ConnectED Application

Visionary Leadership:

Prepare a short narrative or description detailing the scope and sequence of your project. This narrative should include:

- Description of how mobile digital learning supports the mission and vision of your school
- Description of the need and goal
- Background of the community including how the project will both benefit and engage the community
- Overview of leadership structure in place to direct the project and ensure its success
- Detailed explanation of how the project will be scalable and sustainable into the future

Orchard STEM School's mission is to generate students who are citizenship-centered and scientifically-minded using the following protocols: 1. Authentic tasks in which students are stakeholders; 2. Students investigate problems through Inquiry and Constructivist lesson planning; 3. Teachers facilitate learning as coaches and through internal school collaborations as well as collaborations with outside agencies.   4. Technology use encompasses personalized learning, presenting and communicating. Mobile digital learning supports our mission and vision by enhancing learning beyond the school day, increasing family and community participation in students' academic achievement and pursuits, allowing increased access to research, interdisciplinary resources, and collaboration between students and teacher-coaches. Mobile digital learning also better enables our school to complete our vision of having 1:1 computing for all students by 2016. Our program goals include increased digital citizenship and literacy, increased student interaction and expertise with technology, increased personalized learning and academic achievement, and increased student motivation and collaboration. Our current technology levels are minimal, resulting in few opportunities to integrate technology into the curriculum or beyond. Current desktop and teacher work stations provide limited technology access, but severely lack the opportunity for personalized learning, student motivation and student collaboration. Teachers' attempts to act as facilitators are short lived, as students must share current levels of technology. Students are active learners, but only in group settings, not as individuals. There is no independent access to the internet, educational apps, or social media. Teachers are not able to use technology to assist them in formative assessment, which would ultimately aide in student academic achievement. Increased access to technology enables our students to be better prepared with 21st Century skills and compete in a global marketplace. Increased access to personalized technology would impact our community engagement in that our students would essentially be a marketing agency for our school, promoting events, activities, and scholarship. Student motivation would increase, as would academic achievement. The community lacks access to this technology due to a 96% poverty rate. The leadership

structure would include a technology advisory team comprised of students, administrators and teachers, as well as an IT Leadership Director. Our school currently has the support of the IT Director for the school district. The school team would include a student representative from each grade band (pre-K to 4, 5-6, 7 -8), appointed by staff; a teacher from each grade level, Principal, and Academic Coach. Monthly professional development and meetings will be planned and held to direct the project and ensure its success. The team will analyze staff strengths and weaknesses in order to differentiate professional development opportunities and meet the needs of different content area teachers. Scalability will include maintenance by our district's IT Department Director and his staff. Our school staff has also completed professional development in Digital Literacy with Akron, Ohio's STEM School at the Inventor's Hall of Fame. Annual budget allocations have been made to accommodate app purchases and maintenance. Sustainability includes collaboration with our corporate business partners, university partners, STEM Content area Flexpert with our school district, and Akron, Ohio's STEM School. These partners will provide ongoing individualized digital literacy training. Entering into our 5th year as a STEM School, and our 4th year as a school that implements Problem-Based Learning, integrating technology would enable our school to sustain the growth that has been made in the areas of science, engineering, and math and add that additional dimension. The Technology Advisory Team will ensure that the sustainability goals are met. They will consistently rotate new members to ensure that diverse needs of teaching and technology.

Innovative Teaching and Learning:

Prepare a short narrative or description detailing the way this project would transform teaching and learning. This narrative should include:
- Explanation of instructional practices that will change as a result of the grant
- Explanation of how the activities will transform the learning experience for the students

As teachers work to increase their abilities to integrate technology into the classroom, they inevitably increase the students' abilities to work both independently and interdependently, rather than rely solely on the teacher to 'impart' knowledge. Students improved abilities to successfully navigate the technology will increase students' deep comprehension and integration of technology into the classroom experiences. Student experiences are individualized in that the teacher is more equipped to plan holistic experiences that meet the needs of individual learners as well as engage students in authentic, interdisciplinary tasks and units. Teachers will engage students in communities of learning within the context of authentic and productive inquiry as well as active meaning-making. This notion of teaching is a shift from the traditional methodology. No longer is the teacher imparting knowledge to students while students passively receive this knowledge.

Units and tasks are open-ended in nature, allowing for multiple pathways of knowledge as well as multiple pathways of presentation. Formative assessment will not only be easy to perform, but easy to aggregate data. Teachers will have ease of access to information based on what students know and understand as well as what future differentiation is required.   Performance-based assessments will take on more individualized structure, including multi-media products, constructed responses, open-ended problems, and real-world simulations.

Ongoing Professional Learning:

Prepare a short narrative or description detailing staff preparation focused on success. The narrative should include:

- Explanation of the opportunities for initial training
- Explanation of the opportunities for continuing professional development
- Description of the willingness and availability of the school to commit time to ensure the success of the teachers

Opportunities for initial training include: school-wide meetings to review initial steps for program role out, how to complete webinars on commonsencemedia for digital and citizenship literacy, training on fluent ipad use, work with our community and business partners on continued professional development related to ipad integration in the classroom, Apple-provided training (ongoing), and integrate learning with existing platforms (ie. district and school-wide use of PD360.com). The goal of professional development sessions would be to model them as complex problem-solving scenarios, much like what would be expected from our students. Opportunities for continued professional development include maintaining and bolster current collaboration with Akron's STEM School, Cleveland State University via our district STEM Flexpert, and through WVIZ/Ideastream's professional development sessions. The school schedule currently includes 50 minutes of school-wide professional development sessions held Monday through Thursday. Embedding professional training and development into this time frame is seamless. Teacher-based teams are currently established and functioning with the goal of increased levels of teacher knowledge and increased levels of student academic achievement. Monies have been set aside in our school-based budget and continuous-improvement budget for professional development to ensure that teachers can thoroughly and successfully implement 1:1 computing in their classrooms.

Compelling Evidence of Success:

Prepare a short narrative or description detailing your plan for evaluating the success of the project. The

narrative should include:

- Description of the qualitative and/or quantitative measures you will track to determine efficacy
- Explanation of your plan to share your success with local stakeholders and the broader community

Students will be given a qualitative pre- and post-assessment regarding their level of proficiency in using the Ipads. Pre- and post-assessments will be analyzed using growth measures. Student levels of proficiency should increase. We will measure the following components in the assessments: increased digital citizenship and literacy through a quantitative assessment, increased student interaction and exposure through student/parent/community surveys, increased academic achievement through formative assessments, and increased motivation and collaboration through Problem-Based Presentations of Learning and parent/community/student surveys.   Our plan to share our success with community and families include the following: Winter STEM Fair Spring STEAM Fair Social media presentations via Twitter, Facebook, Instagram, etc. Presentations of Learning with our current and future community partners

Learning Environment:

Prepare a short narrative or description detailing your plan to deploy and support a digital learning environment. The narrative should include:

- Explanation of your plan to deploy, manage and support the devices
- Description of your plan to promote digital citizenship and digital literacy for the entire learning community

The school district's IT Department Head will provide an asset tag number for each device. Additionally, the IT Department Head will support the devices. Each student will be given an Ipad after successful completion of the Acceptable Use policy with parent signature, and the completion of Digital Literacy and Citizenship units. Students and parents will sign a contract (given at Open House) delineating parent's role in the 1:1 computing program at Orchard STEM School and their responsibility for lost or damaged devices. Each student will be assigned a specific Ipad, which is to be solely responsibly used by the assigned student. Students will also be responsible for training parents and other community members in the responsible use of the devices. This training will take the format of a workshop that involves parents in presentations that explain that students are responsible for the devices. Parents will thereby see that the devices have uses beyond social networking. Parents will see the academic benefits as their children navigate the devices in said workshops. Regarding our plan to promote digital citizenship and digital literacy, teachers will use

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'oncommonsensemedia' webinars on how to teach units that integrate common core with technology. These 8 topics will be covered in 5 units of training for students and teachers that are completed (internet safety, privacy and security, digital footprint and reputation, self image and identity, interpersonal relationship and communication, cyberbullying, information literacy: identify find and use, creative credit and copyright.) Digital literacy and citizenship trainings have been provided by Akron's STEM School for the majority of our teaching staff. We intend to use a Train the Trainer model, in which teachers train parents and other community members on how to be responsible digital citizens. Monthly parent-community meetings will be held at the school at grade bands, in which technology-integrated activities are showcased with student and parent involvement at the core.

Additional Information / Comments:

It is of note that Orchard STEM School has been committed to inquiry-based and constructivist learning methodologies for over 25 years. Prior to our district recognizing our school as a 'STEM' School, Orchard was a science-themed school, in which teaching and learning were developed using hands-on, minds-on premises, as well as deep questions and tasks. Upon learning about Problem-Based Learning, as defined by the Illinois Math and Science Academy, Orchard administrators set aside budget monies to send staff members there for training in this model. Teachers returned to the school and trained other teachers. Student-centered PBL units were developed, implemented and presented to the community and school bi-annually. A relationship with Akron's STEM School was developed, as they also trained in this PBL model. Monies were again set aside for future training and the entire staff, grade 3 through 8 have currently been trained in this format as well as in Digital Literacy. Our initial year of PBL implementation we were not supported by our district grant writers. However, a deep belief in the fundamental premises of this model of PBL caused the staff and administration to continue to independently pursue its implementation as well as its future integration in all grade levels and subject areas. It is also of note that technology in our district has been a hurdle in the STEM process. This grant would allow our students and staff to fully integrate technology into our STEM model as well as the planning, implementation and presentation of all PBL units. This will increase the visibility of our successful STEM program to the community (parents, students and other partners) as well as attracting additional students and families to our learning community.