Increasing Social Capital in Appalachia:

Developing an understanding of what conditions are necessary for student agency to have an impact on community vitality

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Executive Summary

In the spring of 2017, Digital Promise, along with the Kauffman Foundation, sponsored a planning grant to research the nature of education innovation clusters (EICs). The research was aimed at addressing the goals and the mission of EICs and to broaden the understanding of the nature of EdClusters. Specific systemic goals were identified up front:

- Nature and strength of the local EdCluster network
- EdCluster participants -- their affiliations, access, levels of participation, motivations, etc.
- Sustainability of your EdCluster
- Functioning, organization, governance of your EdCluster
- How decision making is conducted and consensus is reached within your EdCluster
- How work is approached, coordinated, or prioritized across your EdCluster
- Nature of communications within your EdCluster network
- How innovation is shared and diffused within your EdCluster network.

(KVEC) to work with its staff and create a plan to evaluate the innovation models and the impact they have on increasing social capital. Moreover, KVEC pushed itself in the planning process to develop a deep understanding of what conditions are necessary for student agency to have an impact on community vitality.

The planning grant allowed the EIC in the Kentucky Valley Education Cooperative

Introduction

Fifty-three years ago, President Lyndon B. Johnson famously declared war on poverty while visiting Kentucky. In his declaration, Johnson stated, "I have called for a national war on poverty. Our objective: total victory." Johnson's vision was clear at the time. If this was war then Appalachia, home to the poorest of the poor and the very face of rural poverty, was to be considered ground zero (Geis, 1987). Some fifty years later, the results are mixed with communities still struggling toward prosperity.

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The Appalachian region itself is home to over twenty-five million people and covers parts of mostly mountainous areas of 13 states including Mississippi, Alabama, Pennsylvania, New York, Georgia, South Carolina, North Carolina, Tennessee, Virginia, Kentucky, Ohio, Maryland, and the entire state of West Virginia (Hurst, 1992). Parts of Appalachia are characterized by the rugged topography that puts the region at a disadvantage because of the transportation and infrastructure problems that have developed (Hurst, 1992). Through most of the region of Appalachia, there is a barrage of issues ranging from inadequate jobs, services, transportation, education, and its isolation from growth centers (Tickamyer and Duncan, 1990). These factors are compounded in education and certainly have an impact on educational outcomes. By failing to account for the out-of-school class factors that affect student achievement, reproduction of social inequality in the schools' education systems produce a systemic problem that has existed for years and even decades resulting in a cycle of generational poverty that is difficult to overcome. Studying these out of school factors, James Coleman discovered that the relationships and networks between and among people that help guide behavior, norms, and values were contributing factors to social reproduction in the form of social capital (Coleman, 1988). His research, popularly known as the "Coleman Report," showed that once students' academic and family backgrounds were taken into consideration, the characteristics of schools accounted for very few variations in students' achievement. The social capital within the schools and whether students could benefit from their parents and communities all had greater impacts on learning (Coleman et al. 1966).

Coleman went on to define social capital as the "benefits that come from social organizations such as networking, societal norms, and a generalized trust, which lead to cooperation and progress" (Putnam, 1995). The Coleman Report began to establish that family

background and socioeconomic conditions accounted for most of the achievement gap along socioeconomic populations (Rothstein, 2004; Jencks & Phillips, 1998; Lareau, 1987).

Additionally, Rothstein's (2004) research concluded that within the school environment, schools contribute to up to one-third of a student's achievement and outcomes while family and community characteristics contribute two-thirds (Rothstein, 2004). This is especially true in Appalachia where generations of poverty have existed.

Yet despite all the challenges and struggles faced by Appalachians, there are sea beds of hope that may very well light the way for others to follow. Embedded in the eastern part of Kentucky is the Kentucky Valley Education Cooperative (KVEC) that has taken up the call to change the social capital for the region. KVEC realized early on that it should not only focus on the social and economic divisions within the region but also battle the often incorrect and overgeneralizations about the region. To focus all its energy and solutions toward this, KVEC developed a system of supports that are levered by the communities and involve a wide range of constituents. Throughout the process, KVEC looked for solutions that were developed internal to the region, ones that not only could have an impact but had the potential to scale across communities.

At the center of KVEC's model are teaching, leadership, and learning. KVEC's goal is to create levers for all its resources that have the potential to create a lasting impact through education innovations. The efforts of KVEC have not remained unnoticed and recently the region was awarded the designation of being an Education Innovation Cluster or EIC.

Education Innovation Clusters

Education Innovation Clusters (EIC) are geographic concentrations of organizations, institutions, and thought leaders, working together to develop and nurture educational

technologies and exceptional learning practices (South, 2014). Simply, the EICs represent the places, people, processes, and pedagogies where innovative teaching, learning, and leading can occur more easily (Bonsal, 2017).

In an initiative from the U.S. Department of Education Office of Educational Technology (OET), EICs are described as "forward-thinking regions where commercial, academic, and education partners have come together to form innovation clusters," focusing on a challenge that a region is suited to address and solve. To be considered an education innovation cluster by the Department of Education, a region needs to build connections between its three key partners, with the following responsibilities:

- Educational partners (early learning providers, schools, libraries, community centers, afterschool programs, postsecondary education programs and institutions, and virtual learning programs) support the environment where emerging learning technologies can be piloted and new solutions developed with input from students and teachers.
- Research partners advance the field of learning science through the innovations that are designed and implemented. They are fully integrated with entrepreneurial partners for learning technology design, and linked closely with educational partners for data and outcomes to feed evaluations of new approaches.
- Commercial partners scale and market successful implementations providing investment capital for acceleration of commercialization.

In August 2014, in Pittsburgh, Digital Promise and the U.S. Department of Education hosted the first national gathering of EICs. During and since then, EICs have flourished in Chicago (LEAP Innovations), Kentucky Valley Educational Cooperative (Silicon Holler: Training Students for the New Economy Here in Appalachia), Rhode Island (EduvateRI), San Diego (Mobile Technology Learning Center), Tucson (Community Share), Boston (LearnLaunch + MAPLE), Nashville (Alignment Nashville), Baltimore (EdTech Maryland), New York City (iZone NYC), Pittsburgh, PA (Remake Learning), and others. Each has its own character and trajectory, influenced by the local needs and goals of the partner organizations (Molnar, 2015).

EICs become a solution for Innovation

EICs address the need to close achievement gaps within our country's economy, to increase our competitiveness in the global economy, and to drive overall economic growth in our regions. Creating these clusters requires new types of partnerships which cross traditional lines (OET, 2014). This model is perhaps the clearest representation of how innovation can drive multi-sectors and merge education, the workforce, and the economy. John Fernandez, assistant secretary at the Economic Development Administration, stated the potential of EICs this way, "Entrepreneurs and researchers and innovators want to be around each other. They want to feed off the shared creative energy. They want access to a shared talent pool. They want to build relationships. So, if a local community can plant that seed- if it's able to create the climate for innovation and build a critical mass- then private investment will follow. Innovation will follow. Jobs will follow."

In Kentucky, KVEC began the process of establishing an innovation cluster by creating a system of supports and approaches through their regional innovation labs. Figure 1 represents the program of supports that are spread throughout the KVEC region and into each community. Each program area promotes innovation and develops leadership models to have sustainability moving forward. This conceptual framework from KVEC represents an integrated model focused on early childhood and early elementary learners and the support systems (both in and out of school) that are critical to enabling those learners to achieve at high levels. The concepts were developed over time and through research practices that includes: (1) Developing effective elementary principals and teachers with a specific focus on the elementary principal as the lead learner, (2) Professional Action Networks (PANs) of practitioners focused on community engagement and balanced assessment of learning, (3) Social Network mapping project to

increase human capital investment in learning, (4) a concentrated community and caregiver training and engagement process, and (5) development of a digital School/Community Resource Matrix that services to firmly connect the school and the community to learning targets and focuses on matching needs to available resources.

Figure 1

Appalachia Rising

"A cross-district Systems Improvement Framework driven by multi-tiered dynamic engagement and catalytic transformation in teaching, leadership and learning".

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Context for EIC in Kentucky

KVEC is an education cooperative in eastern Kentucky. The Kentucky Valley

Educational Cooperative (KVEC) school districts are in some of the most distressed counties in
the United States. The Census Bureau ranked the poorest counties in the nation, and four of the
top five counties are KVEC-participating districts. The districts by rank are: 1. Owsley County,
2. Breathitt County, 3. Lee County, and 5. Magoffin County. The poverty level for every county
in the KVEC consortium exceeds the Kentucky and US poverty level average. According to the
2016-2017 Small Rural School Achievement Program listing by the United States Department of

Education (DoED), all of the 21 school districts served by KVEC are classified as Rural Low Income Schools.

Despite the bleak statistics, public school systems in the Appalachian region of Kentucky are recognized as a national and international leader in rural education. The region has long been measured by the challenges that face its educational systems rather than by opportunities that exist. These opportunities include a unified consortium of school districts committed to putting students first, the willingness to share resources and strategies in a cross-district collaborative, the capacity to engage broad cross sections of the community in a systemic process for positive change, and the drive to recreate the landscape of rural public education.

KVEC was the first consortium to be awarded both the Investing in Innovation (I3) and the Race to the Top-District (RTT-D) grants. Also in 2014, KVEC was awarded the project prevent grant as well as a Gates Grant in 2016. KVEC embraces the opportunity to contribute as a leading voice in the state and national conversation regarding rurality, education, and workforce development. KVEC firmly believes and is demonstrating that P12 public education is the fulcrum and corresponding catalytic lever to transform the communities of eastern Kentucky. The work underway in Appalachian Kentucky is an important, significant, and effective model that will serve as a roadmap for other rural communities working to dramatically improve educational outcomes for students in rural schools across the nation.

Research Questions

In determining the potential research questions for the Education Innovation Clusters in KVEC, the researchers will identify exemplary case studies that have been effective in the Appalachian Leadership Laboratory program and the Appalachian Renaissance Initiative.

The Appalachian Leadership Laboratory is a project of the Kentucky Valley Educational Cooperative, made possible by a Race to the Top District (RTTT-D) grant. The mission of the Appalachian Leadership Laboratory is to build the shared leadership capacity of rural teacher leaders, principals, and central office administrators through innovative, personalized, clinical professional learning. The Appalachian Renaissance Initiative is a collaborative effort that has a program objective of sharing resources and professional learning to affect policy and protocol to connect learners to highly effective teachers every day. Both programs have elements established in the EIC model and through the process KVEC established the Enduring Learning Leadership Laboratory Initiative (EL₃) which specifically targeted key leaders from across the board that shared and exhibited the characteristics of engaging programs that connected with the stakeholders from within the community. By exploring exemplary cases from these programs, the researchers will ask the following questions:

What conditions are necessary for student agency to lever community social capital investment in advancing community vitality?

How is student agency operating in these cases?

What does student agency look like in these case studies?

What conditions were necessary and what were the enabling conditions in these models?

How do the key stakeholders perceive the resources? How are the resources being used? What additional resources might be needed for an additional outcome?

Where are there pockets of productive activity in these cases?

In each case study, the goal will be to create an asset map of the resources that were used, how they were used, who participated, and to what outcome the resources were gathered and petitioned. The asset map will serve as a model for other EICs and communities to review and scale.

There are some additional opportunities through interviews and observations to tap into the effectiveness of each case study. The researchers will develop an observation rubric and interview protocols to serve as a way to focus on the descriptive elements of how effective the work was to that community and to learn the processes that can potentially be scaled up to other communities and EIC models. The in-depth scale up questions are as follows:

Key takeaways from the case study through observations and interviews;

Descriptive elements from the work and how the work was conducted;

Takeaways from the model that can transfer;

What evidence is there that these models have either been sustained or implemented throughout the communities?

To what extent did you see the work in the community, if not what were the barriers?

What conditions were necessary and what were the enabling conditions?

Goals of the Research

Recently, a plethora of research has begun to look at the achievement differences between children from high- and low- income families. The achievement gap among these demographics is cited anywhere from 30 to 60 percent larger than previous generations prior to 2001, where the gap was seen anywhere from 10 to 20 percent (Reardon, 2001). The widening income gaps in family structure and SES and other sources of social capital suggest that these patterns may continue indefinitely unless strategies to bridge the divide are implemented. EICs offer a unique opportunity to close the gap by bringing key stakeholders together to change the narrative for their regions.

The research being proposed offers the KVEC innovation cluster the opportunity to develop a deeper understanding of the resources available, a way to apply those resources to connect to community development, and an overall strategy to improve the economic, education,

and employment viability of the region. Moreover, the research allows KVEC's EIC to begin the transformative work of uplifting the region, and thus, the cultural expectations of both students and those who live in these communities.

Audience

The proposed cases studies that are being developed through the planning grant for KVEC would be extensions capable of being used by rural educators and community leaders across the U.S. As it has been discussed, Social Capital, has been at the forefront of community development for some time and being in a position to develop a deeper understanding of how to not only grow social capital but to extend the models that can be replicated to others should be applicable to all educators.

Sample

The KVEC region is comprised of twenty-one school districts. The study will include a purposeful sample of thirteen schools that participate in the Activating Catalytic Transformation (ACT) program. In the ACT program, there are six elementary schools, two middle schools, and five high schools. Each school has been part of the Appalachian Leadership Laboratory program and the Appalachian Renaissance Initiative. The sample will have a complete feeder pattern and include single school models that represent the broad Appalachian region.

These schools represent an intentional network that has demonstrated an ongoing relationship toward innovation within the models from KVEC. These models have included work around GTO (Getting to Outcomes), Bridges out of Poverty, (QRT)-asking the right questions, and areas in which the schools have developed a social mapping network of resources. The program has developed a structured model for the participants with the goal to replicate the results across the region through its Enduring Learning Leadership Laboratory Initiative (EL₃).

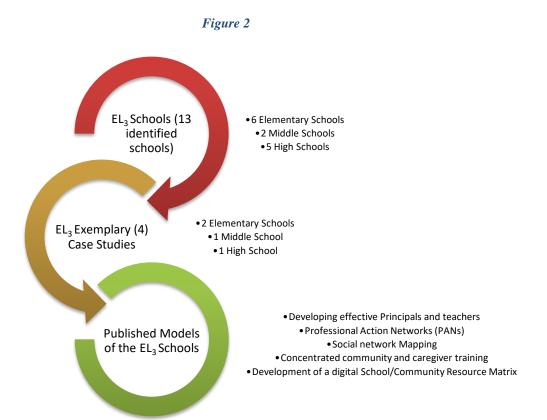
EL₃ was designed to actively engage all stakeholders from each school in increasing their ability to fully serve the *cradle to career model* and to guide the participants through a networked clinical process that will dramatically increase community connection to learning and reshape existing systems for continuous professional growth resulting in increased student performance.

The process to select the case studies will involve a thorough review of all 13 schools from the EL₃ program. The review will consist of analyzing documents, communication patterns to and from parents and community members, existence of outcome data, the mapping of internal and external resources, and appearance of the five broad interconnected components of EL₃:

- (1) Developing effective elementary principals and teachers with a specific focus on the elementary principal as the lead learner,
- (2) Professional Action Networks (PANs) of practitioners focused on community engagement and balanced assessment of learning,
- (3) Social network Mapping Project to increase human capital investment in learning,
- (4) Concentrated community and caregiver training and engagement process,
- (5) Development of a digital School/Community Resource Matrix that serves to firmly connect the school and the community to learning targets and focuses on matching needs to available resources.

From there the researchers will identify four schools that allow a deeper case study analysis of the participants, the outcomes, barriers, and transferable elements that can be replicated across the region. The intent is to identify two elementary schools, one middle school, and one high school that have exemplary work around each component. Each step of the process is meant to develop a comprehensive roadmap that will carefully track the progress, objectives,

and outcomes embedded in each school model. The sampling process is mapped out in Figure 2:



Sources of Data

Case studies will be developed using a mixed methods approach. The collection of artifacts will range from quantitative school data to qualitative interviews and collection of support materials. The data sources that are collected and analyzed could contain, but are not limited to, the following list:

Quantitative	Qualitative
School Report Cards	Student Interviews
Teacher Evaluation Data	Teacher Interviews

Existence of Community Projects that Extend Beyond School	Community Participation List
Student Lead Projects as Demonstrated	Social Network Map-How was it
	Developed
Student Performance and Attendance	Social Network Map-Who Participated
Community Attendance at Project Demonstrations	Professional Development Participation
Community Review and Participation Of Student Led Projects	Access to the Asset Maps

Methods: Descriptive Analysis

The EL₃ process will begin with a descriptive analysis of the 13 schools that have been selected to participate in the program. The process will include qualitative interviews with community members from each of the schools. The narrative from these interviews will be the basis for the definition of innovation as seen through the eyes of the participants. Each case study will highlight the innovation, the participants, how they were organized, what the leadership structure entailed, outcomes from the work, barriers and obstacles, and the transferability of the outcomes. The interview scan will create a framework in which key themes will be identified along with markers that demonstrate the innovation being displayed and whether or not it is scalable. These iterations from each school will then allow the researcher and the team to develop a framework that can be applied to the 4 schools for a much deeper dive. It is within these 4 schools that the researchers hope to identify how the work extends beyond the school and into the community.

The EL₃ initiative has been designed with clear, measurable goals and objectives. The researchers will utilize these components to capture data on each component. Additionally, the researchers, with KVEC leadership, will carefully track progress that has been made against the goals, objectives, and outcomes for the EL₃ 5 defined themes. By using artifacts collected,

interviews, and monitoring tools that are formative and summative around each of the 4 case studies that include monthly surveys and feedback from participants, culture and climate surveys, coaching protocols, professional practice ratings, and local and state assessment and accountability data as metrics to measure success, transportability and scalability the researchers hope to gain a deep understanding of how transferable the skills and results are across the region and nationally.

What are the relevant theories, studies that inform and benefit from this work?

Understanding how to develop and increase social capital in a community has and will continue to be at the forefront of community development organizations and as the region sees growth in understanding these characteristics, education will be a vital mechanism necessary for growth.

The research around the KVEC EL₃ five defined themes should unfold in a way to where one should be able to see a tight link to strategic models and an implementation framework that allowed these occurrences to be possible. Underlying the theory is the notion of social capital to both develop communities and to allow change and economic growth through additional tools that allow more social capital to be obtained within the region. The theory of *social capital* and the contribution to understanding social capital through KVEC's EIC model should add to the literature and allow a *deeper understanding of the limitations of the concept when interpreted as a causal force able to transform rural communities* (Social Capital: Promise and Pitfalls of its Role in Development, 2017). The relevant examples that could be studied through the 13 schools and the 4 case studies should likewise point to the *significance of social networks and community assets in the viability of initiatives and the difficulties of institutionalizing* these models.

By theorizing the specific forms of social capital, perspectives that highlight strengths within a model allowing growth and understanding ones that weaken social capital within a community should allow a region and specifically a rural area to best reconfigure its organizational alignment to maximize affect (Mayer, 2003). Adding to this literature develops organizational change needed and professional practice to promote social capital. The impact frames up local and state relations which could highlight gaps and weaknesses within the model and lead to economic capital for the region (DeFilippis, 2001). The strategies in each case study should be linked to specific characteristics and markers around evidence based models (Sales, et al. 2006).

The research should also inform practices in *rural education and place based education*. To some it may seem paradoxical where there is a notion of interconnectedness and the case studies could inform how anchored those connections are in the locality of the region. The theoretical foundations of place based education should inform the merits and the limitations of the current approaches for the Appalachian region (Collen, 1993 & McInerney, P., Smyth, J., & Down, B. 2011). The notions of place, identify, and community, all have theoretical basis increasing social capital via the students of the region. The implications around rural education and place based education could then further be studied regarding curriculum, pedagogy, and teacher education.

The research impact is highlighted below by Figure 3, showing the relational elements and the impact it could have on the key topics of *Rural Education, Education Administration*, *Place Based Models, Organizational Change, Decision Making, and Professional Practice*

Figure 3



Survey and Observation Tools

Several survey instruments will be developed as part of the evaluation process. These include community, teacher, and student surveys. Additionally, to evaluate the appearance of the five broad interconnected components of EL₃, rubrics have been developed to assist in understanding the appearance, activities, and participation of each component.

Final Thoughts

Education in the United States is entering both a fascinating time and one that challenges the assumption of how communities change the culture and the dynamics of their economic future. At the center of this discussion are the EICs, organization that when studied, evaluated, and allowed to work together can begin to change systemic issues. In 2010, then President Obama challenged the nation to once again lead the world in college graduation rates (Culatta, 2012). He went on to say that strengthening education in the United States helps ensure the country's future economic stability, worldwide competitiveness, and national security. Meeting this goal will depend on our ability as communities to accept and accelerate innovation in

education that supports learning outcomes. EICs offer such a promising alternative and to that they need to be studied and evaluated on what makes the social network function, how to set up the cluster so that the best outcomes are evident, and clearly identifying who plays what roles. KVEC's goal of understanding the value of student agency's impact on community development will be a first step informing other rural communities on effective innovative practices in rural communities across the U.S.

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