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Planning for Technology

5150:614

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Grant Proposal

1. Description (Summary)

I am applying for the Martha Holden Jennings Foundation one-year Open Grant to be used at Central Jr. High School, which is part of the Cleveland Metropolitan School District (CMSD) in northeast Ohio. There has been an enormous decline in enrollment, and classrooms have very limited resources. If we look at the Department of Education 2016 report card for the CMSD, we will see that there is a drastic need for improvement. Most of these schools are failing or barely passing in many areas and subjects. This is unacceptable and needs immediate attention. There are 44 failing schools in the CMSD consisting of 18,032 students. There are 69 low-performing schools in the CMSD comprised of 22,382 students. This grant proposal will thoroughly explain how we will prepare and equip our students with the 21st century skills needed to be competitive in this ever-changing world of technological advancements. This grant proposal will also show how technology alongside teaching can help narrow the achievement gap and improve both student and teacher learning.

2. Implementation Timeline

Dates	Participants
Aug. 2017- Sept. 2017	Mandatory Professional Development for all teachers and staff (learning the

	computer software Google Earth Pro) (total of 25, teachers and staff).
Sept. 2017- June 2017	Implementation of technology into the classroom (web-based assignments using Google Earth Pro) (4 classes of 20 students).
July 2017- Aug. 2017	Teacher and student evaluations on the effectiveness of technology use in the classroom (using laptops and Google Earth Pro).

3. Qualifications

I have a Master's Degree in Education, specializing in Adolescent to Young Adults (AYA), integrated social studies grades (7-12). Presently, I'm working on a second Master's Degree in Instructional Technology. I also have two Bachelor's Degrees, one in Digital Media and another in Communications. I currently teach 8th grade social studies at Central Jr. High School in Cleveland, Ohio. I am profound when it comes to teaching and integrating technology into the classroom to help students develop 21st century critical thinking skills. "Today's teachers must be responsible for providing a learning environment that takes students beyond the walls of their classrooms and into a world of endless opportunities through effective infusion of relevant content with up-to-date and emerging tools and resources."[1]

4. Limitations/Needs

In recent years, there has been a tremendous cut in funding for education in the CMSD, causing students to lack behind academically in comparison to their peers from other Districts. Students only have access to 10 desktop computers located in the school library that must be shared by the entire student body. One of our goals at Central Jr. High School is to put an end to this digital divide gap between the underprivileged schools who do not have access to computers and the internet and wealthy suburban area schools who have access to these resources. CMSD strongly promotes educational equality and digital equity. There is a desperate need for laptops and teacher professional development and

[1] ISTE. (2008). *Nets for Teachers*. Washington, DC: ISTE, 4.

training at Central Jr. High. Most of the teachers here are not tech-savvy, and needs to be trained on how to effectively use and integrate computers into their classrooms. Teacher Professional Development on computer skills will help level the playing field, by improving both student and teacher learning. The use of laptop computers in classrooms allows students to have more control over their learning (student-centered), as opposed to teacher-centered. "The students learn writing skills, creativity, communication and cooperation by using technology in learning, so, it will improve the students' skills and competencies."[2] Implementing computers and web-based projects into lessons enhances learning, because students must apply certain 21st century skills, such as: critical thinking, synthesizing information, analysis, typing and research skills to complete their projects.

5. Effectiveness

To combat low state and local test scores, all our teachers must attend a professional development course before the start of the school year. Teachers will receive incentives and will be compensated for attending. Classes are held every Saturday in August from 9:00 a.m. to 11:00 a.m. After completion of the first year of professional development, a summative assessment will be conducted to evaluate the participants growth and skill level with using technology to improve student learning. All our teachers are evaluated and assessed using the *Professional Competency Continuum* created by the Milken Exchange on Educational Technology. To determine whether changes need to be made or just to give feedback to our teachers, formative assessments will also be conducted during the professional development process. This data will be used to determine each teacher's skill level and their need for professional development. That way, our teachers have sufficient amount of time to get familiar with the latest hardware (software) and to master new technology enriched content and strategies. Our school's technology trainers are knowledgeable and are tested on the *ISTE's Standards for Coaches*. We assure that our teachers and staff are trained and up to date on the 21st century skills needed to integrate technology and teaching. Every teacher will have hands-on training on how to use computers and technology simultaneously in the classroom. Teachers and staff will be

[2] Soffar, H. (2015). *The Importance of using Laptops in Education*. http://www.online-sciences.com/technology/the-importance-of-using-laptops-in-education/

thoroughly taught how to use the latest software installed on the computers. According to the TF/TL Standard III, it states that, "without curricular alignment, grade-specific benchmarks, and assessment practices, teachers may be unwilling or unable to integrate technology into instruction, or be able to meet needs and interest of digital-age learners."[3] Making teaching and learning meaningful in this new century means that the teacher must focus on the planning of lessons that blend effective styles and techniques of teaching. Teachers must focus on instruction and selection of the appropriate approach to use that delivers intended objectives in a manner that conveys understanding and comprehension.

6. Goals of Proposal

We believe that using computer assisted instruction, web based technology, and electronic resources are ways student learning can be improved. We want to provide learners with more creative ways of demonstrating their achievement. The goal is to enhance both the student's and teacher's computer literacy skills by implementing technology into lesson planning. We want students to be able to effectively use technology (Google Earth Pro) to complete web-based projects that align with State Standards by using higher levels of thinking and reasoning (Bloom's Taxonomy), rather than just remembering facts using rote learning. We believe that with the adequate resources and continuous funding, we will be able to transform our school into an educational technology learning center.

7. Technology Proposal

In order to narrow the achievement gap, I am requesting the maximum amount of $12,000 to purchase 20 HP Pavilion 17.3 inch laptop computers with Google Earth Pro software installed for students to use during class periods to enhance their learning. These state of the art laptops will be used to engage students with critical thinking web-based and project-based learning activities, assignments and projects. Google Earth Pro is a

[3] Williamson, J., & Redish, T. (2009). *ISTE's Technology Facilitation and Leadership Standards: What Every K-12 Leader Should Know and Be Able to Do.* Washington, DC: ISTE, 62.

geospatial software application that allows its users the ability to analyze and capture geographical data from any part of the world.

8. Objectives and Plan of Action

Students will learn how to use geospatial technology (Google Earth Pro), and learn how this technology tool is applicable to everyday life and the real world. "**Geospatial technology** refers to equipment used in visualization, measurement, and analysis of earth's features, typically involving such systems as GPS (global positioning systems), GIS (geographical information systems), and RS (remote sensing)."[4] Google Earth Pro will be used to improve student's practical skills as they relate to technology. An example project that I can have student's complete to enhance learning could be to use the tools in Google Earth Pro to highlight a major event in history. Students will pinpoint the locations (using placemarks) where these events occurred, and give a brief description of what took place (ex. The African Diaspora, The Civil War). Students will also display the paths that illustrates the interconnectedness of the order of events (the phenomenon). This is hands-on learning that allows students to use their creativity while also meeting state standards.

9. Assessment

I will use a technology infused rubric to assess student learning outcomes (SLO's). Rubrics are great evaluation tools consisting of multidimensional sets of scoring guidelines that are used to provide consistency when evaluating students work. This Rubric will inform students on what is expected of them by giving students the chance to do self-assessment to reflect on the learning outcomes as they work on their projects. Rubrics offer a way for students and teachers to measure the quality of an assignment. Students will turn in drafts of their projects and will receive vital feedback. "When a student's assessment of his or her work and a teacher's assessment don't agree, they can schedule a conference to let the student explain his or her understanding of the content

[4] Cimons, M. (2011). *Geospatial Technology as a Core Tool*. https://www.usnews.com/science/articles/2011/05/11/geospatial-technology-as-a-core-tool

and justify the method of presentation."[5] The student's final project will be the determining factor of whether they met all the requirements (SLO's). Student's final projects must meet these certain criteria's: **Performance Objective**, **1. Add Map Icons to Mark Locations**, custom icons are created to denote different types of locations. Custom icons are appropriate and appealing in design. **2. Balloon Content**, original content is added to the Description. The Description is interesting and helps the reader to understand the purpose for including the location in the tour. **3. Create Path**, the path tool is used to create several different lines that meaningfully convey information that is part of a larger story. Custom map icons and paths are integrated into a cohesive visual image that is appealing and easy to understand. **4. Measurement Tool**, the measurement tool is used to determine the distance between various locations on the map and information is added to the balloon dialog box. Different units are used as appropriate (miles vs. inches, etc.). **5. Save Map kml File**, all content in the map kml is appropriately stored online so that the content can be viewed by others when they open the kml file on a different computer. **6. Record Tour**, a tour is created that shows creative elements, has a strong story line, and makes a larger point. All mechanics are smooth and the design is appealing and interesting.

10. Sustainability (Continuation and Extension)

After the first year, the overall data will be analyzed and evaluated to determine whether the implementation of technology use (Google Earth Pro) in the classroom was effective or not, and if it improved student learning. These results and findings will also determine whether teacher professional development was helpful or do changes need to be made. The evaluation process will take place July through August of the following year. The technology coaches will notify teachers and staff of these outcomes via e-mail. At the end of the first year of using Google Earth Pro in our classrooms, our technology coaches will continue networking with other technology coaches all over the world (via internet, e-mail) to share results from the year and to find new ways to implement Google Earth Pro

[5] George Lucas Educational Foundation. *How Do Rubrics Help?* https://www.edutopia.org/assessment-guide-rubrics

into all content areas. Then this information will be discussed and taught with all teachers and staff, because professional development is an ongoing process. Then teachers will be retrained and tested again after the first year on whether they retained the information on how to thoroughly integrate technology (Google Earth Pro) into the classroom. Also after the first year, we ensure that all our computers are installed with the latest hardware and security measures (firewalls), to prevent any illegal activity. We will make sure that all laptop programs will be updated regularly and scanned for viruses. We also will make sure that the latest updated version of Google Earth Pro is installed and working on every laptop. If any hardware or computers need to be repaired, our school will cover the cost to fix them. If we can see an improvement in student's ability to critically think by using Google Earth Pro in the classroom, we will apply for the grant again the next year to purchase 20 more HP Pavilion laptops with the latest updated version of the software installed.

11. Dissemination

Our teachers are involved in follow-up discussion groups and collegial activities to discuss technology use with other professional educators and teachers. This is how strong teacher networks are formed. A key component of our professional development program is Peer Follow-up and Networking. This means that, all our teachers and staff are required to communicate with one another through Google Docs and e-mail to discuss and share the results of student projects using Google Earth Pro. Teachers also discuss any issues or concerns with using Google Earth Pro on the new laptops. It is mandatory for all teachers to join chat rooms and blogs that discuss ways how to effectively incorporate Google Earth Pro into meaningful lessons that meet State Standards and Indicators (Benchmarks).

12. Alignment

This Google Earth Pro project aligns with *Ohio's New Learning Standards for Social Studies (K-8)*: **Geography (Spatial Thinking and Skills)**, Spatial thinking examines the relationships among people, places and environments by mapping and graphing

geographic data. Geographic data are compiled, organized, stored and made visible using traditional and geospatial technologies. Students need to be able to access, read, interpret and create maps and other geographic representations as tools of analysis. The project aligns with the *ISTE Standards for Coaches*: **3. Digital Age Learning Environments**, Technology coaches create and support effective digital age learning environments to maximize the learning of all students, **b.** Maintain and manage a variety of digital tools and resources for teacher and student use in technology-rich learning environments, **d.** Select, evaluate and facilitate the use of adaptive and assistive technologies to support student learning. The project aligns with the *ISTE's NETS for Teachers*: **2. Design and Develop Digital-Age Learning Experiences and Assessments**, **a.** Design and adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity. The student's project also aligns with the *ISTE's NETS for Students,* **1. Creativity and Innovation**, **b.** Create original works as a means of personal or group expression.

13. Budget

Equipment (Hardware, Software)	Total Costs
20 HP Pavilion Laptops (17.3-inch)	$10,000 ($500/Laptop)
Google Earth Pro	$100/Copy (20 Copies) (1Copy/Computer)
Total	$12,000 (Martha Holden Jennings Foundation One-Year Open Grant)

Work Cited:

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