JCPS School of Innovation

School of Innovation Design Competition Application
Jefferson County Public Schools
November 2013

Project Name: **The Lyceum**

Project Partners: John Brewer, Jeff Harden, Michael Jenkins, Jackie Honghern Sharp, Debbie Schweitzer, Matthew Wuerthele (Student Representative)

Street Address: 10200 Dixie Hwy

City, State, and ZIP Code: Louisville, KY 40272

E-Mail Addresses: john.brewer@jefferson.kyschools.us
                          jeffrey.harden@jefferson.kyschools.us
                          michael.jenkins@jefferson.kyschools.us
                          darunporn.honghern@jefferson.kyschools.us
                          debbie.schweitzer@jefferson.kyschools.us

Telephone Number:

Deadlines:
- Letter of intent to apply due **Thursday, December 10, 2013 E-mailed 11/21/13**
- Application due **Friday, January 31, 2014**

Submit application by e-mail, by mail, or in person to:
Jonathan G. Lowe, Director of Student Assignment
Jefferson County Public Schools
Lam Building
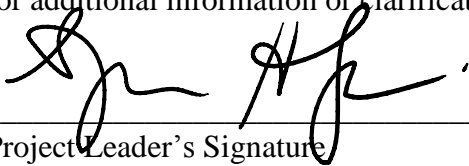4309 Bishop Lane
Louisville, KY 40218
(502) 485-3676
jonathan.lowe@jefferson.kyschools.us

Applicant Assurances

The applicant assures that the application does not contain any request to waive the following Kentucky Revised Statutes (KRS) or Kentucky Administrative Regulations (KAR):

- Any statue or administrative regulation related to health, safety, civil rights, or disability rights
- Compulsory school attendance requirements under KRS 158.030 and 158.100
- The Kentucky Core Academic Standards (KCAS) outlined in KRS 158.685 and 704 KAR 3:303
- Minimum high school graduation requirements, unless allowable under 704 KAR 3:305
- Compliance with requirements of the statewide assessment system as specified in KRS 158.6453
- Financial audit, audit procedures, and audit requirements under KRS 156.265
- Criminal background check requirements
- Open records and open meeting requirements
- Purchasing requirement and limitations
- Minimum instructional time requirements under KRS 158.070, except for a request to implement competency-based learning strategies and assessments that measure a student's mastery of curriculum standards regardless of the amount of instructional time completed

The applicant assures they will respond to requests by Jefferson County Public Schools (JCPS) for additional information or clarification regarding the application submitted.

_____   1-31-14
Project Leader's Signature   Date

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Vision

More than any other moment in history, information technology defines the age we live in. It is this data rich environment which presents a unique opportunity for JCPS to create a truly egalitarian institution of intellectual wealth, with curricula that responds to real world student interests and needs. To this end, we propose to combine two powerful educational tools which have yet to be implemented formally in JCPS, the *Connected Campus Project* (intentional use of current inexpensive conferencing technology to create, challenge, remediate and customize the educational process for our students) and *Gamified Curriculum* (curriculum designed using game mechanics to increase engagement and ownership in student populations). The combination of these two methodologies as well a focus on Whole Learner Assessment will create a Lyceum in JCPS where students are active physically, mentally, and socially.

The Connected Campus Project

We propose to use current social conferencing software (Microsoft Lync Software) to create a *Connected Campus Project.* Students who qualify for this educational program will customize their educational interests by connecting to Advanced Program courses and magnet courses through digital collaboration with those pre-existing classes in JCPS. Teachers working at the school with students physically in the classroom will act as moderators for recording and grading work, keeping attendance records, handling good digital discipline, and meeting the general information needs of their students as they work through telepresence in the classes they chose to take that Trimester. Educators in both buildings will collaborate with each other, creating cross-district PLC's and facilitate the educational advancement of students (and educators via PLC's). This ties to the JCPS Vision 2015 because not only do students receive

"high quality teaching," but they also see real "partnerships among schools, families, and communities" (Hargens, 2013).

Students will receive education real-time, at their own home school, and be able to speak to instructors at the host school as if they were in the class. This will keep from overburdening host site schools with overcrowded classrooms as well as decreasing transportation costs for JCPS. Our goal is to remove geographical barriers for students as they pursue career and post graduate preparatory course work in programs at schools across the entire district.

We have the potential to create a district-wide campus, with teachers from across Louisville, surrounding communities, and potentially beyond. Not only will the *Connected Campus Project* allow for increased student success and ownership, but it will also break down physical barriers in our city and create a more civic minded generation of learners and citizens. This portion of our proposal is specifically designed to increase *equity* in JCPS and respond to the recent Equity Scorecard (Marshall, 2013).

Gamified Curriculum

Our two tiered approach to innovation in this proposal includes implementing a *Gamified Curriculum* at our school. In truth, we have been experimenting with gamification over the past year at our school and have seen marked increases in student engagement. This program responds to studies in cognitive development in high school age learners. Gamification allows students to interact cooperatively while developing their own personality by engaging with personalized curriculum in the language of gaming.

The goal of this aspect of our Innovative School is to apply game mechanics to our pedagogy to create a more interactive and narrative driven method of classroom teaching. This

creates a data rich environment for educators as well as improving the visual appeal of the content so that students are more interested in achieving mastery due to intentional use of design to make the classroom feel more like a game (Shute). Students at the Secondary level have highly developed reward centers in their brains. Studies have found that, "Cooperative goal structure, as opposed to competitive and individualist structures, significantly enhance attitudes towards learning motivation" (Ke, 2008).

Overview

In the pursuit of our two primary goals of the *Connected Campus Project* and *Gamified Curriculum* we have identified Five Key components which define our proposal as innovative:

Connected Campus Project via intentional use of current technology to remove geographic barriers to success (Allen, 2004).

Gamification of Curriculum via intentional educator use of gaming mechanics in curriculum presentation and writing (Hokkanen, 2012).

Whole Learner Assessment Plan via data collection from gamified classrooms, one-on-one meetings with administration, and working with health professionals (Being Well).

Urban Connectivity Project-Based learning through telepresence, technology enhanced research, and recognition of Louisvillian identity to meet the 8th core value of partnership and community in the 2015 strategic plan (Hargens, 2013).

Digital Documentation of Proficiency of students via cloud based storage to meet the first and third goals of the 2015 Vision statement, Increased Learning and Stakeholder Involvement (Hargens, 2013).

Needs Assessment/Rationale

To service its 101,328 students with true equity JCPS must embrace this proposal or ones like it. The recent Equity Scorecard has highlighted many different areas of deficiency we must address if we wish to remain true to our Vision Statement. We propose to meet as many aspects of the Equity Scorecard as possible. For the sake of space, we will break down this section in a similar manner to the scorecard itself, providing the problem followed by the method by which our specific proposal will address it.

Literacy –

"There is a significant correlation between the poverty concentration level and reading proficiency" (Marshall, 2013).

We propose to meet this problem with our *Connected Campus Project* which addresses the geographical and socio-economic barriers between students in high-poverty areas and educators working in lower poverty areas who are meeting with greater success.

Iniquity between neighborhoods –

"There is a concentration of students suspended in the west end, south end, and Newburg areas of Jefferson County. The map indicates the percent of suspended students with multiple suspensions in 12‑‑‑13" (Marshall, 2013).
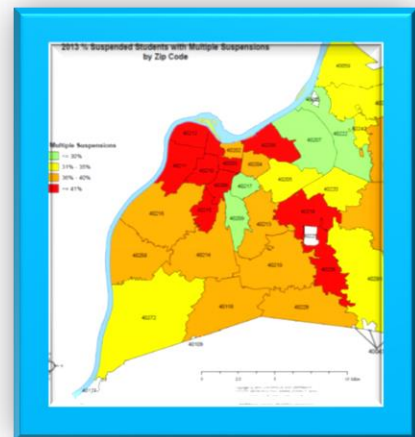
Our *Connected Campus Project* will allow us to provide a portal for students with low behavioral expectations into schools with high behavioral and academic expectations. This allows for a greater understanding communication about how expectations drive achievement.

College/Career Readiness

In the Equity Scorecard, the Best Practice Site for College/Career Readiness was Fern Creek High School. "Fern Creek ... grew from 19% in 2010 to 55% in 2013 on College Career Readiness... Three key areas of focus include: (1) Professional Learning Communities (PLCs), (2) Targeted Interventions, Rigorous Instruction, and Enrichment, and (3) Intentionality with emphasis, focus and work on College/Career Readiness preparation" (Marshall, 2013).

Our proposal seeks to recreate this level of growth among a wider sample of students by implementing *Gamified Curriculum*, which necessarily includes Targeted Interventions, Rigor of instruction and Enrichment through greater engagement and buy-in (Osheim, 2013).

School Climate and Culture

According to the Equity Scorecard, "Teacher transfer requests were a better predictor of school achievement gains than student or teacher school survey data" (Marshall, 2013).

The Best Practice example for School Climate and Culture was Whitney Young Elementary. The aspects of Whitney Young that are lauded specifically were, "*that students can set goals, make progress, and achieve*" which **Gamified Curriculum** specifically targets, "*All adults are responsible for all students all of the time, everywhere*" which the digital documentation of proficiency seeks to produce, "Great Teachers with strong class management skills tied to instruction," which *Gamified Curriculum* fosters through increased educator ownership of their classrooms and, "*International Baccalaureate Learner Profiles and transdisciplinary units of study--- emphasizes a whole---child approach to learning incorporating data analysis and reflection,*" which our Whole Learner Assessment Plan seeks to

produce using data collected through digital portfolios and the *Gamified Curriculum* (Huang, 2013).

Innovative Design Components

There are Five Key strategies in our proposal that define us as a truly innovative program: ***Connected Campus Project, Gamification of Curriculum, Whole Learner Assessment Plan, Urban Connectivity Project-Based learning, and the Digital Documentation of Proficiency.***

Connected Campus Project

Our goal in implementing the *Connected Campus Project* is a unified JCPS, working toward the common goal of student excellence using distance learning technology to allow students to be present in classrooms that being them closer to College and Career Readiness. This kind of telepresence has been attempted before, but the success of similar programs depends on creating a real community of learners, we will succeed in this because our communities will already exist at the schools connecting to other classes (Brown, 2001).

The Phoenix School of Discovery is already implementing the technology required to make this plan a reality. At this school educators are opening their classrooms digitally via Microsoft Lync to a student who will be Home-Hospital this spring.

Other similar situations, such as the large number of (per Tonya Groves, JCPS Home Hospital) students in Home Hospital program will also benefit from this program. Beyond this, students who have geographic issues making them unable to attend a JCPS school would be able to "Lync" in and benefit from the same education. This increased control over a student's path

through JCPS increases buy-in and interest in a generation that is used to swift and visual communication (Katz, 2014).

Gamification of Coursework

Gamification *is the use of game thinking and game mechanics in a non-game context to engage users and solve problems*. Our approach to this idea is to design the entire school as a game, from classes to individual lessons. In essence, each student enters the school as a player. We already live in a gamified world with programs like "reward points" from credit companies, restaurants, and even the medical insurance incentives in the form of "points." *Gamified Curriculum* rewards positive behaviors in order to encourage participants to do the "right" thing more often. Students are encouraged to learn and complete a variety of tasks in their own style of learning. This increased agency allows students to feel more in control of their educational experience (Glover, 2013).

Whole Learner Assessments

Academic assessments indicate strengths and weaknesses of individuals and follow trends in learning. This is collected via measured achievements and coursework which tie into appropriate standards and show increased student College and Career Readiness.

The data collected via a well-designed gamified course allows educators to monitor student progress both mentally and emotionally. Psychological assessments to measure emotional stability assist in identifying priorities in counseling as well as allowing students to understand their own behavioral trends. Emotional, social, and physical counseling (via a dedicated school nurse) is a vital part to reducing the achievement gap. As we understand from

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Maslow's hierarchy of needs for higher level cognition to occur the lower level needs must first be met. For students to achieve their potential, emotional and social needs must be first addressed. Students who are equipped with strategies towards emotional stability and physical wellness will experience more success academically and be better prepared for post-secondary work (Being Well).

Urban Connectivity Project-Based learning

There are many benefits to Connected Project-Based learning: students collaborating with peers locally, nationally, and globally will create meaningful relationships and build communities of learners in the process. The nature of the projects and research will enhance students' problem-solving skills and create important connections between what they learn in school and the world at large. It is also an ideal vehicle for delivering multidisciplinary curricula. Service learning and social responsibility are integral parts of many college lists for candidacy. Service learning is not only a method of delivering quality assistance to local communities, but it also is a bridge to community buy-in to education. By allowing Campuses around JCPS to collaborate through the Connected Campus Project in their responses to real problems in JCPS District, we create a student body of equally engaged learners who are aware of their city's needs and issues (Marshall, 2013).

Digital Documentation of Proficiency

As a *Connected Campus* partner, classes will allow students who are incapable physically of attending school to be telepresent. In a world of increasing transparency and accountability this is a natural step towards making students comfortable with digital and

behavioral citizenship. Educators have, to this point been open to the notion of telepresence as a viable method of teaching (Wilson, 2001).

By utilizing digital documentation, student evaluation for purposes such as IEPs, parent-teacher conferences, and physical and psychological assessments are available to educators. In this manner, students will have the capability to market themselves to colleges and/or businesses. This portfolio will provide evidence for students to present their learning as concrete fact and provide schools, colleges, and businesses with real evidence of the skills they have acquired. Current hiring practices in the workplace value evidence of success and ability very highly and this will allow our students to be competitive when entering today's workforce. This process supports meta-cognition in students, asking them to judge their own progress, a skill necessary for success later in life.
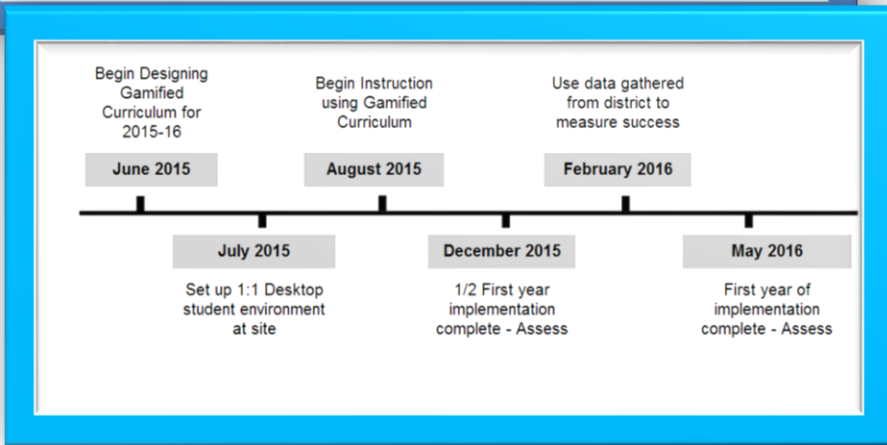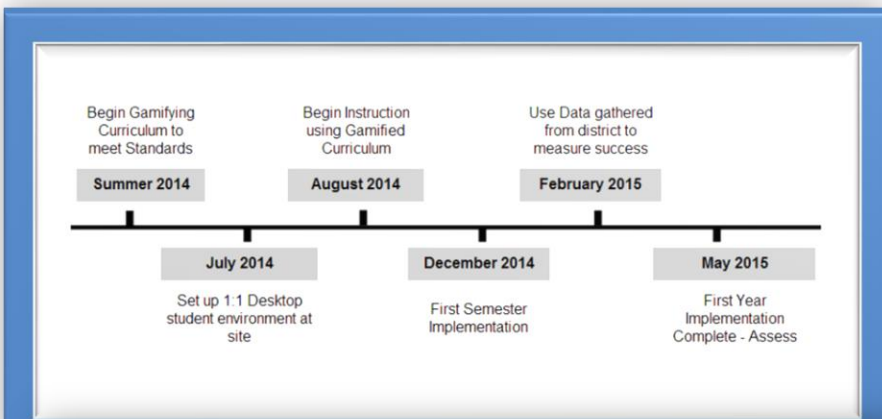
There are two possible timelines for implementation of our proposal. One ending at the end of the 2014-15 school year and the other ending with the 2015-16 school year.

Other timelines in this proposal will assume the long term implementation as our timeline.

Student Services Plan

Applying *Gamified Curriculum* to the classroom allows for greater engagement across all levels of student ability and interest, due to the primary mechanic of the student controlled learning experience (Glover, 2013). This program has been designed specifically by our educators to reach non-duplicated gap groups in JCPS.

The combination of the *Connected Campus Project* and the *Gamified Curriculum* program seeks to improve three parts of the educational paradigm in JCPS: *Engaged Learners, Involved Educators,* and *Informed Adults.*

Engaged Learners

For uninvolved or unmotivated learners, agency and ownership are key to bringing a student back into the dialogue of daily school work and learning towards mastery of content. To facilitate this, *Gamified Curriculum* provides a system of measurement that rewards improvement from a common starting point which resets throughout the year (preventing student lock-in to a "bad year mentality" where students see failure as an acceptable option) (McGonigal).

This system of educational scaffolding is designed by each educator to fit their area of expertise and allow for students of different levels of ability to engage (or re-engage) with their content. This means each class has a distinct feel and narrative, which keeps students engaged emotionally as well as intellectually (Ma, 2011).
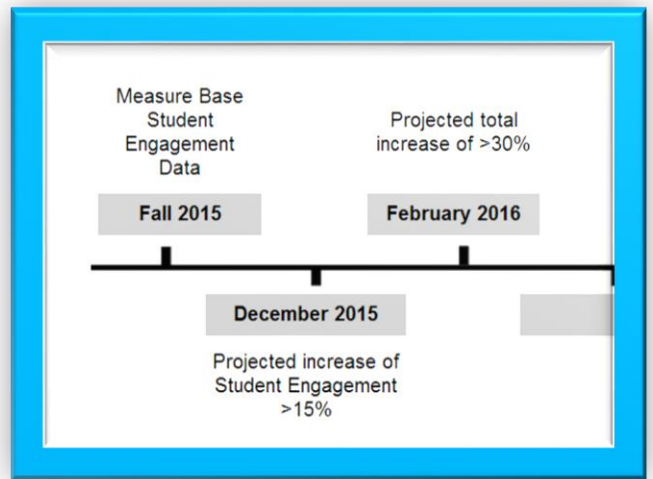
Gamified Curriculum provides an incentive for low performing students to return to standards aligned work without fear of failure or grade based repercussions, as well as providing more challenging work for students who can perform above grade level. ECE students especially, benefit from the myriad of engagement options this kind of programming allows as well as from the self-image boost that stems from the increased autonomy afforded by these systems.

To create such a wide net of measurement requires increased planning time, but the payoff is in providing measures for students of varied ability so that they can see their progress towards mastery more clearly on an individual level, and in language that mirrors games and gaming culture. The *Connected Campus Project* will allow students to be telepresent in their classrooms if they become home-hospital during the school year. This allows students to graduate with their classmates, and not miss any important content for the duration of their care at home.

Involved Educators

An engaged educator provides the infectious energy that drives a strong program at a school. This sense of teachers owning their classrooms is also improved by *Gamifying Curriculum*.

In this program, educators are asked to design a game around their curriculum which will allow all students to improve from their beginning level of mastery at the start of a school year. Each teacher's game
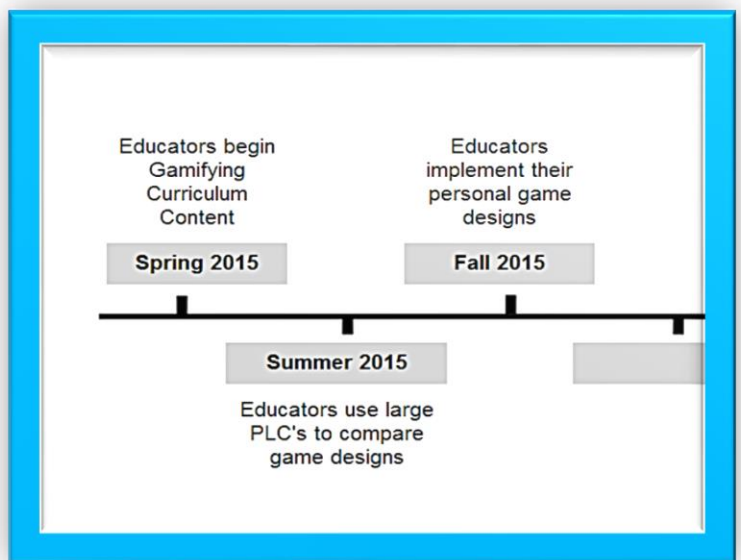
must also incorporate learning targets designated by their set of Standards.

Students in "gap" areas benefit from working with educators who are excited, energetic, and knowledgeable. By asking educators to design more "user-friendly" content in their classrooms, the dialogue in the room becomes that of players working towards a common goal "in-game" (McGonigal).

Informed Adults

Because *Gamified Curriculum* measures previously unmeasured behavior with a scale and rewards behavior with points, it allows educators to track specified behaviors within the reward structures of their games. The data gathered by these systems allows teachers to notify parents whenever there is a change in behavior, effort, or engagement while providing real data to measure the change. This also allows educators to collect data which they can use to provide administrators with background on a student's progress towards their personal goals in the class.

Over time, this data provides a wealth of information on student ability, engagement, behavior, and development in the school program in specific classes and content areas which allows for more targeted intervention on the part of school staff. It is this increased measurement that allows the *Gamified Curriculum* to cater to gap students in particular.
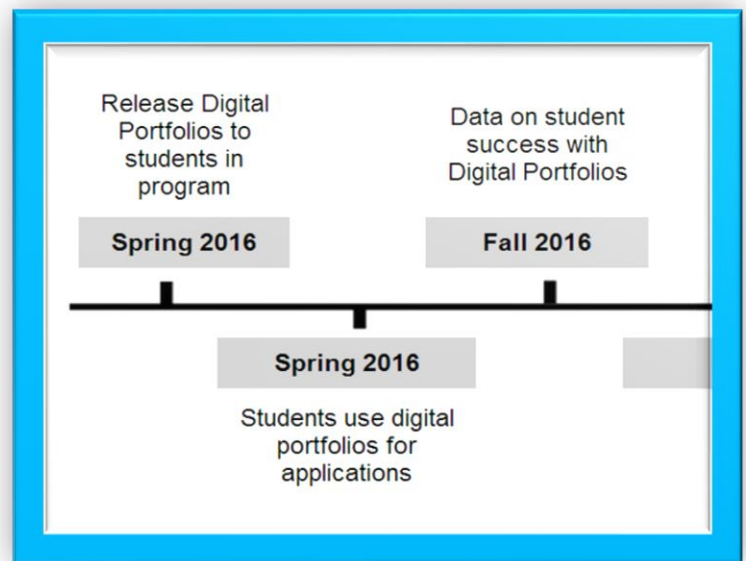
Resources

Human Resources Required

To maintain a 28:1 physical student teacher ratio, each school will still need to hire teachers to meet this demand to match the size of the student body.

The school will require a dedicated technology administrator to maintain the technology being used, as well providing training for any new educators who join the program.

The school will need site administrators to meet district standard staffing procedures.

To complete the Whole Learner Assessment Plan, we will need a dedicated mental and physical health professional either onsite or consulting weekly to assess student health and needs.

Facility Resources

We will need a physical location with enough classrooms to provide the necessary core credits and keep a maximum of 28:1 student/teacher ratio.

Technology Resources

Each classroom will have a 1:1 desktop computer/student ratio. Each computer will have the programs: AB tutor (classroom management), PowerPoint (projects), Microsoft Lync (Connected Classrooms), Word (Projects and Portfolios), and Excel, Read/Write Gold (to read text to ECE and ELL students), Internet Explorer (or Chrome), SkyDrive desktop utility (cloud based storage), and Comic Life.

The school will need reliable internet and Wifi capability in every classroom.

For students operating from Home-Hospital through the *Connected Campus Project,* we will need Microsoft Lync software and Hewlett-Packard Elite Book laptops.

Each Math classroom will need a 1:1 graphing calculator/student ratio.

Each Science classroom will need a 1:2 Microscope Ratio.

Each English classroom will need a 1:1 black and white Nook to student ratio.

Class sets of assigned JCPS reading as designated in JCPS Curriculum maps will assist students in Language Arts in-class, but most of the classics can be found for free online and then read from the Nooks.

We will need access to research websites like EBSCO Host and JSTOR to improve relevance and veracity of information.

Collaboration, Partnerships, and Parent Engagement

In their senior year, students would partake in part-time internships in their areas of interests with community partners, businesses, and institutions. This will ensure a personalized approach which responds to student strengths and interests, as well as fostering community relations, better preparing students for life after high school graduation. By participating in service projects and personalized education, students will naturally establish relationships not only in the local community, but all over the world.

The flexibility of personalized learning enables collaboration with community and direct parent involvement. If desired, parents/guardians can "attend" classes via Lync software. Because classes are recorded, anyone that has access to the digital information can choose any class he/she would want to learn about.

Direct feedback from parents/guardians on the progression of their student's school will be embedded in the school's continuous measurement of student progress via *Gamified Curriculum*. Parents will be able to assist as well through extracurricular activities, fundraisers, mentoring, lunchroom reading programs, physical school environment, etc.

Outcomes for Learning

Connected Classroom Project

The Connected Classroom Project will decrease the achievement gap by increasing accessibility of students in low-income brackets to schools outside of their geographic position in JCPS (which has been shown as a primary determining factor in success via the Equity Score Card). Allowing students who cannot physically be present in class to complete coursework and engage with the classroom conversation will necessarily create greater equity in our school. When applied broadly to JCPS this *Connected Campus Project* could increase equity in our city as a whole

Gamification of Curriculum

Gamified Curriculum and "Learning through Play" will increase student ownership and buy-in in student populations. Gamification presents subject area content in a system that differentiates the material according to each individual student's level of mastery as designed by the educator prior to the school year.

Urban Project-Based Learning

Through our goal of increased awareness of environment and connectivity, especially the *Connected Campus Project*, we will show students their position in their community and assist in making real to them the tough concepts that will improve our global competitiveness as a district. This can be measured by response to standards which call for mindfulness of current world and U.S. issues. This will be primarily expressed through service-learning in our curriculum.

Digital Portfolios

Each student will be able to access their work in a particular content area as it is produced via the built in feedback systems in a ***Gamified Curriculum***; which will help students to acknowledge opportunities for growth and help the teacher identify where to implement further scaffolding.

Student Wellness

We seek to increase student resilience in the four categories outlined in Jane McGonigal's TED talk on Gamification. Students will be measured and assessed for Physical, Mental, Emotional, and Social resilience by our on-site health professional (nurse) and their progress will be tracked in this as well as academics as we implement our plan. We hope to assess the whole learner in our Lyceum program by making assessment meet students with engaging language that ties to their current interests and needs.

Research-Based Evidence

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