working for "Equitable and Adequate Funding" reform, as noted in the IASA Legislative Report. If the committee is still an active working group, several professional colleagues with which I have a relationship are serving as members and I can advocate to join the committee.

Moral and Ethical Analysis

From a moral perspective, personally this writer is not a fan of unfunded government mandates on schools. All too often in education, legislators and policy makers impose mandates

on schools that require additional staffing, procedures, and costs that are not budgeted. Nor does the State Board of Education recommend additional funds to accomplish these mandates. Incorporating and expecting school district to adopt and measure the 4 C's will require significant professional development on the part of teachers. While this author believes that developing student 21st Century skills is necessary to be competitive in the global work force, these costs that district will incur to train teachers and to collect data applying the 4 C's rubrics is a moral dilemma with this policy advocacy.

The second moral/ethical dilemma for advocacy of the 4 C's rubrics is the challenges many districts face with regards to technology readiness. Financially struggling school systems typically do not have the resources in place to provide the necessary infrastructure for high-speed internet access. Evidence of this technology infrastructure deficit is highlighted in the change to the federal E-Rate program. E-Rate is a federal reimbursement program that schools can use to save on costs for internet access, telephone service, and infrastructure equipment. Schools with higher enrollments of low-socioeconomic students receive higher rates of reimbursement from the program. In 2014, the Federal Communications Commission [FCC] changed the program with the E-Rate Modernization Order. The FCC changes the program, gradually eliminating the reimbursement for telephone services and providing an additional \$1 billion annually for technology infrastructure including wireless access points (USAC News Brief, 2014, para. three). The News Brief highlights new funding resources for every school district to address technology readiness, "Funding for internal connections is available for routers, switches, wireless access points, internal cabling, racks, wireless controller systems, firewall services, uninterruptable power supply, caching, and the software supporting each of these components used to distribute high-speed broadband throughout schools and libraries" (USAC News Brief,

para. eleven). While this program provides some resources towards technology infrastructure, many rural communities still face additional technology hurdles.

Many rural school districts lack the ability to provide high-speed internet access to their schools. The FCC E-Rate program provides resources to equip buildings with the infrastructure needed to bring high-speed internet to the classroom and student devices. What the FCC cannot provide is telecommunications companies like AT&T, Comcast, Verizon, and others to provide fiber optic internet access to the school building. This problem is typically called “last mile fiber.” Telecommunications companies are in the business of making money, and the cost of installing fiber optic networks is significant in terms of labor and materials. So many rural communities do not have a single telecommunications provider with fiber optic internet to their schools. Instead, these districts rely on slower internet connections, typically satellite. Due to their geographic location, many rural schools do not have the ability to leverage emerging technology resources and thereby effectively communicate and collaborate outside their own school community. From a moral and ethical perspective, expecting these types of school districts to provide professional development and effective classroom integration of 4 C’s standards and rubrics is unrealistic and unfair.

SECTION THREE: ADVOCATED POLICY STATEMENT

Schools have the responsibility for teaching students the knowledge and skills to be successful in college, to have social and emotional intelligence that allows students to navigate personal and professional life, and to develop career skills that provide value in the marketplace. Rapid advances occurring with technology, anytime anywhere access to information, and an ever increasing service-oriented driven economy have caused a shift in the skills needing to be taught in schools. Section three of this dissertation will examine the goals and objectives of the 4 C's and the validation of the 4 C's goals and objectives.

4 C's Goals and Objectives

For the past years in Illinois schools, students have been measured by traditional accountability systems such as ISAT, No Child Left Behind, Adequate Yearly Progress, and now PARCC. These assessments have been used as a benchmarking system to assess core subject content knowledge in areas of math, English, reading, and science. These scores and metrics are driven by an emphasis on achievement gaps, looking at underperforming subgroups of students and classifying the success of a school or district. Results from these assessment do not reflect the skills necessary to be successful in 21st century college work or career pathways. The goals of this policy are not to strive for the minimum competencies measured by these accountability systems, rather the advocated policy I have set forth is to prioritize a set of student competencies. These prioritized competencies are in the areas of critical thinking, communication, collaboration, and creativity – the 4 C's.

Inclusion of the 4 C's rubrics in the Illinois Vision 20/20 21st Century Learning pillar would prioritize these competencies and provide a common definition and assessment tool for Illinois schools. These competencies range across all academic content areas and can be adapted

for different use scenarios. The 4 C's rubrics define each competency, provide examples of student dispositions along a continuum, and offer a common vocabulary for teachers, students, and community stakeholders. Most importantly, the 4 C's rubrics provide a structure to be easily assimilated into school pedagogy. Educators are familiar with learning standards and assessment rubrics. Providing the 4 C's rubrics at the state level gives educators a framework of 21st century skills and performance metrics for student to practice and master.

The ultimate goal of the policy advocacy is increasing student readiness for the global marketplace. Students need learning opportunities in schools to understand and practice 21st century skills. Content knowledge will only get students so far, as I will elaborate in the validation section of this paper. Students must be exposed to collaboration skills that challenge them to take leadership and initiative, to learn to be flexible and adaptive, to learn to use technology tools for synchronous and asynchronous collaboration, and to learn to be inspirational and productive. Students must develop communication skills that expose them to different mediums and technology tools, and students must learn to engage in interpersonal conversations being good listeners and presenters as needed. As good communicators our students must be able to interact in informal and formal environments, being cognizant of audience, cultural norms, and bias. Most importantly, students must learn to be reflective communicators, understanding cues when communication is not effective and may need to be adapted.

Students will develop skills of creativity and critical thinking with advocacy of the 4 C's rubrics. Student exposure and practice in creativity will cause students to focus on idea generation and divergent thinking, to experience design thinking and the concept of iteration and refinement. Creativity exercises encourage students to explore new ideas and concepts, not only

those presented by teachers. Creative activities allow students to take risks and to learn from mistakes without fear of failure or consequences. Creativity also typically happens in collaborative groups, and opportunities for interactive group dynamics and idea leadership provide work-like problem solving experience. Critical thinking skill development engages students to investigate all aspects of a problem. Students are challenged to assess their own content knowledge and build new learnings through inquiry and investigation. Critical thinking also requires students to interpret data and information, to classify and organize, and assess validity, and make interpretations. Critical thinking development allows students to refine all these aforementioned skills to draw conclusion and then ideate about complex solutions, and hopefully to real world problems.

Validating the 4 C's

On what basis should the reader assume that my policy advocacy for the adoption of the 4 C's rubrics to the Illinois Vision 20/20 21st Century Skills pillar is appropriate? The Partnership for 21st Century Learning [P21] (www.p21.org) is an organization passionate about developing the skills learners need to be successful. The P21 mission is “to serve as a catalyst for 21st century learning to build collaborative partnerships among education, business, community and government leaders so that all learners acquire the knowledge and skills they need to thrive in a world where change is constant and learning never stops” (P21.org, Mission and Vision). The Partnership for 21st Century Learning believes that:

- All learners need and deserve 21st century learning opportunities to thrive as tomorrow's leaders, workers, and citizens.
- Learning takes place throughout life in many places and spaces. From birth through their careers, learners need a broad range of experiences that develop their skills, dispositions and abilities to succeed. A strong foundation for success is rooted in learning that happens in and out of school.

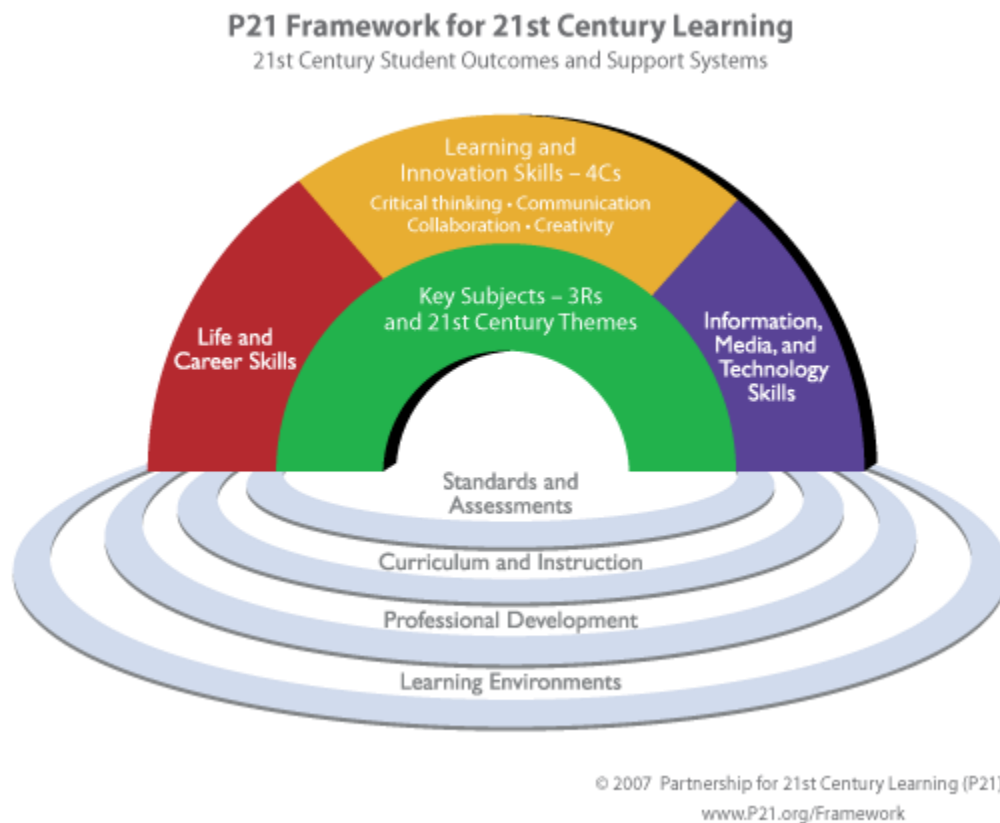
- 21st century learning environments and opportunities are essential to prepare all students for the challenges of work, life, and citizenship in the 21st century and beyond, as well as ensure ongoing innovation in our economy and the health of our democracy. (P21.org, Mission and Vision)

P21's beliefs for change are embedded with education, and support education reform to prepare all students for the changes and challenges of the 21st century workforce. P21's work began in 2002, bringing together business, education, community, and policymakers with the goal of preparing U.S. students for today and tomorrow's world. P21 research and the P21 Framework validate the need for the 4 C's Rubrics.

The Partnership for 21st Century Learning Framework for 21st Century Learning identifies student outcomes and support systems. These outcomes and systems identify all aspects necessary for student success. P21 describes the framework this way, "21st century standards, assessments, curriculum, instruction, professional development and learning environments must be aligned to produce 21st century outcomes for today's students" (P21.org, Framework, para. four). Student outcomes, identified in the top "rainbow" of Figure 1, represent the "skills, knowledge, and expertise students should master to succeed in work and life in the 21st century" (P21.org, Framework). P21 defines these competencies to include Content Knowledge and 21st Century Themes, Learning and Innovation Skills, Information, Media, and Technology Skills, and Life/Career Skills. Content Knowledge areas include traditional core academic subjects such as Reading, Math, Science, History Geography, World Language, Civics, etc. (P21.org, Framework, Student Outcome Number One). P21 also supports "interweaving 21st century interdisciplinary themes including Global Awareness, Financial/Economic/Business/Entrepreneurial Literacy, Civic Literacy, Health Literacy, and Environmental Literacy" (P21.org, Framework, Student Outcome Number One). P21 believes

that it is “Essential to prepare all students for the future” (P21.org, Framework, Student Outcome Number Two) through learning and innovation skills. Student outcome number two explicitly references my policy advocacy, listing skills of creativity and innovation, critical thinking and problem solving, and communication and collaboration as essential, and these skills are “increasingly being recognized as the skills that separate students who are prepared for increasingly complex life and work environments in the 21st century, and those who are not” (P21.org, Framework, Student Outcome Number Two).

Figure 1 - P21 Framework for 21st Century Learning



P21’s Framework include student outcomes that include information, media, and technology skills. P21 describes the need for these skills: “Today we live in a technology and media-suffused environment with: 1) access to an abundance of information, 2) rapid changes in

technology tools, and 3) the ability to collaborate and make individual contributions on an unprecedented scale. To be effective in the 21st century, citizens and workers must be able to create, evaluate, and effectively utilize information, media, and technology” (P21.org, Framework, Student Outcome Number Three). These skills of evaluating and creating mirror 4 C’s skills of critical thinking and creativity in my policy advocacy. Outcome number four also lists skills paralleling 4 C’s goals and objectives. “Today’s students need to develop thinking skills, content knowledge, and social and emotional competencies to navigate complex life and work environments. P21’s essential Life and Career Skills include” (P21.org, Framework, Student Outcome Number Four):

- Flexibility & Adaptability
- Initiative & Self Direction
- Social & Cross-Cultural Skills
- Productivity & Accountability
- Leadership & Responsibility (P21.org, Framework, Student Outcome Number Four)

Partnership for 21st Century learning also provides research on why 4 C’s skills are necessary educational outcomes. Educational researchers from Pearson worked with P21 to conduct research on “teaching and assessing collaboration skills” (Collaboration: Executive Summary for Educators, 2017, para. one). Their findings reinforce and validate the need for prioritizing 4 C’s skills instruction in schools. P21 and their Pearson research “Suggests that a focus on developing collaboration knowledge and skill is important for several reasons” (Collaboration: Executive Summary for Educators, 2017, para. two):

- People who know more about collaborating go on to enjoy higher performance in team settings.
- Training students to work together makes collaborative or cooperative learning approaches to teaching more successful in terms of student learning.

- Strengthening students' collaboration skills can also enhance their prospects for employment and job advancement once they leave school.
- Teaching young learners how to work with others within a community on social issues can improve students' commitment to civic participation. (Collaboration: Executive Summary for Educators, 2017, para. two)

P21's research on collaboration continues by stating that this skill "must be taught explicitly" and "educators can no longer assume that simply putting students into groups is enough...[teachers must teach] students what good collaboration looks like in terms of desirable behaviors" (Collaboration: Executive Summary for Educators, 2017, para. five). Using this example of collaboration, the 4 C's rubric provides vocabulary, definitions, and a continuum ranging from beginning to excellent student behaviors that achieves the goal of this research. Without the collaboration 4 C rubric, pedagogical implementation of this skill would not be consistent. Why reinvent the wheel when EdLeader21 member districts have created resources like the 4 C's rubrics?

SECTION FOUR: POLICY ARGUMENT

Malcom X once said, “Education is the passport to the future, for tomorrow belongs to those who prepare for it today” (1964, para thirty). Education is every student’s passport, providing opportunities to acquire knowledge and practice skills to be successful citizens. As educational leaders, we have a moral and civic responsibility to prepare all children for the world before them. Educational leaders also have a responsibility to reform curriculum and instruction, to adapt pedagogy, to engage learners, and to understand how schools can meet the needs of the 21st century workforce. But not every institution or entity adapts and changes. There will be those who argue that American education opportunities are exceptional, that programming such as International Baccalaureate [IB] and College Board Advanced Placement curriculum provide traditional teacher-directed learning that year after year demonstrates academic success. Students from these programs continue to higher education learning and success in the marketplace. One might argue that 21st century skills of communication and collaboration do not need to be taught, rather that we all have gifts and talents in each of these domain. This policy argument will explore research and opinions supporting and countering a policy of incorporating 4 C’s into the Illinois Vision 20/20 Policy Framework.

Pros of Advocated Policy

The goal of this policy advocacy to is give students a greater skillset and increase their preparedness for the 21st century global marketplace. In Wagner’s *Global Achievement Gap* (2010), he states that only, “one-third of high school students graduate prepared for college” and that “sixty-five percent of college professors report that what is taught in high school does not prepare students for college” (Wagner, 2010, p. xix). Wagner adds that the U.S high school graduation rate is about seventy percent, well behind European and Asian counterparts. Of those

students successfully completing college, Wagner recently mentioned in a “Ted Talk” that fifty-four percent of college graduates could not find a job in the global economy (Wagner, 2012).

These statistics should not be acceptable to educational leaders.

In Wagner’s book, *The Global Achievement Gap* (2010) he put it simply, “Schools haven’t changed; the world has...and our schools are obsolete” (Wagner, 2010, p. xxi). Schools “...were never designed to teach *all* students how to think” (Wagner, 2010, p. xxiii), and this is seen in the lack of intellectual challenge found in most classrooms. One reason that schools need reform as defined through the 4 C’s definitions and rubrics is that they provide opportunities for students to become active, engaged learners and thinkers. Today’s students are tomorrow’s workers, tomorrow’s problem solvers, and tomorrow’s leaders. Wagner’s data reflect that current instructional pedagogy is obsolete as current teaching strategies do not challenge students to think.

Instead of asking students to memorize and reiterate information, educators should be asking students, “what can you create with the information you’ve found?” (Chen, 2010, p. xii) Chen adds that, “students learn more deeply when they can apply classroom-gathered knowledge to real-world problems, and when they take part in projects that require sustained engagement and collaboration” (p. 37). Solvie and Kloek (2007) support engagement and collaboration in instructional design, where teachers/students are, “viewing learning as a process and not a product, developing inquiry skills, acquiring knowledge, as opposed to memorizing, and applying knowledge and skills in the context of relevant settings [that] reflect experiential learning” (Solvie and Kloek, 2007, p. 9). The research of John Hattie (2012) further supports this data, indicating that when teachers assume a role where students are “activated” by the teacher, student achievement has one of the highest positive effect sizes at .40 (Hattie, p. 23). Additional

support for transforming pedagogy that places students as active learners applying 4 C's skills is supported by P21 and Tony Wagner.

The Partnership for 21st Century Learning [P21] Framework supports the integration of the 4 C's into instructional pedagogy. As stated earlier, "Learning and innovation skills increasingly are being recognized as the skills that separate students who are prepared for increasingly complex life and work environments in the 21st century, and those who are not" (P21.org, Framework, Student Outcome Number Two). The P21 goes further, by indicating that instruction curriculum should:

- Emphasize deep understanding rather than shallow knowledge
- Engage students with real world data, tools, and experts they will encounter in college, on the job, and in life – students learn best when actively engaged in solving meaningful problems
- Focus on providing opportunities for applying 21st century skills across content areas and for a competency-based approach to learning
- Enables innovative learning methods that integrate the use of supportive technologies, inquiry- and problem-based approaches and higher order thinking skills
- Supports the continuous evaluation of students 21st century skills development
- Create learning practice, human support, and physical environments that will support the teaching and learning of 21st century skill outcomes (P21.org, Framework, Support Systems)

The P21 framework support systems section articulate that instruction curriculum must provide students learning opportunities that are engaging. When students comprehend 4 C's skills, practice these skills in safe environments with human support, and then self-assess their progress, how effective will educational growth be? Hattie is correct that when the teacher understands the goal is to activate student learning, higher order skills will be developed.

Tony Wagner provided feedback from business leaders as another example demonstrating why skills such as communication, collaboration, critical thinking, and creativity are required to be successful in the modern global economy. On the topic of critical thinking,

Wagner quotes Ellen Kumata, consultant to Fortune 200 companies, “The idea that a company’s senior leaders have all the answers and can solve problems by themselves has gone completely by the wayside...The person who’s close to the work has to have strong analytic skills. You have to be rigorous: test your assumptions, don’t take things at face value, don’t go in with preconceived ideas that you’re trying to prove” (Wagner’s Seven Survival Skills, Quote Number One). Kumata’s statement highlights that the modern worker must bring analytic and problems solving capabilities. It is not only management that is expected to solve the problem, but also every member of a company and organization.

Communication skills is another key tenet to develop in every student. Wagner quotes Cisco Vice President for Talent Management Annmarie Neal, who states, “The biggest skill people are missing is the ability to communicate: both written and oral presentations. It’s a huge problem for us” (Wagner’s Seven Survival Skills, Quote Number Five). The modern worker must have talents to write, present, and speak effectively. As mentioned earlier, student skills must be practiced to identify audience, efficacy of messaging, and the ability to be a good listener. Annamarie Neal indicates that the modern worker lacks this fundamental skill identified in the 4 C’s.

The final quote I’ll use to support the 4 C’s regards the ability to process information, to analyze and make decisions based on the analysis. Wagner references Mike Summers, Vice President for Talent Management at Dell. Summers said this, “There is so much information available that it is almost too much, and if people aren’t prepared to process the information effectively, it almost freezes them in their steps” (Wagner’s Seven Survival Skills, Quote Number Six). People will freeze when they do not know what the next step is, or what the right answer should be. Embracing the 4 C’s into the Illinois Vision 20/20 Platform and subsequently

integrating these skills into Illinois classrooms will give students opportunities to practice and hone this skill. Students must practice analyzing the wealth of information on the web. Students must also build human learning networks of expertise, so when the challenge arises, they have the skills and abilities to know who to ask or the experience and knowledge to decipher the critical information to solve the problem.

Cons of Advocated Policy

The reader may realize that research against 21st Century Skills or the 4 C's is not widespread. Instead the research articles and publications supporting the argument far outweigh the research of the advocated policy. Besides the research shared in the last section, two authors' research frame the argument supporting transforming American education pedagogy with the inclusion of 4 C's skills instruction. First, George Couros' *The Innovator's Mindset* (2015) elaborates extensively on the need for schools to change. Couros states, "There is a clear need for innovation in education. Without innovation, organizations – including educational facilities – cease to exist" (p. 4). Couros believes that, "The structure and type of learning that happens in many of our schools does not fulfill the needs of the twenty-first century marketplace" (Couros, 20105, p. 4). Couros shares that students have learned the game of school, but do not know how to succeed by thinking for themselves. Couros and many other believe that education must embrace change, for the betterment of students and to stay viable.

Clayton Christensen's work, *The Innovator's Dilemma* (2011), looks through the same innovation lens as Couros, but from the perspective of business, studying why firms fail. Clayton's research looks at "Well managed companies that have their competitive antennae up, listen astutely to their customers, invest aggressively in new technologies, and yet still lose market dominance" (2011, p. xi). Clayton goes on to indicate that "disruptive changes in

technology and market structure” (p. xiv) were drivers that adversely impacted companies like Sears Roebuck and IBM. Clayton’s key term used through the research is called the “*principles of disruptive innovation*” (p. xv, author’s italics). Clayton’s research is best summarized in this sentence: good companies fail because “their managers ignored these principles [disruptive change in technology and market structure] or chose to fight them” (p. xv). While Clayton studied the corporate sector, I see overlaps in Clayton’s research and Couros’ *Innovation Mindset*.

Many educators see the changes in society with technology, and believe the change needed in educational pedagogy is more technology. Studying the 4 C’s rubrics, one will note that each of the skills describe actions where students use technology resources to demonstrate mastery. Schools run the risk when they make the leap to think that technology is the answer to achieving the 4 C’s. Couros rightly points out though that, “A school with all the latest technology may well be a twenty-first century school...and still not offer twenty-first century learning” (2015, p. 140). Couros adds, “If we do not understand the learning opportunities we have in front of us *because of technology* (author’s italics), we run the risk of accelerating learning outcomes that may not be relevant to the learner” (p. 140). Couros is correct in saying that technology itself is not the answer, not a means in and of itself to attaining 4 C’s skills. Applying Clayton’s (2011) research regarding disruptive technology in Couros’ education example, educational leaders need to recognize and lead teachers to understand that technology provides opportunities to “embrace...and empower the students in our schools and classrooms in powerful ways” (Couros, 2015, p. 141). “Technology can actually be transformational, and it provides opportunities [in education] that didn’t exist before” (Couros, p. 141). While

technology can be transformational and support the acquisition of 4 C's skills, there are arguments against technology in education.

Amanda Ronan (2017, January 16) authors an article outlining reasons why technology is not an appropriate tool for education. Ronan begins the “cons” section of the article by looking at business innovation. Ronan notes technology innovation instances where workers have been replaced in the “auto industry, agriculture, and manufacturing” (2017, para. 9). Ronan believes that technology could never replace good teaching, but does concede that, “advanced in edtech are powerful enough to deliver content, assess, and set students on a new course of learning, all without teacher intervention” (para 9). While my policy advocacy does not look at reducing teachers in schools, Ronan does bring up a valid concern and possible reason why educators may oppose the 4 C's and additional technology resources in the classroom. Ronan also highlights the ease of educational fraud – plagiarism. Ronan reported that, “Students today can easily access essays, reports, class notes, tests, etc., online, making it that much more difficult for teachers to know if the work their students hand in is original” (2017, para. 11). Collaboration is certainly one of the goals of the 4 C's, but good educational pedagogy creates learning opportunities for each and every student to demonstrate mastery. While Ronan's point about plagiarism is noted, performance-based assessments where students have choice can lead to reduced plagiarism as student may be more engaged if they have voice in their assignment.

Amanda Ronan's third concern with technology in education is digital equity. Ronan begins by noting that, “Not all our students have access to technology tools outside of the classroom” (2017, para. 12). Ronan recognizes that schools are moving to 1:1 technology initiatives where every student has a device, but that challenges exist, and that, “student access to the Internet must be considered” (para. 12). The policy advocated in this dissertation is for

school-based learning activities for students to practice 4 C's skills. Technology equity within the school likely exists, so Ronan's concern is tempered as every student will have ubiquitous network access on their campus. Acquisition of 4 C's skills is critical to readiness for the 21st century global marketplace, so are schools and education leaders to abandon technology tools to support learning activities because some students may not have access outside the four walls of school? District leaders can identify Internet access resources within their school community. If equitable access to the Internet is a community challenge, then leaders can allocate resources as needed.

Terry Heick writes in *5 Problems with Technology in Classrooms* (No Date) that, "Not all schools can keep up with the rapidly changing technology" (para. 3). Heick adds to this argument against technology in the classroom sharing, "Upgrading equipment is often costly and schools may not have the manpower to handle the equipment" (para. 4). Heick argues that managing technology is a complex problem, and that costs for bandwidth, support, and professional development are expenses that schools cannot afford. My argument against Heick's statements is that acquiring the 4 C's skills and having technology resources to practice and demonstrate them are worth the financial investment of our schools. Schools have the responsibility to prepare students to be successful, and prioritizing expenses that help students acquire the 4 C's skills is the responsibility of district educational leaders.

The last argument against the 4 C's and technology tools supporting these resources comes from Kentaro Toyama's *There are No Technology Shortcuts to Good Education* (2011). Toyama believes that, "For primary and secondary schools that are underperforming or limited in resources, efforts to improve education should focus almost exclusively on better teachers and stronger administrations. Information technology, if used at all, should be targeted for certain,

specific uses or limited to well-funded schools whose fundamentals are not in question” (2011, para 1). Toyama continues his assertion against technology tools in schools, noting, “The inescapable conclusion is that significant investments in computers, mobile phones, and other electronic gadgets in education are neither necessary nor warranted for most school systems. In particular, the attempt to use technology to fix underperforming classrooms (or to replace non-existent ones) is futile. And, for all but wealthy, well-run schools, one-to-one computer programs cannot be recommended in good conscience” (para. 8). Toyama concludes with a theory regarding underperforming or low-socio-economic schools, stating:

“Quality primary and secondary education is a multi-year commitment whose single bottleneck is the sustained *motivation* of the student to climb an intellectual Everest. Though children are naturally curious, they nevertheless require ongoing guidance and encouragement to persevere in the ascent. Caring supervision from human teachers, parents, and mentors is the only known way of generating motivation for the hours of a school day, to say nothing of eight to twelve school years... No technology today or in the foreseeable future can provide the tailored attention, encouragement, inspiration, or even the occasional scolding for students that dedicated adults can, and thus, attempts to use technology as a stand-in for capable instruction are bound to fail.” (Toyama, 2011, para. 9-10)

Toyama conclusion stems from a false assumption that technology is a replacement for teachers and sound pedagogy. This assertion was noted earlier by Ronan (2017), but all 21st Century pedagogy and 4 C’s skills instruction recommend integration with existing core subjects and curriculum. The P21 Framework of 21st Century Skills (P21.org, Framework) call for integration of core subjects and content knowledge acquisition, and 4 C’s skills to be embedded as a component for a well-rounded student. Toyama’s conclusion also assumes that students cannot be motivated and academically successful. My program evaluation research identifies school districts where technology supported pedagogy demonstrated academic gains for general

education and economically disadvantaged students. The notable example in my program evaluation comes from the research of Greaves, Hayes, Wilson, Gielniak & Peterson (2012). Their research regarding Klein ISD [Texas], referenced in my program evaluation, demonstrated academic growth gains in core subjects of 2 to 12 percent on the state TAKS standardized assessment over three years for general education students after initiation of a 1:1 technology program (Marassa, 2017, p. 25). Economically disadvantaged students demonstrated even greater gains on the same assessment, ranging from 2 to 24 percentage point gains (Marassa, p. 26). Both high schools referenced by data in Greaves, Hayes, Wilson, Gielniak & Peterson's (2012) report reflected double digit point gains in core subjects of reading and math over a three year period for disadvantaged students (Marassa, p. 26). This type of data refutes Toyama's regarding technology supporting student engagement and academic success, as Klein ISD demonstrated it over a three year period.

If I have learned one aspect of good administration, it is to anticipate all the questions that can be raised by parents or the board of education with a proposal or policy. In the case of policy advocacy, the same process must exist. Leaders must anticipate the arguments that opponents will bring forth to advocate against a proposal, and in this dissertation, reviewing the opposing positions of this argument makes the defense that much easier and in the end, a stronger policy advocacy.

SECTION FIVE: POLICY IMPLEMENTATION PLAN

The implementation will require several steps to ensure acceptance by current Illinois Vision 20/20 stakeholders and subsequent communication, professional development, and assessment data collection by school district. Section five of this thesis will outline each implementation step, and section six will review the data collection process and assess the efficacy of the policy.

Acceptance by Illinois Vision 20/20 Stakeholders

One might think that getting a policy added to the Illinois Vision 20/20 platform would be challenging, especially as this document is a reflection of collaboration of multiple professional organizations. I am here to tell the reader that this aspect of the implementation plan may be the easiest, due to long standing professional relationships and leadership roles in which I have served. I was able to get my proverbial foot in the door during the summer of 2017 when attending a leadership summit at Illinois Association of School Administrators [IASA]. During my five day workshop, I had the opportunity to meet Dr. Brent Clark, Executive Director of IASA. While speaking with Dr. Clark, I shared this policy advocacy paper, and asked if the working group for the 21st Century Learning pillar might be convening to continue its work. Dr. Clark indicated that the primary work of the leadership team surround Illinois Vision 20/20 had been hard at work that summer advocating for the primary pillar – Equitable and Adequate Funding. During the summer of 2017, members of the Illinois Vision 20/20 team had been working with legislators to draft policy that eventually landed in Senate Bill 1. At the time of writing, Senate Bill 1 is caught up in the governor’s amendatory veto and awaits the Illinois House and Senate to make the next move. Dr. Clark indicated that the leadership team’s time and efforts were going to continue to work on maintaining Equitable and Adequate Funding language

in the bill. He did indicate that if the bill did pass, that he could see bringing me into the 21st Century Learning team.

A second resource that would be necessary to get this policy into the committee and off the ground would require networking with primary stakeholders on the 21st Century Learning pillar working group. Upon review of committee members, I have prior working relationships with Amber Heffner, Illinois Computer Educators Executive Director, and with Dr. David Hill, Community Consolidated District 93 CSBO and IASBO president for 2017-2018. Ms. Heffner and I worked together on the Tech 2000 committee for Illinois computer Educators. Dr. Hill and I have attended several workshop together, and presented at the same Illinois Education Technology Leaders [IETL] conference in June 2017. I also have professional relationship with Jim Peterson, Director of Technology in Bloomington District 87. Mr. Peterson and I worked on the governing board of IlliniCloud, a non-profit technology cooperative of school districts around the country offering scale computing at affordable pricing for schools. IlliniCloud has partnered with the Illinois State Board of Education [ISBE] on several grants, and this relationship will play a key role in professional development and assessment data collection. Finally, Phil Morris, President of IETL and technology leader in Kane County, and I have collaborated on presentations for IETL and we are currently working on an October presentation at the TechCon 2017 conference. These long standing professional relationships will facilitate relationship building with current members and ease the transition and trust building necessary to get a policy of this magnitude adopted by the working group.

Communication Plan

Communication of the 4 C's rubrics will take place through the Illinois State Board of Education, Illinois Computer Educators, Curriculum Leadership Groups, and the State

Conference for IASA, IASBO, and Illinois Association of School Boards. Communication of the policy adoption and implementation expectation would come from the Illinois State Board of Education. State Superintendent Dr. Tony Smith typically communicates directly with school superintendents through direct email. This email would need to include information on the rationale and research base for the policy, opportunities available for professional development, and communication on the method for assessment data collection. Besides outlining these details in a white paper to superintendents, this information would also be distributed through the ISBE weekly newsletter. The weekly newsletter is a communication medium that it typically reviewed by Assistant/Associate Superintendents, Directors, and school leaders. Resources would be available in the newsletter and direct people to visit the ISBE website set up for this policy for additional information and training resources.

Communication would also be widely distributed through Illinois Computer Educators [ICE], the single largest educational technology advocacy group in Illinois. Illinois Computer Educators is comprised of some administrators, but primarily with teachers and instructional coaches with a passion for educational technology. ICE members would largely be familiar with 21st century skills and the 4 C's. ICE members would also be grassroots members that could get information out to teachers and be district resources for professional development in each school system.

Curriculum Leadership groups can also play an important role to communicate and provide professional development for integration of the 4 C's into the curriculum. Curriculum Directors and coaches are typically well versed in best practice curriculum recommendations, and so communication of the research base supporting this policy must be clearly explained to this group. Their buy in and advocacy at the district level will be a critical component to

successful integration. I would also suggest selecting a group of stakeholders from the 21st Century Learning pillar working group to present this policy to curriculum leaders at regional meetings and state conferences. For example, several suburban school districts in Illinois participate in a curriculum leadership group called CADCA. Presenting the policy to groups such as these, answering questions, and being an ongoing resource with feedback to the working group is key.

The final communication tool is known as the Joint Conference or Triple I. The Joint Conference takes place in downtown Chicago before the Thanksgiving holiday, and is attended by top school district leaders and school board members. As the audience represents most leadership teams of all Illinois school districts, it is the prime opportunity for communication. The ideal communication venue would be an opening day keynote, with members from the 21st Century Learning pillar working groups as presenters. As this policy would have evolved as part of the Illinois Vision 20/20 platform, district leaders and board members will give credence to its merit as the platform represents ideals from six professional organizations.

Professional Development

Successful implementation of the 4 C's will require administrative and community support, and then professional development for the teachers and administrators. Resources already exist to accomplish both of these tasks, and will be outlined in this narrative of section five.

School systems and their communities will not buy into changing their curriculum and adopting the 4 C's just because the State of Illinois would mandate them through a policy. Schools and their communities must understand the drivers, the why, the needs that are bringing about this change. To address this need of a research base, my recommendation would be to start

with providing Superintendents with a copy of Ken Kay and Valerie Greenhill's *The Leader's Guide to 21st Century Education* (2013). This book identifies a seven-step blueprint for schools that adopt the 4 C's, beginning with an explanation of eight trends affecting educational pedagogy. These trends are "the workforce, the flat world, the service economy, citizenship, the pace of change, design and innovation, information, and technology" (Kay & Greenhill, 2013, chapter one). These trends help administrators understand why instructional pedagogy must change, and provides a framework for districts to begin developing a vision for 21st Century learning and integrating the 4 C's. The remaining sections of the book provide examples and strategies for engaging the community, aligning your district's system, building professional capacity for instruction, and embedding the 4 C's in curriculum and assessments. Kay and Greenhill's book would be a great first step to lay the groundwork for educating the leadership team of Illinois school districts.

The second professional development resource required will be to build community understanding and support for this type of pedagogical change. Parents are used to traditional core subjects, and many will be hesitant to jump on board and accept major changes in the curriculum. These changes may also include moving to a more digital, technology rich school culture. Increased technology resources and access could mean additional revenue resources for schools, and parents will have to be educated on the rationale to support the change. Kay and Greenhill have resources completed for building community knowledge and consensus around the 4 C's. First, chapter two of *The Leader's Guide to 21st Century Education* (2013) is all about community consensus. Kay and Greenhill, co-founders of EdLeader21, have also developed tools with the help of other school districts, calling these tools stakeholder resources. As a benefit of membership with EdLeader21, school districts receive access to this toolkit, including

white papers and PowerPoints. The toolkit has a vast set of resources for stakeholders that include the Board of Education, parents, teachers, business leaders, and community groups. From these resources educational information can be developed for students too. I envision that these tools would be used in a process similar to school strategic planning. Just as school districts often bring stakeholders together every five to seven year to create long term goals, stakeholders from these groups can be brought to together to understand why educational change is necessary and what 4 C's skills and instruction will look like for Illinois schools and their local community.

Illinois districts will need to have local professional development structures in place to develop their teams. As superintendents and curriculum specialists will be the leaders to design local professional development for their teaching staff, three different state events can be used for training. First, every September the Illinois Association of School Administrators (IASA) holds their conference for superintendents. At this conference in Springfield, Illinois, the 4 C's rubrics and the vision for transforming Illinois Schools can be explained. As superintendents are familiar with assessment rubrics, explanation of their purpose is fairly straight forward. The challenge I see with professional development with superintendents is the rationale around change, which is where tenets of the 21st Century Learning pillar can be delineated as well as some of the research of Tony Wagner and others. The introduction of this pillar and the 4 C's rubrics to superintendents is only the first step.

The rubber hits the road in most districts with subordinates to the superintendent, typically an associate, director, or a principal. To effect change with these leaders, two state conferences would provide a great venue for professional development. In November, the Triple I conference is held in downtown Chicago. This conference is a three-day event, and brings together leaders from school boards, school district administrators, and school business officials.

The Triple I conference offers hundreds of sessions, and a keynote session specifically assigned to this topic could be negotiated as members of the conference organizers are members of the professional organizations that assembled Illinois Vision 20/20.

The Illinois Computer Educators conference in late February is the other professional development opportunity to build knowledge and training opportunities for school district leaders. The ICE conference is the state's largest instructional technology professional development event, and attendees typically include school administrators as well as teachers and instructional coaches. The conference typically reaches 2,500 or more attendees every year. Those attending the ICE conference typically have a passion for 21st Century Learning, and they would be early adopters willing to embrace the 4 C's and be strategic members of any school district beginning the journey to transform learning and incorporate these rubrics into their instruction.

As an incentive to attend professional development, the Illinois Board of Education (ISBE) could offer two-year membership in EdLeader21 to any school district attending these state-sponsored professional development offerings. By purchasing these memberships on a short term basis, the cost for ISBE can be budgeted and school districts could take over the membership costs if they see the resources and partnerships with other school districts is valuable. Our district just sent five leaders to the EdLeader21 national conference, and the information they brought back to the district was worth the investment.

SECTION SIX: POLICY ASSESSMENT PLAN

Assessment of the implementation of this state policy advocacy will be a significant challenge. As stated earlier in this dissertation, educators and school communities need to understand the rationale for changing educational practice. Section four, the policy argument, uses research from Tony Wagner and the Framework for 21st Century Skills P21 group to provide this rationale to stakeholders. Section six of this dissertation, the policy assessment plan, assumes that the 4 C's rubrics have been adopted as a component of the Illinois Vision 20/20 and that school districts begin instructional practices that incorporate these skills. As the policy gets traction in schools after a few years, the policy assessment plan will evaluate success using a performance assessment from ISBE, review student satisfaction data from the 5 Essentials, and review Illinois Report Card data graduation rates and State of Illinois unemployment data.

Assessment of student performance academic success on the 4 C's would be completed through an Illinois State Board of Education performance assessment. A performance assessment, unlike a "traditional" multiple choice bubble sheet exam, requires students to construct an original response to a question. Students must assimilate information, think critically, and demonstrate their ability to integrate different 4 C's skills typically through an open-ended response. A performance assessment assessing 4 C's skills could be questions such as these:

1. How might 8th grade transition to high school be easier?
2. How might the local community stimulate business on Main Street?
3. How would you design a new playground at an elementary school?
4. How could health habits be improved for students at school?
5. How can reduce the use of paper at school?
6. How might transportation and bus drop off at school be safer?

These open-ended creativity-based problems do not present a simple answer. Rather, they ask students to reflect, collect additional information, research, and present an idea to a real problem. Students are asked to identify a topic with which they personally connect, and then formulate a written response to the prompt.

Assessing Illinois students 4 C's skills would allow for student choice. Writing responses typically provide one prompt, and all students must respond to the same prompt. In my assessment design, I would provide a range of questions, like the examples provided, and ask students to select the prompt that interests them the most. The assessment design is for students to demonstrate critical thinking, creativity, and problem solving abilities. Each student response will be his or her own work, and no single response is the correct answer. The goal of the assessment is for students to demonstrate their ability to understand the problem posed, generate ideas, collaborate and iterate, and formulate a solution to the question. This performance assessment process will be designed very differently as well.

Assessments such as the Illinois Standards Achievement Test (ISAT) or national exams such as the ACT and SAT are designed to assess individual performance. These exams, while providing knowledge-based results cannot predict complex skill success such as the 4 C's. The assessment process design for my dissertation would allow for student collaboration. The skills necessary in the 21st century workforce require the knowledge base but also the ability to collaborate and problem solve in teams. The 4 C's assessment process must shift our thought process on how we as educators measure success, and allowing students selected to participate to work in teams to solve real problems allows for accurate 4 C's measurement.

My 4 C's assessment would have the Illinois State Board of Education randomly select teachers from grade levels and courses at schools to participate in the assessment. Every Illinois

school would be required to participate, but not every student required to complete as grading the responses would be financially unsustainable. Illinois has already discontinued the Write on Illinois performance assessment due the increasing costs to pay teachers to grade assessments for every Illinois student grades 3-8. Using random selection could allow this assessment process to be financially affordable and provide measurable data using the 1-4 scale of the 4 C's rubrics.

A second data point that can be used in conjunction with the randomized 4 C's performance assessment data is the ambitious instruction metric of the Illinois 5Essentials survey. The 5Essentials survey is an assessment given to every school in Illinois, and participation feedback reported on the Illinois Report Card. Assessment data is collected from parents, teachers, and students. According to the University of Chicago research group that provides this assessment, 5Essentials is “an evidence-based system designed to drive improvement in schools nationwide—it reliably measures changes in a school organization through the 5Essentials Survey and provides individualized, actionable Reports for each school” (5Essentials, 2016, para. 1). According to their research, the five elements that are critical to school success are:

- **Effective Leaders:** The principal works with teachers to implement a clear and strategic vision for school success.
- **Collaborative Teachers:** Teachers collaborate to promote professional growth.
- **Involved Families:** The entire school staff builds strong relationships with families and communities to support learning.
- **Supportive Environment:** The school is safe and orderly. Teachers have high expectations for students and support students to realize their goals. Classmates also support one another.
- **Ambitious Instruction:** Classes are academically demanding and engage students by emphasizing the application of knowledge. (5Essentials, para. 2)

To further validate the successful implementation of the 4 C's rubrics, I would look for changes in ambitious instruction data. Increases in student engagement are very likely with instructional

methodology focused on student centered experiences that build 4 C's skills. If schools provide learning opportunities where students actively participate and boost their skills to communicate, collaborate, problem solve, and be creative, I believe the 5Essentials ambitious instruction data will reflect an increase in student reporting.

The last data points that will be used to evaluate the effectiveness of the implementation of the 4 C's rubrics will be Illinois Report Card graduation rates and State of Illinois. High school graduation and preparedness for the job market is a primary goal of K-12 education. In Illinois, the four-year graduation rate has climbed from 84% in 2012 to 88% in 2016 per the Illinois Report Card 2015-2016 State summary. The research of P21 identified in Section Three delineates the academic competencies and skills that will make Illinois students more successful in all content areas. Developing a student's skills and competencies will lead to better overall academic performance, and should increase the graduation rate in our state.

These Illinois graduates with these new skills should also find advantages in the global marketplace. As stated in Wagner Ted-Talk and referenced in Section Two, fifty-four percent of college graduates could not find a job in the global economy (2012). Dintersmith and Wagner (2015) said, "What matters most in our increasingly innovation-driven economy is not what you know but what you can do with what you know" (p. 27). If Illinois students are taught 4 C's skills and provided ongoing learning opportunities in classrooms to practice and demonstrate these skills, they will be better prepared for this modern economy that Dintersmith and Wagner describe. These same students would then be better prepared for college and career success, which should correlate with reducing the college graduate to job force deficit.

In Illinois, employment data is collected by the Illinois Department of Employment Security. Each year this government agency publishes an Economic Report, analyzing

demographic and employment information in several Illinois sectors. While not specifically detailed in any recent reports, data surely exists that evaluates Illinois graduate to job market success and the average salaries of those job earners. My evaluation of this policy advocacy would look at historical trends surrounding high school and college graduation success to the marketplace, assessing increases in employment percentages. My data would also evaluate average salaries for these employees, as students that are more innovative critical thinkers that can solve complex problems for businesses and civic employers are likely to be higher wage earners.

SECTION SEVEN: SUMMARY IMPACT STATEMENT

As an educator, I have worked in district level leadership since 2007. My role in district level leadership has served as an advocate for instructional technology integration with a large unit school district in Central Illinois and with a suburban school district in the northern Chicago area. My advocacy for instructional technology integration and 21st century skills has been influenced by several factors. First, my master's degree from the University of Illinois Urbana-Champaign was with the department of Education with a focus on Curriculum, Technology, and Integration Reform (CTER). The CTER program began my personal journey as an advocate for technology, developing my exposure to research regarding instructional technology. The CTER program also started to develop my professional network to other like-minded education leaders with the same passion for growing every student's 21st century skills. My CTER cohort was a mixture of teachers and administrators, some serving in leadership roles as a technology director. This master's program began my transition from being a classroom teacher to the pursuit of a position of leadership in technology.

The CTER program and my career path change into district level leadership for Illinois school districts have influenced my advocacy for students, this graduate program, and this policy advocacy. In my district level leadership roles, I have been blessed to be asked to serve in other leadership roles, all of which have expanded my professional network. These professional networks have not only allowed me to serve and give back to other districts and students, but to increase my skills as an advocate with school and political leaders. These leadership roles have been with Illinois Computer Educators (ICE) and the Tech 2000 event, with Illinois Educational Technology Leaders (IETL), the IlliniCloud Governing Board, with SchoolCIO and Tech & Learning magazine, and finally with the IASA Aspiring Superintendents program.

Illinois Computer Educators is the professional organization for teachers and administrators whose mission is to lead the educational community in enhancing learning through technology. Each year Illinois Computer Educators sponsors an event in the Illinois State Capitol called Tech 2000, of which I have served as a committee member and co-chair in 2011 and 2012. Tech 2000 has the goal of increasing awareness of the role technology plays in preparing students to be successful. This annual event takes place in May, and coordinates student groups from around the state to demonstrate their innovative uses of technology to legislators. Students highlight how technology has increased their learning and they emphasize the need for equitable funding for sustaining necessary technology resources in their schools. As a volunteer and co-chair, I began to understand the need for policy advocacy regarding technology. During these events, I had several opportunities not only to meet legislators, but was often expected to have talking points and speak individually and at the formal welcome to all legislators and schools.

My exposure to policy advocacy increased when Pat Quinn was elected in 2010. As a Tech 2000 liaison that had worked specifically with legislative advocacy, I had an existing relationship with one of Pat Quinn's aides. This aide contacted me in December, 2010, asking for me to pull together leaders from Illinois Computer Educators to collaborate on a policy advocacy document regarding technology in education for the governor's four year term. My committee had one week to put together a policy document with the goal of impacting funding for every school and student in Illinois. While I will never know what aspects of our document influenced then Governor Quinn, the process exposed me to the opportunities for policy advocacy. This advocacy process expanded my network of peers with the same vision and passion for 21st

century skills, and definitely influenced my decision in this dissertation to advocate for a state policy impacting all Illinois students.

The advocacy with Illinois Computer Educators and Tech 2000 directly led to advocacy for a state consortium around technology resources for students with IlliniCloud. IlliniCloud was started with a vision by Bloomington District 87 Director of Technology Jim Peterson. IlliniCloud eventually received state grant funding for technology from the Governor Quinn administration, and the wonder is did our advocacy paper put together in December 2010 impact this grant award. Whether it did or did not, IlliniCloud received startup funding and partners with schools districts and the state of Illinois Board of Education (ISBE) around technology resources for students. The vision of IlliniCloud was to build cloud based data centers for schools with two goals. The first goal of IlliniCloud is to provide shared resources for technology disaster recovery. Not every school district has the personnel or technology infrastructure to host all the necessary software applications to run a school district. IlliniCloud provided this technology infrastructure at a very low cost for down state schools that lacked the budget and personnel to manage this infrastructure. The second goal of IlliniCloud was to leverage to power of shared services to bring down software costs, offering a consortium model of purchasing technology. Typically software purchases are negotiated on a district by district basis, with the vendor and district agreeing on one cost. IlliniCloud flipped the model, using the power of competition and human networks to bring down costs for many school district. As a member of Illinois Computer Educators and Tech 2000, I was asked to serve as a governing board member of IlliniCloud, and to use my position with legislators to advocate for ongoing support of state wide endeavors like IlliniCloud and to continue grant funds to support its programming for school districts.

As a governing board member, I continued to build political networks and professional relationships with technology leaders that continued my positive influence for educational policy change. As a member of IlliniCloud's leadership, I really began to work on an ongoing project that continually advocated for all schools in Illinois at a very high political scale. This new role really expanded my vision for technology and students in Illinois, and influenced my decision to pursue additional roles of leadership, this doctoral program, and ultimately this policy advocacy.

Roles of leadership and advocacy have continued with Illinois Educational Technology Leaders (IETL) and SchoolCIO. Illinois Educational Technology Leaders is the Illinois chapter of the national professional organization for school technology directors – the Consortium of School Networking (CoSN). As a leader seeking professional growth opportunities, I sought out CoSN and their Framework of K-12, as their Essential Skills competencies identified ten areas recommended to educational technology leaders. This framework outlines three primary professional categories – leadership and vision, understanding the educational environment, and managing technology and support resources (CoSN, 2015)

Joining this national organization lead me to also begin participating in Illinois chapter meetings of IETL. The IETL chapter focuses on professional development of the Essential Skills of the K-12 Framework (CoSN, 2015) but also in networking and advocacy. The Illinois Educational Technology Leaders chapter prides itself to build relationships between members to grow our skillset but also to expand our advocacy footprint. For example, IETL members have been influential in reporting data to the Federal Communications Commission (FCC) as it considered the revamping of the E-Rate reimbursement program for schools and libraries. The FCC/E-Rate program needed data on internet access charges per megabit by school district to evaluate if telecommunications firms were providing fair, consistent pricing to schools. This data

is relevant as the E-Rate program reimburses schools for internet access based upon their percentage of students whose families qualify for free-reduced lunch. IETL members were there to provide this data to the FCC. IETL members have also been advocates to the Illinois State Board of Education (ISBE) as it reflects upon best ways of supporting over 860 school districts and their technology needs. As ISBE looked for feedback, they contacted IETL leadership and its members for suggestions. Finally, IETL offers an annual conference for members to present and provide professional development to their peers. In June 2017, I presented at the IETL conference on infrastructure planning and advocacy with my district leadership team. Becoming a member of CoSN and IETL has expanded not only my professional skillset, but provided a new set of peers with which my passion for technology and policy advocacy has continued to grow.

SchoolCIO has become the next national level connection for policy advocacy in my professional career. As I began to network with Illinois Educational Technology Leaders, I began to learn about policy advocacy nationally around technology. Colleagues shared with me about Tech and Learning magazine, a media publication of the NewBay Education Group. NewBay offers information to educational stakeholders in daily emails and monthly newsletters, but also brings together educational technology leaders and government officials around advocacy topics at regional events called SchoolCIO. In September 2017, I was invited to participate and present at SchoolCIO Baltimore. This conference focused on Digital Equity, ensuring technology resources are available to all students, especially at-risk students in schools and in their homes and communities. The event not only brought together eighty superintendents and school technology leaders, but also brought together FCC/E-Rate program administrators and private sector advocacy leaders. Participating in round tables and panel discussions about

ways that we as leaders can transform resources and learning opportunities for at-risk students expanded my considerations with this dissertation. The SchoolCIO event caused me to pause and reflect on technology equity for all students, and really the requirement that all students have technology access to develop their 4 C's skills. Every student will need competency as communicators, critical thinkers, collaborators, and creative problem solvers. The need was not just for my students in my district, but for our entire society. Attending SchoolCIO made me realize that I need to advocate for resources so that every student has these opportunities to be globally competitive, and that only happens when students have technology access and resources to develop their 4 C's skills.

As I conclude this dissertation and doctoral program, I can reflect and see the personal growth I have achieved as a leader. This doctoral program has expanded my research base, empowered me to speak more confidently and boldly, and given me the knowledge and skills to be an effective district leader. The doctoral program provided opportunities to identify real challenges in my school system and research ways to find and offer solutions. The dissertation work allowed me to delve deeply into best practice knowledge and research involving actual school district issues – the 1:1 technology program, financial literacy and sustaining our 1:1 program, and advocacy for developing students 4 C's skills to be globally competitive in the modern global economy. These dissertations have made me a better writer, given me more confidence to speak articulately on issues, and expanded my human network of experts and built a knowledge base of best practice research.

I look at where I was three years ago when I began this program and where I am today, and I am astonished. I did not expect the self-growth I have witnessed. The perfect example I can provide of this growth came in the summer of 2017 at the Illinois Association of School

Administrators “Aspiring Superintendents” symposium. During this professional development, established “successful” school superintendents created learning activities to prepare us for the same position in which they serve. This program walked us through reflection activities regarding entry plans, goal settings, opening day presentations, legal issues, school finance, legal issues, and board relations. The symposium challenged each of us to begin seeing ourselves as the superintendent, and put us into simulations in front of an audience of peers where we needed to articulate our core beliefs, our leadership story, and how we were going to lead a school system. Before this doctoral program, I never would have envisioned that I would be ready for that next step. Today, at the end of this dissertation, I am ready and willing.

This week long professional development was recommended by an associate superintendent and mentor in my district. This colleague believed I was ready to take the next step professionally based on my leadership within the district and the growth she had witnessed from the doctoral program. The doctoral program’s design allows for topic selections based on student interest and allowed me to tailor my dissertation design to issues and challenges in our school system. The results of the dissertation work not only informed our team but also directly lead to initiatives and change as a whole. While I do appreciate and hope that future leadership opportunities occur in my educational career, it is rewarding to stand in the balcony and see the fruits of my labors. The program evaluation informed our 1:1 program and lead to our superintendent changing her mind and supporting a district-wide technology initiative. Change leadership looked at our financial literacy as a district administrative team, and has challenged me as an individual to learn more and to advocacy for others to be engaged and knowledgeable regarding school finance. Finally this last dissertation advocates for inclusion of the 4 C’s rubrics, and directly for schools to be intentional about teaching students these fundamental

skills. I cannot forecast whether or not my state level policy advocacy will take hold, but I do know that if the past is any predictor of the future, my leadership will continue this advocacy until all students are becoming globally competitive and literate in 4 C's skills.

The ultimate goal of policy advocacy is to support and promote education reform that leaders determine are necessary for the betterment of students. This policy achieves this goal as student skills will be increased in the areas of communication, collaboration, critical thinking, and creativity. Through the improvement of these skills for students, our next generation of workers and leaders will be prepared for the 21st century workforce. Workforce skills and demands no longer are defined by the factory model, which defined educational pedagogy for the past 100 years. Kay & Greenhill stated it best when they wrote, "Our system of education was built for an economy that no longer exists" (2013, p. 3). Our job as educational leaders is to prepare students for the world of work, and through this policy, students will practice and refine skills outlined in the 4 C's and the rubrics that are identified in this policy.

The relevance and timing of this policy advocacy is critical. Schools are still very traditional in structure and pedagogy. High schools follow patterns of 45 minute class periods, graduation requirements modeled after time-honored courses, and teaching strategies where the teacher is the imparter of knowledge. The pace of change is dramatic, and education must takes steps to transform the learning of our students. Students must have more than just content knowledge learned in classic courses learned from a teacher or a textbook. Our students are growing up in an information age where a few minutes of internet searching gives you the answer. We as leaders must ask ourselves what learning is important.

I believe that the advocacy for the teaching of communication, collaboration, critical thinking, and creativity is key for student readiness for this modern economy and world. For our

teachers and administrators to understand how to teach these skills, leaders must provide resources and professional development on how to best provide this instruction. The 4 C's rubrics advocated in this policy provide the best resource I have seen to date to achieve this goal. The rubrics provide common language and definitions of what the skills look like. The rubrics are cross-curricular, applicable in any content area. The rubrics are age appropriate, with four different ranges from early elementary, middle school, early high school and late high school. The rubric provides teachers and students performance ranges with detailed examples defining excellence in areas of each 4 C skill. Finally, these rubrics offer a consistent model of skill assessment for students across the state. Just as state standards and assessments provide models for educators, adoption of this policy with subsequent professional development and implementation will give Illinois students greater opportunities for success in the global economy. While the challenge to accomplish this goal is immense, I see the need for our future and our citizenry as critical. We as educators have this responsibility and must embrace the challenge, even if it means disrupting the norm and supporting educational innovation.

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