

# BEYOND CLASSROOM WALLS - LEARNING WITH TECHNOLOGY



CAPE HENLOPEN SCHOOL DISTRICT  
TECHNOLOGY INNOVATION PROJECT  
TITLE II, PART D (EETT) GRANT PROGRAM  
MAY, 2011

## **Brief Project Summary**

The Cape Henlopen School District has the vision to create 21st century, innovative teaching and learning environments that will improve student achievement and increase technology literacy. This grant funding will provide social studies students at Cape Henlopen High School with a deeper understanding of concepts for civics, geography, economics, and history through the participation in real-time synchronous videoconferencing, access to electronic books and digital resources, and the use of virtual reality software. Students will demonstrate their understanding of acquired knowledge through independent and team projects that utilize the acquired technology through this grant funding. Students will research, plan, create and publish virtual tours of local historical landmarks and regional attributes to a global audience. As a result, students will construct their own learning producing a stronger transfer of knowledge to relevant, real-world situations.

At the start of this project, emphasis will be on teacher professional development, which is one of the LEA's Race to the Top Goals. A cohort of 9<sup>th</sup>, 10<sup>th</sup> and 11th grade social studies teachers will receive professional development time for the revision of social studies units to align with Delaware Prioritized Curriculum in Social studies with appropriate digital resources. The focus will be to develop rigorous, common benchmark assessments for these units, as well authentic student projects with criteria-based rubrics. In addition, teachers will participate in training that will enable them to identify interactive content and locate appropriate digital resources that align with Social studies standards, as well as become proficient in the skills for facilitating distant learning environments that deliver dynamic content. A professional learning community will be developed among this cohort of 10 high school social studies teachers, 1 library media specialist, 2 curriculum specialists, and 2 high school administrators.

This project will provide students from a high need, at-risk school to have increased technology access and virtual connections for authentic, collaborative learning experiences to meet 21<sup>st</sup> century skills, improve technology literacy, and as a result, increase academic achievement.

## **Introduction**

Cape Henlopen School District (CHSD) is located in mid-eastern Sussex County extending from Rehoboth Beach to Milton, Delaware. CHSD is comprised of one high school, two middle schools, four elementary schools, a special consortium school, and an early childhood learning center. CHSD's current enrollment is 4,560 students with 47.24% qualifying for the free and reduced program. 68.8% of CHSD's student body is white, 9.1% is Hispanic, 19.3% is African-American, 1.9% is Asian-American, and .9% is American Indian. CHSD has 786 employees, 367 teachers, and 165 paraprofessionals. The Cape Henlopen High School is located in the central part of the district and serves students from each of the three communities of Rehoboth, Lewes, and Milton. The current enrollment of students at Cape Henlopen School District is 1,222 of which approximately 850 students in 9<sup>th</sup> grade and 10<sup>th</sup> grade are targeted for impact through this project.

This project has an integrated approach to 21<sup>st</sup> century learning through videoconferencing, virtual reality development, and establishing a rich collection of educational materials that include electronic books and digital online resources to be accessed through the school's library media center. The first major component towards of this grant project is to establish a high-end, video conferencing system, as a stationary set up in the Cape Henlopen Library Media Center to facilitate as the hub of video conferencing to be used for this project's purpose targeting social studies, and eventually for all students and teachers in the district. This system will be maintained by CHHS certified media

specialist, Kathy Lindemer with technical support of the high school's IT dept. This system with its online resources will allow for high performance networking and access to the national Internet2 network. All participating Social studies teachers will learn to access resources through various services such as Magpi, (Mid-Atlantic Gigapop in Philadelphia for Internet2) Muse, and CILC (Center for Interactive Learning and Collaboration) and receive training to use this video conferencing system for the initial purpose of facilitating face-to-face video conferencing with field experts on topics aligned to curricular goals and objectives. The system will also allow for participation in virtual field trips to national and international museums and other cultural venues to extend and deepen students' learning. Teachers will also receive training from Digital Tech Frontier, LLC on VRDL and *WeCanTakeYouThere* portal. The second major component is to build a collection of rich media resources for student to use for research and information access for project based learning, including current electronic books and digital content online and through a media server. Students will be expected to work together in gathering information, applying their knowledge by creating and producing their "own" group virtual projects, aligned to curricular goals and objectives, such as a virtual tour of a local museum, cultural event, or regional story. The third major component is for teachers to revise curricular units, develop a tracking system for the use of integrated resources, and develop assessments and project rubrics to be implemented. The fourth major component is the synthesis of learning through the use of technologies provided, whereby students will develop authentic projects to demonstrate their understanding and transfer of information to new situations.

### **Description of Need or Opportunity**

The Cape Henlopen School District has made strides of growth in providing high-end technology equipment to cultivate 21<sup>st</sup> century digital learning environments in classrooms at the newly built Cape Henlopen High School. Teachers have been provided with tools, such as PD 360 and Study Island, and Learning Focused Strategies has been adopted and implemented. Still, DSTP scores clearly indicate that radical transformation must occur. Cape Henlopen High School is currently under "Academic Watch" for not making Adequate Yearly Progress for the last three years.

CHHS has selected to focus on 4 Scope of Work (SOW) areas of the 15 for our LEA plan for the *Race to the Top*. In examining those 4 priorities that CHHS has chosen, 2 of them can be supported by through this grant. SOW #2 calls for building a culture of college and career readiness in schools by removing obstacles to, and actively supporting student engagement and achievement. CHHS chose this SOW because the school needs to drastically improve college readiness for all students. Too many are performing at low levels. Our DSTP, achievement gap, Honors, and AP data strongly suggests that the low income and African American students are well below the achievement levels of the white students. Successful completion of the activities in this SOW will substantially improve achievement for all students including the low performing African American students. Providing students with the opportunity to take rigorous courses and providing them support to be successful in those courses, closely monitoring student success through collaboration and data, providing professional development to administration and teacher leaders so that the teachers receive feedback, guidance, and resources they need to continually improve instruction and ultimately substantially improve student learning and achievement. This grant will also support SOW #10 in our LEA plan for the *Race to the Top*. It calls to adopt a state identified model or other coherent approach to professional development and prioritize the highest impact professional development. CHHS chose professional development as an area of focus. A comprehensive professional development plan is essential in the school improvement process. Our student achievement data indicates that our current professional development delivery system is not effective. Our professional development needs to be consistent and monitored closely for incremental achievement gains along the way. We plan to use train the trainer model with all prioritized professional development models. The key is to share the leadership and responsibility to a larger group of administrators and teacher leaders.

Because the high school years are critical for preparing students for graduation and for productive life in society, the project team spent a considerable amount of time discussing various content areas and examining 9<sup>th</sup> and 11<sup>th</sup> grade data for consideration in this grant. The team unanimously agreed that the highest needs area continues to target students in 9<sup>th</sup> through 11<sup>th</sup> grade Social studies classrooms. This would include all four strands of social studies, geography, civics, economics, and history. The data show that we have the highest number of retentions in 9<sup>th</sup> grade at 13%. In addition, DSTP data shows a significant drop in Social studies scores from 8<sup>th</sup> grade to 11<sup>th</sup> grade. As a result, the team is focusing the work on this grant on 9<sup>th</sup> through 11<sup>th</sup> grade Social studies teachers and students. Special Education teachers in 9<sup>th</sup> through 11<sup>th</sup> grade Social studies will also be included to support this population of learners.

SMARTboards, document cameras, and mobile technologies are all in place at the Cape Henlopen High School. However, now is the time to step up to the next level of teaching and learning. The research portion of this proposal, along with the measurable goals and implementation strategies, will address in detail how this project is expected to shift teaching pedagogy to raise teachers' Loti scores, thus increasing student achievement. In addition, the capability of distance learning is currently not available anywhere within the entire district. Both students and teachers need opportunities for learning beyond our bricks and mortar. A video conferencing system and virtual reality development lab at Cape Henlopen High School will provide unlimited advantages to all staff, students, and ultimately our community. Furthermore, the new Cape Henlopen High School's Library Media Center is lacking digital resources and provisions necessary to function as a rich media hub for the school.

Another great opportunity this grant will provide would be to collaborate virtually with the Delaware Public Library System, as they are moving towards implementing video conferencing and services in each of the state's 32 libraries. This grant will provide the opportunity to build a collection of valuable digital resources that teachers have collected, including previously recordings, such as "state of the union" addresses, political debates, etc. into digital resources to be used in conjunction with current resources acquired. A connection to cable TV and access to public broadcasting will be provided in the CHHS library to provide additional digital resources for social studies related content. Social studies teachers and students will select Cable in the Classroom, along with appropriate public broadcasting stations, for viewing. Teachers will prepare a graphic organizer for note taking and a post assessment for students to take upon completion of viewing the selected program.

Finally, this grant funding will provide the opportunity to work with community outreach programs, such as the Lightship Overfalls, Fort Miles, our regional Historical Society and other geographic, historical, economic, and civics related events and organizations.

As we moves towards improving our Social studies curriculum and teaching strategies, and assessments to better meet the 21<sup>st</sup> century needs of students, the district's 9<sup>th</sup>, 10<sup>th</sup> and 11<sup>th</sup> grade participating Social studies teachers will use their training from this grant to revise and update their curriculum with newly created assessments that align to the State's Prioritized Curriculum. Teachers will work cooperatively with the Department of Education Social studies Education Associate and the Southern Delaware Professional Development Center Social studies Specialist.

## Student Needs

In analyzing DSTP data, Table 1 displays students tested in Cape Henlopen School District scoring below state standards in the area of social studies. Students need better preparation for college and career goals. They need 21<sup>st</sup> century skills and the ability to apply geographical, economic, and historical, perspective to real life situations.

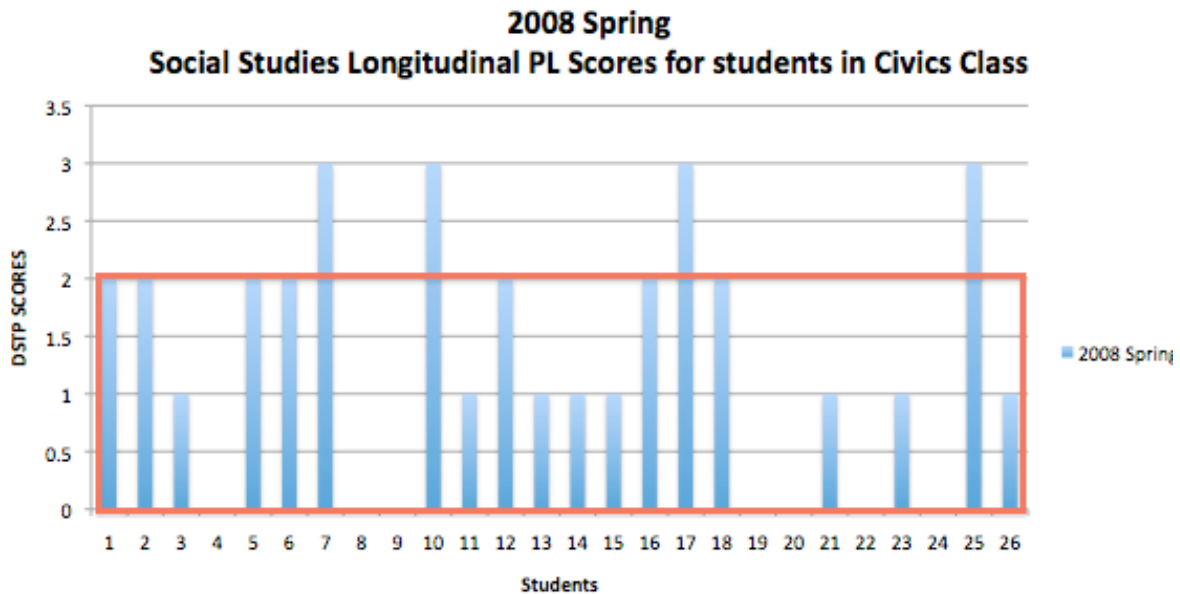
Through random sampling analysis for 8<sup>th</sup> grade and 11<sup>th</sup> grade student scores from social studies DSTP 2010, there is evidence that students who score well above the standards (4 and 5) in the areas of reading and math, scored lower (3 or below) in meeting social studies standards. According to the Delaware Department of Education, "The social studies standards call for understanding the purposes, principles, and concepts of four content areas of social studies: civics, economics, geography, and history. The Standards require students to demonstrate understanding through explanation, interpretation, and analysis. One major area of need is for students to demonstrate what they learned in the classroom and *transfer* their knowledge and understanding to a new context or situation presented in the test. The expectation of the Standards is that students go beyond the retention of a body of facts to an understanding of the *why* and *how* of social studies concepts and big ideas. The Standards do not expect, for example, that students just recall the characteristics of world cultures, past and present, by grade 11. Geography Standard Three at the 9–12 cluster asks students to understand the processes that result in distinctive cultures." Videoconferencing can provide students with interactive, rich experiences of other cultures that will go beyond traditional presentation of facts from textbooks. Electronic books and digital resources will allow students to conduct research and acquire current information. Project based learning will give students the opportunities to construct their own learning, make meaningful connections to concepts, and apply to new situations.

For this grant project purpose, DSTP scores will be used as baseline data for determining needs, however, it is important to note that the state of Delaware is in transition to a new *online* standardized testing program, DCAS (Delaware Comprehensive Assessment System), for future data collection. High School social studies field –testing, through "end of course" assessments, will be in place for 2012. These "end of course" assessments will target U.S. History, integrated with strands of geography, civics, and economics. This data will be used in correlation past DSTP scores, in terms of measurement of meeting or exceeding state standards. In addition, it is critical for accurate measurement of achievement, that common benchmark assessments be developed, as well authentic student projects with criteria-based rubrics to be implemented for each unit.

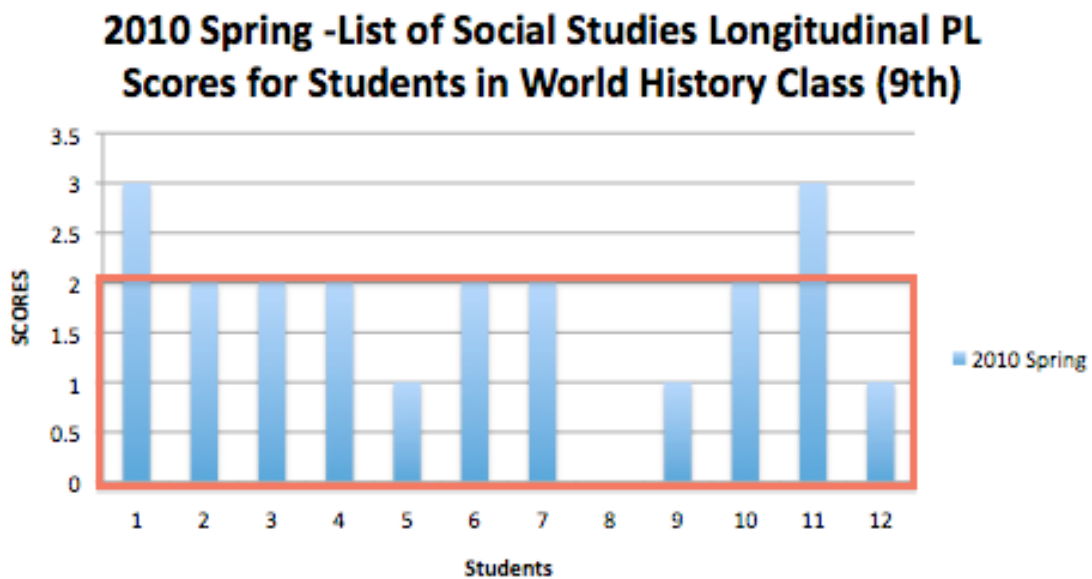
**DSTP Spring 2010  
Social Studies**

Table 1	% Meeting or Exceeding Standard	% Meeting or Exceeding Standard
Grade 11	Cape Henlopen School District	State of Delaware
All	45.19	46.02
African American	17.07	26.48
White	52.94	56.44
Spec Ed	11.11	11.26

Random sampling of student data from DSTP in 2008 -2010 who are currently listed in CHSD 9<sup>th</sup> through 11 grade classes 2010-2011.



For DSTP 2 tests, the Progress Indicator Scores are displayed, where 1=Unsatisfactory, 2=Warning, and 3=Satisfactory.



## Teacher Needs

Educators today need to demonstrate the competencies and best practices as digital-age professionals. Teaching with technology in innovative ways can transform learning environments. "Teachers must provide a learning environment that takes students beyond the walls of their classrooms and into a world of endless opportunities. Technology standards promote this classroom transformation by ensuring that digital-age students are empowered to learn, live, and work successfully today and tomorrow." (*Standards for Global Learning in the Digital Age, ISTE 2010*) Teachers in Cape Henlopen High School are dedicated professionals who invest time and effort into curriculum planning and best practices for delivery of content. They are well-versed in Backwards Design Planning and continuing to study and apply Learning Focused Strategies. By increasing their understanding of 21<sup>st</sup> century skills framework and the allowing them professional development time to revise units that align with the Delaware Recommended Curriculum and National Education Technology standards, teachers will begin to shift their pedagogy from a teacher-centered approach to a student-centered classroom, thus achieving a higher level LoTi skill. Unit and lesson activities will be re-designed to integrate technology for authentic projects and higher- level learning, as well as assessments designed for transfer of knowledge and application of concepts learned.

In order to transform our learning environment for our students CHHS has selected to focus on SOW 10 in our LEA plan for the Race to the Top. It calls to adopt a state identified model or other coherent approach to professional development and prioritize the highest impact professional development. CHHS chose professional development as an area of focus. A comprehensive professional development plan is essential in the school improvement process. Our student achievement data indicates that our current professional development delivery system is not effective. Our professional development needs to be consistent and monitored closely for incremental achievement gains along the way. We plan to use train the trainer model with all prioritized professional development models. The key is to share the leadership and responsibility to a larger group of administrators and teacher leaders.

The 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> grade social studies teachers of Cape Henlopen High School need time through professional development to learn about digital resources and how to locate and implement them to enhance learning. The focus for participating teachers in this grant is to 1.) revise curricular units based on Learning Focused strategy model 2.) incorporate video-conferencing and digital resources into lessons and document usage 3.) develop rubrics for project based learning activities 4.) and create authentic, common assessments to implement at the end of each unit.

Teachers need to work collaboratively, building a cohesive learning community to strengthen consistency for students. They need to learn about electronic books, online portals and services that provide virtual field trips to empower their students to ask questions, think critically, and solve problems related to world issues. Teachers need to allow students to create their own learning through projects that involve the use of emerging technologies beyond their own expertise. This grant opportunity will provide teachers with the time, technology, resources and professional development and support to meet these needs, which as a result will increase their Personal Computer Usage, Current Instructional Practices, thus their overall LoTi score.

## Digital Age Survey for Teachers

In addition to improving student achievement, the funds provided through this grant will improve the (LoTi) Levels of Teaching Innovation of our teachers. Table 1-A data indicates that **Professional Growth and Leadership was determined to have the highest-level need**, for social studies teachers at Cape Henlopen High School, while Digital-Age Learning Experiences and Assessments was determined to have the lowest-level need for professional development. Table 2-A represents the LoTi Level of those social studies teachers who completed their profile. LoTi Level 2 is known as Exploration, where the instructional focus is based on content understanding through direct instruction. Teacher questioning and/or student learning focuses on lower levels of student cognitive processing (e.g., knowledge, comprehension) using the available digital assets. Table 3-A reveals the Current Instructional Practice level is a 4, which reinforces the fact that these teachers may easily move to a higher LoTi level, since they are comfortable with their instructional practices supporting or implementing either a subject-matter or learning-based approach to instruction based on the content being addressed. Finally, in Table 4-A, the Personal Computer Use is a 3 indicating moderate fluency with using digital tools and resources for student learning.

Table 1- A

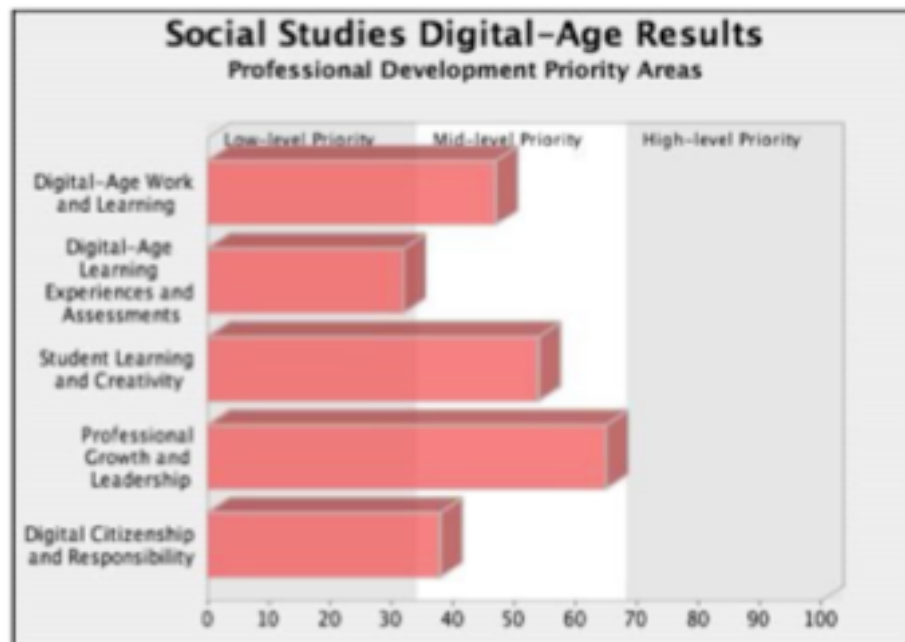




Table 2-A

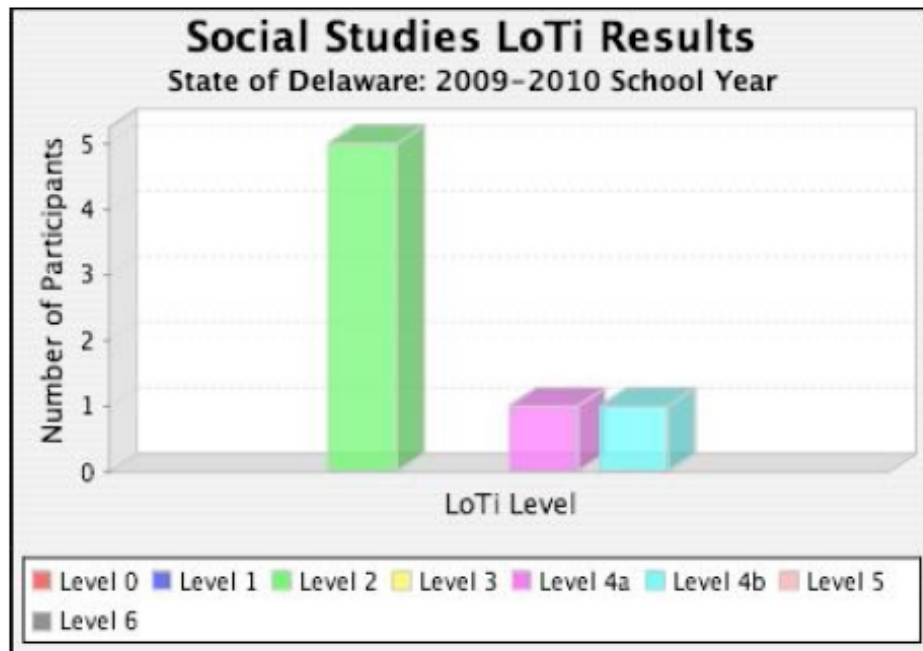
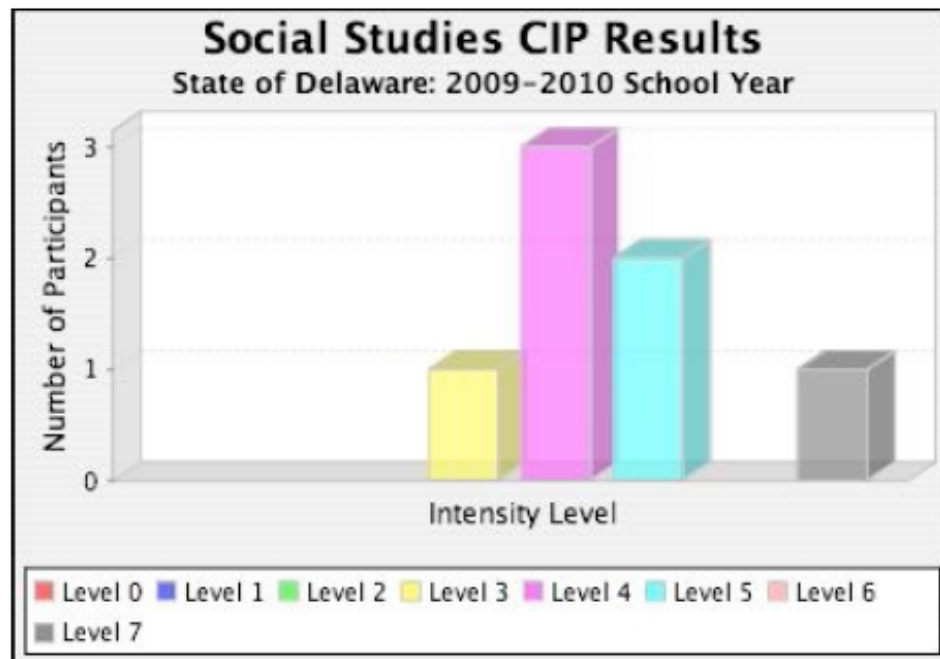
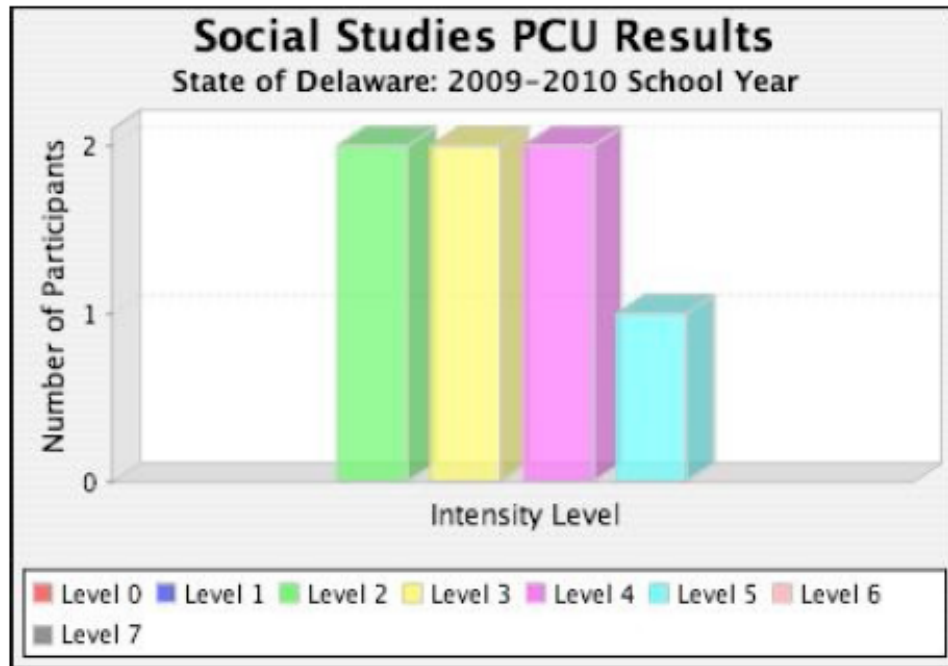


Table 3-A



**Table 4-A**



### **Prior Planning and Local Commitment**

The district has teamed up three instructional specialists, along with Social studies teachers to plan and implement this grant project to create a 21<sup>st</sup> century virtual learning environment to serve as an exemplar for the school, district and state. These curriculum specialists have worked collaboratively on several state and local initiatives to successfully provide professional development, instructional services, and best practices in education. The Cape Henlopen Library is operated by a highly qualified Library Media Specialist and National Boards Certified teacher, Kathy Lindemer, who is currently working in her new position as high school library and media specialist to make the Cape Henlopen High School Library a 24/7 site. Lori Roe, Instructional Technology Specialist, has successfully implemented prior federal grant programs, such as the Technology Literacy Challenge, 2002-2004, CHILD (Cape Henlopen in partnership with Laurel and Delmar) grant, 2006, and is currently implementing CHIRP for 21<sup>st</sup> Century Learning, 2009-2010. The district's Language Arts Curriculum Specialist/Local Systemic change Agent for Reading, Aleta Thompson, has successfully implemented several grant initiatives including a 21<sup>st</sup> Century Community Learning Centers grant, the CHILD grant, and has worked with the core content teachers to develop and enhance their planning and instruction. This team sees the benefit to both students and teachers in acquiring digital literacy collections, developing virtual resources, and providing continued professional development opportunities to staff, as aligned to the LEA's Race to the Top plan. "Teachers must provide a learning environment that takes students beyond the walls of their classrooms

and into a world of endless opportunities. Technology standards promote this classroom transformation by ensuring that digital-age students are empowered to learn, live, and work successfully today and tomorrow.” (*Standards for Global Learning in the Digital Age, ISTE 2010*) Each will play a role in the implementation of this proposal. Lori Roe will take the lead to coordinate the project overall by making purchases, setting up professional development, submitting federal reports, and providing instructional technology support, including acquiring technical support services from the district, state, and/or vendors. Aleta Thompson will support curriculum alignment, lesson development, instructional strategies, and professional development. Kathy Lindemer will fulfill the role of instructional coach for the teachers’ and students’ use of digital resources, research and information technology through CHHS Library services. After the team agreed on the intent of the proposal, Lori Roe consulted with Robert Fulton, Secondary Director of Education; Brian Donahue, Principal of Cape Henlopen High School; Brian Curtis, Associate Principal of Cape Henlopen High School; and Oliver Gumbs, Business Manager of Cape Henlopen School District. Due to the fact that not all of the departments including the Social studies department have a common planning time, it hasn’t been possible to discuss this grant with the entire department. Feedback has been sought from a representation of the 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> grade teachers and we have a meeting with these grade levels in Social studies planned for February, 2011. In December, we had the opportunity to meet with representatives, Amyanne Barone and Stephen Coe, from York Telecom Corporation, along with Randy Reynold from DTI and Brian Curtis, our Associate Principal in charge of Technology in CHHS to discuss in more detail some of the technical aspects of this grant. We plan to involve the district and high school IT team for technical support. We have been able to gather additional information in December, which will enable us to have more meaningful and in depth conversations with all parties involved. A conversation was held with social studies grade level representatives regarding this project and the need to enhance the curriculum with video conferencing opportunities and professional development for teachers.

Teachers approached were in complete support of this project initiative and expected it to successfully impact staff and students. Those identified in numbers enthusiastically agreed and have signed commitment letters to participate. Two emails were sent to inform teachers again of this opportunity. Sufficient members of the Social studies team are committed to implement this project successfully by creating opportunities for virtual learning and higher level, student centered activities with differentiated instruction. January 24, 2011, Kathy Lindemer attended the Social studies team meeting and discussed the project with them. All but one teacher wants to be a part of the Video Conferencing training. Several were excited about the software that can create virtual tours and can see uses for it in the curriculum. With further discussion, more will see the possibilities. Some community groups have made requests for these services. All interested teachers signed a paper acknowledging their interest to participate. A formal commitment letter will be provided during an orientation of the grant specific goals and expectations, upon receipt of funding. On Friday, January 28, Lori Roe met with social studies department chair to further discuss targeted needs and goals and commitment for participation. Friday, February 2, Lori Roe held a conference call with the DOE Education Associate for social studies to clarify state assessments for data collection of student achievement, as well as confirming the interpretation of data for CHHS needs and goals.

## Research

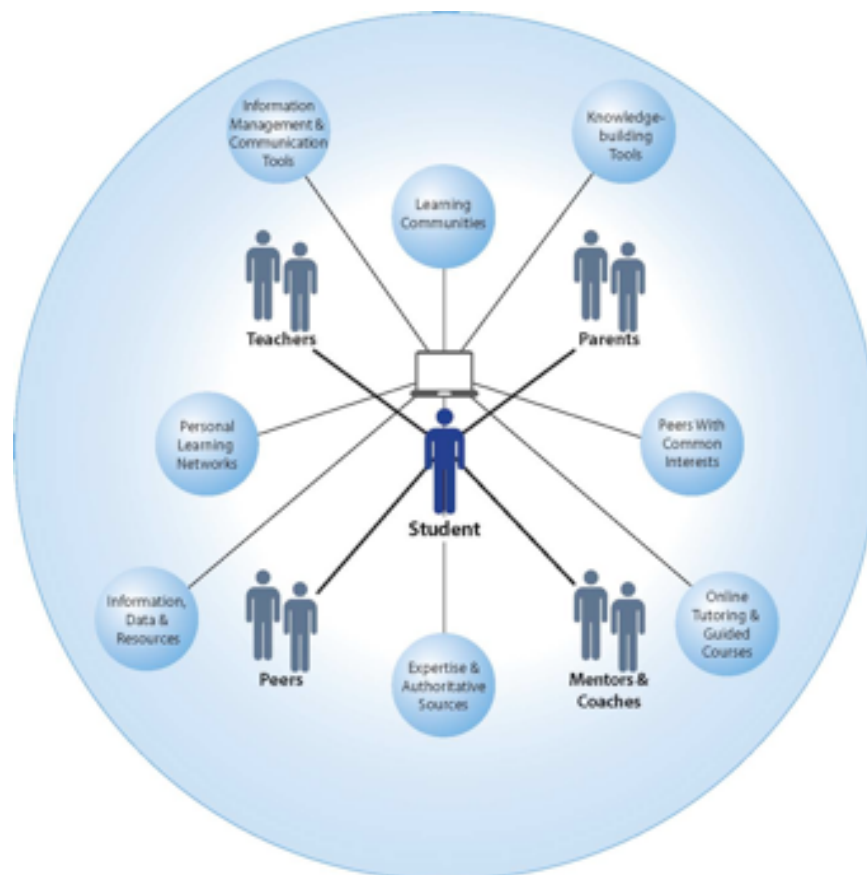
### *Real Time Video Conferencing and Virtual Reality Learning*

The National Education Technology Plan, ***Transforming American Education: Learning Powered by Technology***, (1) calls for “applying the advanced technologies used in our daily personal and professional lives to our entire education system to improve student learning, accelerate and scale up the adoption of effective practices, and use data and information for continuous improvement.” One of the goals of the plan is that “Professional educators will be supported individually and in teams by technology that connects them to data, content, resources, expertise, and learning experiences that can empower and inspire them to provide more effective teaching for all learners.” “In contrast to traditional classroom instruction, which often consists of a single educator transmitting the same information to all learners in the same way, the model puts students at the center and empowers them to take control of their own learning by providing flexibility on several dimensions. A core set of standards-based concepts and competencies form the basis of what all students should learn, but beyond that students and educators have options for engaging in learning: large groups, small groups, and activities tailored to individual goals, needs, and interests.”

*Figure 1. A Model of Learning, Powered by Technology (STUDENT)*

In this model, technology supports learning by providing engaging environments and tools for understanding and remembering content. For example, virtual tours teach core subject content, such as history and video-conferencing brings in experts and authoritative sources.

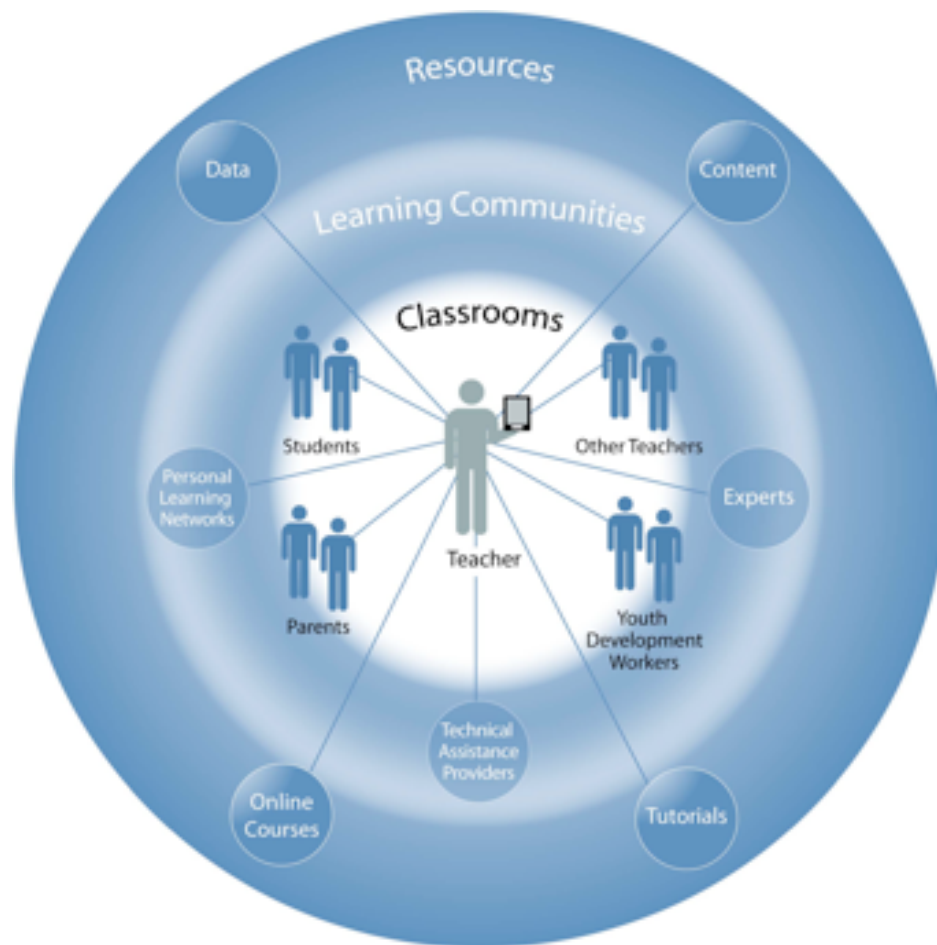
*Figure 1. A Model of Learning, Powered by Technology (STUDENT)*



*Figure 2. A Model of Learning, Powered by Technology (Teacher)*

“In connected teaching, classroom educators are fully instrumented, with 24/7 access to data about student learning and analytic tools that help them act on the insights the data provide. They are connected to their students and to professional content, resources, and systems that empower them to create, manage, and assess engaging and relevant learning experiences for students both in and out of school. They also are connected to resources and expertise that improve their own instructional practices, continually add to their competencies and expertise, and guide them in becoming facilitators and collaborators in their students' increasingly self-directed learning. Like students in the learning model described earlier, teachers engage in personal learning networks that support their own learning and their ability to serve their students well.”

*Figure 2. A Model of Learning, Powered by Technology (Teacher)*



In "***The Global Achievement Gap***," Tony Wagner (2) reveals the seven skills that should be utilized in classrooms of the future. Those skills are critical thinking and problem solving, collaboration, agility and adaptability, initiative, effective oral and written communication, accessing and analyzing information, and curiosity and imagination. The opportunities provided through this grant will help teachers develop and enhance these skills in today's students. "The rapid adoption of new Internet technologies is giving learners anywhere (on campus, off campus, distant) a variety of options for how they receive their education.

They can take more responsibility for their own personal education and customize their learning based on personal needs. The Internet has made knowledge and expertise not only available, but also readily accessible to those who seek it. New technologies also help facilitate access to knowledge, create opportunities for collaboration, and eliminate the lines between learners both on and off campus. Higher-education institutions are at the forefront of experiencing and facilitating the integration of next-generation technologies, and creating enriched learning that will lead to deeper knowledge, future innovation, and next-generation discovery. Each generation of learners will use more technology than previous generations, and will be more comfortable with selecting and integrating information sources.

Institutions that understand this have a distinct advantage: they can plan now to connect learners to a variety of learning resources made available through modern technologies. Through exploration, experimentation, and acceptance, every institution can become a 21st Century Learning Environment." (3) According to ***SETDA's Class of 2020: Action Plan for Education Project***, "Virtual learning provides each student the promise of access to age- and ability-appropriate curriculum, rich and extensive resources and accurate and up-to-date assessments regardless of location, economic situation or time." According to SETA, "Education Portals offer a one stop set of resources for educators, parents, and students to support teaching, learning, and leading. Portals provide access to shared resources and create an entry point to other information or services." (4)

The ***MAGPI K12 Education Community*** is one of three main resources this grant will utilize. Magpi provides Resources for Interactive Videoconferencing in the Classroom. This online portal offers "Advanced video technologies and collaborative tools are allowing organizations on the MAGPI and Internet2 networks to communicate in new and exciting ways." "Students and teachers are creating unprecedented opportunities for inquiry-based learning by expanding the geographic boundaries of their classrooms - - virtually and cost effectively. K12 schools on the MAGPI network participate in interactive video exchanges in real-time - - with their students' peers, content providers or experts from anywhere in the world. They have access to more than 100 MAGPI-produced interactive video programs each year. Students and teachers take advantage of multimedia files and learning objects through digital library repositories, create their own virtual words and use remote scientific instruments all without leaving their classrooms." Interactive Videoconferencing. In addition, "Videoconferencing allows people in geographically distributed locations to see and hear each other and collaborate in real-time. Increasingly, videoconferencing is becoming part of the standard set of tools used by teachers, students, faculty, staff, librarians and researchers to enhance communication, training, and instruction. "Videoconferencing allows people in geographically distributed locations to see and hear each other and collaborate in real-time. Increasingly, videoconferencing is becoming part of the standard set of tools used by teachers, students, faculty, staff, librarians and researchers to enhance communication, training, and instruction. Public and cultural organizations are using videoconferencing to expand their outreach opportunities and reach audiences beyond their geographic proximity through virtual lectures and fieldtrips. MAGPI supports the use of videoconferencing within our member community through interactive educational programming, training and technical support".(5)

**Cisco and Metiri Group** has published new research on the impact of technology on student learning and achievement. In addition to such topics of mobile computing and SMARTboards, their research addresses the topics of Virtual Learning and Augmented Reality, and Virtual Worlds. In this report, Virtual Learning (VL) is described as, “ a learning process where the teacher, trainer, facilitator and learners are geographically distant from each other. Learners are not together in a real or actual learning venue such as a class, but in a virtual learning environment made possible by the use of various technological tools. The types of virtual learning range from supplementary to comprehensive, from synchronous to asynchronous, from audio to web-based or video-conferenced, as well as innovative hybrids thereof.” “Virtual Worlds are immersive 3-D environments in which users are visually represented by avatars. The users, through their avatars, visually interact and communicate via chat, and are able to “act” upon their world as they move, learn, communicate, build objects, and interact socially within that environment.” Multi-user virtual environments (MUVES) include not only 3-D immersive worlds, where users are represented by avatars that interact and communicate, but the research on this concept includes simulations and virtual field trips.

Augmented reality (AR) is further defined as “experiences involve individuals or teams interacting in the real world while simultaneously using images, text, visuals, and/or global satellite positioning that have been mapped to their real world situation. “The power of AR simulations is only now emerging as educators begin to identify instructional designs that leverage this new technology. Experts hypothesize that this type of hybrid learning, which bridges the digital and physical worlds, engages students in highly collaborative learning that advances higher order thinking, problem solving, and communication. The experimental studies described above provide some evidence in support of their hypotheses.”(6)

According to Harvard professor Chris Dede, “immersive influences can aid in designing educational experiences that build on students’ digital fluency to promote engagement, learning, and transfer from classroom to real-world settings.” He goes on to say that, such experiences also provide opportunities for students to view complex issues from multiple perspectives. Several studies to date have linked the use of MUVES to increases in students’ academic performances. (7)

**North Central Regional Educational Laboratory** conducted studies through scientific research on K–12 distance education programs on the effectiveness of distance education for K–12 students. Conclusions of studies prove that students can experience academic success while learning using telecommunications and learning in classroom settings. (8)

**The Horizon Report K-12** (9) series is the most visible outcome of the New Media Consortium’s Horizon Project, an ongoing research effort that identifies and describes emerging technologies likely to have a large impact on teaching, learning, research, or creative expression within education around the globe. One of the emerging trends identified is Cross–Cultural Collaboration, such as the project Students Bridge Cultures with Videoconferencing from Carnegie Hall, a collaborative social studies project that connected students in the United States with their peers in other countries, including India and Turkey. The students explored a variety of music from their respective cultures. Another technology to watch for in the next five years is Augmented Reality, “a concept of blending (augmenting) virtual data — information, rich media, and even live action, with what we see in the real world, for the purpose of enhancing the information we can perceive with our senses.” (9)

## References

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### **Goals and Objectives**

The overall purpose of this grant project is to increase student achievement in social studies through the areas of civics, economics, geography, and history and to increase technology literacy with 21<sup>st</sup> century skills. Through innovative uses of technology, including two-way video-conferencing, virtual field trips, field-work in the community to develop virtual tours, and the use of electronic books and digital resources, students will demonstrate understanding of concepts through explanation, interpretation, and analysis. Student will be able to use digital tools to demonstrate what they learn through live interaction with field experts, online resources, and virtual field trips to *transfer* their knowledge and understanding to a new context or situation presented. The technology tools provided through this grant funding allow for information to be accessed beyond the classroom. Teachers will work together to enhance lessons with appropriate digital resources. They will prepare for, utilize, and follow up on video conferencing sessions to deepen student understanding of local and global concepts, aligned with Delaware Prioritized Curriculum in Social studies. Professional learning communities will be developed among a cohort of high school social studies teachers, the library media specialist and curriculum specialists. Educators will be involved in training that will enable them to locate and facilitate distant learning environments that deliver dynamic, interactive content and promote global collaboration. In the beginning there will be emphasis on locating videoconferences that will enhance the Delaware Prioritized Curriculum in Social studies. Then educators will receive training on how best to plan and implement videoconferences. Another purpose of the grant is to have the teachers and students in the social studies classes gain the ability to create and share virtual tours of local historical landmarks and regional attributes to a global audience. Students will access, create, and distribute information for higher-level learning through authentic project-based activities. Students will design and create virtual tours about the historical, cultural, and economic aspects of their region to publish online for global access. As a result, it is expected that through student-centered instruction and meaningful, authentic projects, students will take ownership of their learning and therefore improve



academic performance and achievement in the areas of information literacy, social studies, and 21<sup>st</sup> century skills. Social studies teachers will increase their awareness of 21<sup>st</sup> century skills and NETS through their curricular planning and development. As a result, it is expected that 100% of participating teachers will increase their LoTi profile score to a level 3 or above. We will use several evaluative tools: First, we will track student performance in literacy through their DCAS assessments, taken periodically through the year. Secondly, once common assessments (based on the DE Prioritized Curriculum) have been written by the participating teachers, we will create anchor papers, score the assessments, and track student progress quarterly.

Students in 9<sup>th</sup>, 10<sup>th</sup> and 11<sup>th</sup> grade social studies will be targeted to participate in at least 2 major project based learning activities. Students will participate in a minimum of 2 videoconferences, 2 online virtual field trips, and the development of 1 virtual panorama of a regional landscape. The expected outcome for project-based learning will be determined through the planning, preparation, and inquiry based lessons.

Grades 9, 10, 11

Content Areas: Civics, Economics, Geography, and History

Participant Goal	Activity	Evaluation
<b>STUDENTS: increase Student achievement in Social Studies.</b>		Student Assessment (Course mid-term and Course Final comparing 2010-2011 scores to 2011-2012)
	Participate in VCs	Participate in a minimum of 1 VCs per instructional unit (approximately 6 weeks)
	View an educational program that aligns with the curriculum, through cable tv, including, but not limited to current events.	View a minimum of 2 cable broadcasts per instructional unit (approximately 6 weeks). Complete a graphic organizer for note taking upon completion of viewing the selected program
	Utilize library resources including databases, eBooks, texts, etc.	References will be noted in reference list provided for unit project and culminating project
	Participate in an assessment that requires application of knowledge from unit content	Student will receive a minimum of two assessments that require application of knowledge: <ul style="list-style-type: none"> <li>• One instructional unit assessment</li> <li>• Two culminating semester projects (one each semester)</li> </ul>
	Develop culminating project each semester based on unit content/big ideas. Format: <ul style="list-style-type: none"> <li>• One VR</li> <li>• One VR or other</li> </ul>	Once per semester develop a culminating project that aligns to unit content/big idea and achieves standard as established by LEA. Format: <ul style="list-style-type: none"> <li>• One VR</li> <li>• One VR or other</li> </ul>

Participant Goal	Activity	Evaluation
	Use the electronic resources provided safely and ethically.	Project rubric will assess safe, ethical and appropriate use of electronic resources and adherence to copyright.
<b>TEACHERS: Increase teacher integration of technology as measured by LoTi</b>		
		Teachers will increase their LoTi scores by one level in each category (unless category is pre-scored as a 5)
	<b>PD:</b> LoTi Instruction and H.E.A.T.	<ul style="list-style-type: none"> <li>• 100% Attendance</li> <li>• Successfully assess the LoTi level of one recorded activity. Exit ticket submitted upon the end of the workshop.</li> </ul>
	<b>PD:</b> Locating appropriate technology resources: <ul style="list-style-type: none"> <li>• MAGPI</li> <li>• CILC</li> <li>• Internet</li> <li>• Library of Congress</li> <li>• Thinkfinity</li> <li>• iTunesU</li> <li>• News Journal</li> <li>• Discovery Education</li> <li>• Cable in the Classroom</li> </ul>	<ul style="list-style-type: none"> <li>• 100% Attendance</li> <li>• Create an activity at a LoTi level 3 or higher using one of the resources selected. This should be submitted on an LFS lesson activity template.</li> </ul>
	<b>PD:</b> VC and classroom integration; developing pre and post-VC activities for students	<ul style="list-style-type: none"> <li>• 100% Attendance</li> <li>• Successfully locate a VC appropriate for curriculum and design pre- and post-VC activities for students. Exit ticket submitted upon the end of the workshop.</li> </ul>
	<b>PD:</b> Locate appropriate programs from Cable in the Classroom and/or a public broadcasting station.	<ul style="list-style-type: none"> <li>• Develop a lesson plan that includes a cable program/recording</li> </ul>
	<b>PD:</b> VRDL use and design of student VR projects	<ul style="list-style-type: none"> <li>• 100% Attendance</li> <li>• Successfully post a sample VR to the WeCanTakeYouThere website. Exit ticket submitted upon the end of the workshop.</li> </ul>
	<b>PD:</b> Development of Student assessments that require application and extension of knowledge	<ul style="list-style-type: none"> <li>• 100% Attendance</li> <li>• Successfully develop an assessment that requires application and extension of knowledge. Exit ticket submitted upon the end of the workshop.</li> </ul>
	<b>PD:</b> Modifying existing units or developing new units with integrated technology	<ul style="list-style-type: none"> <li>• 100% Attendance</li> <li>• Successfully create a minimum of 2 lessons per instructional unit that integrate technology at a LoTi level of 3 or higher.</li> </ul>

Participant Goal	Activity	Evaluation
	<b>PD:</b> Development of rubrics for student projects	<ul style="list-style-type: none"> <li>100% Attendance</li> <li>As a grade level team, develop a student project rubric. Rubric submitted at the completion of PD.</li> </ul>
	<b>PLC-</b> Teachers will participate in online collaboration through a list serve.	<ul style="list-style-type: none"> <li>Teachers will contribute a minimum of 1 main post per marking period and at least 2 replies.</li> </ul>
	<b>Reflection-</b> Teachers will keep a journal of events and reflections of activities and participation throughout the grant period.	<ul style="list-style-type: none"> <li>Teachers will submit a journal of events and reflections with a final reflection at the end of the grant period.</li> </ul>
<b>LIBRARIAN: Provide expertise and ongoing support for the duration of the project.</b>		<ul style="list-style-type: none"> <li>Teacher satisfaction survey</li> <li>Student satisfaction survey</li> <li>Achievement of benchmarks established by project committee</li> </ul>
	Participate in all teacher PD as indicated above	<ul style="list-style-type: none"> <li>100% Attendance</li> <li>Product development as noted above</li> </ul>
	Provide content and assist in teaching <b>PD Session:</b> Locating appropriate technology resources: <ul style="list-style-type: none"> <li>MAGPI</li> <li>CILC</li> <li>Internet</li> <li>Library of Congress</li> <li>Thinkfinity</li> <li>iTunesU</li> </ul>	<ul style="list-style-type: none"> <li>Develop syllabus and work with other providers to create and deliver the content for this PD session.</li> </ul>
	Work with teachers to select appropriate resources for purchase including VCs, eBooks, and other online resources.	<ul style="list-style-type: none"> <li>Attend curriculum development sessions</li> <li>Attend team meetings as requested</li> <li>Provide resource lists and suggestion</li> <li>Procure required resources</li> </ul>
	Promote cable broadcasts to teachers when they align to content via appropriate methods.	<ul style="list-style-type: none"> <li>Peruse Cable in the Classroom publication and notify faculty of upcoming broadcasts that they may be interested in.</li> <li>Publicize broadcasts via email listserv, grant website.</li> <li>Notify teachers when broadcasts have been downloaded.</li> </ul>
	Record and catalog cable broadcasts and ensure that they adhere to copyright law.	<ul style="list-style-type: none"> <li>Accumulate a database of 50 broadcasts for the life of the project.</li> </ul>
	Provide support for VCs with teachers including technical assistance, locating aligned resources, and assisting unit development.	<ul style="list-style-type: none"> <li>Develop policies and procedures for procuring fee-based VCs</li> <li>Provide just-in-time support to teachers regarding VC</li> </ul>
	Support projects being created by students.	<ul style="list-style-type: none"> <li>Assist students in locating appropriate resources as noted in Student list above. Make</li> </ul>

Participant Goal	Activity	Evaluation
		recommendations. Ensure legal and ethical use of electronic resources.
	Provide Copyright information and assist teachers and students in adhering to copyright and fair use laws. Offer the iSAFE curriculum to students as appropriate.	<ul style="list-style-type: none"> <li>• Student participation in iSAFE curriculum.</li> <li>• Student projects and teacher use of resources reflect adherence to fair use and copyright law.</li> </ul>
<b>Administrators – Administrators will recognize and support technology integrated into lessons at a LoTi level 3 or higher.</b>	Attend	Administrators will increase their LoTi scores by one level in each LoTi category.
	<b>PD:</b> LoTi Instruction and H.E.A.T.	100% attendance
	<b>PD Session:</b> Locating appropriate technology resources: <ul style="list-style-type: none"> <li>• MAGPI</li> <li>• CILC</li> <li>• Internet</li> <li>• Library of Congress</li> <li>• Thinkfinity</li> <li>• iTunesU</li> <li>• Discovery Education</li> </ul>	100% attendance

### LoTi Alignment

All participating teachers will update their demographics/background information in LoTi and complete the LoTi survey in spring 2010. This information, along with their commitment letter will be submitted at the end of the school year. In the summer, teachers will meet to examine their LoTi profile and review the Digital Age Profile Survey findings, recommendations, and suggestions for planning. This is an appropriate time to examine the ISTE NETS and 21st Century Framework. Teachers will explore the DCET website for Delaware created materials for LoTi and participate in some activities that will help become familiar with the LoTi level characteristics and be able to distinguish the differences between LoTi levels, based on the new Blooms Taxonomy Chart, Delaware Matrix, and LoTi Lounge resources. Teachers will participate in the Manatee group activity that provides scenarios for various LoTi levels and teachers will identify and order according to key observations. The district instructional technology specialist, who is also a certified LoTi trainer, will provide a basic overview of LoTi. This in-service will allow for examining LoTi characteristics, framework, and resources to modify lessons to higher-level LoTi. Following this, Dr. Chris Moersch will provide a full day hands-on session on LoTi and H.E.A.T. to the participating teachers and administrators.

In the fall, teachers will have the opportunity to participate in a LoTi online course, Engaging Learners and Authentic Learning. These courses will be provided through the district. Teachers will plan lessons that integrate the LoTi characteristics for level 3 or higher. In the spring of 2011, teachers will complete a post survey to compare their understanding from the beginning of the year.

## Major Activities and Implementation Strategies

The ultimate goal in creating 21st century learning beyond the classroom walls is to raise the level of technology innovation to improve student achievement that will best prepare students for today's society and the work force. This is possible through increased student use of technology, engagement, standards-based instruction, and teacher proficiency in instructional technology and best practices in teaching methods. The innovative and diverse technology that this grant will enable us to bring into the high school library media center will help us to build a foundation for future expansion for distance learning and utilizing digital resources. Teacher proficiency in designing standards-based lessons that can be delivered through instructional technology is detailed in the action plan provided further into this section. Teachers will attend a ½ training session with an overview of video conferencing, services, and resources provided. They will also participate in several online seminars for Videoconferencing: Best Practices and Virtual Field Trips through Magpi. Videoconferencing: Planning Interactive Collaborations *Teachers' Domain* is a free digital media service for educational use from public broadcasting and its partners, which will be utilized. A variety of other services will be utilized for alternate perspectives, including VC experts such as Lance Ford. Thousands of media resources, support materials, and tools for classroom lessons, individualized learning programs, and teacher professional learning communities are available. All of the Digital Library/Media Sources for K-12 are free due to the fact that the State of Delaware has a statewide license. In addition, the state of DE has an agreement with VRDL, so all of the services and maintenance are also without extra charge.

There will be an addition to the eBook collection that is aligned to the Social Studies curriculum. Teachers will receive training in the new library management program Destiny which houses Cape's eBook collection. They will also be trained in how to utilize these eBooks on computers and mobile devices necessary for display and interaction. We will identify and convert social studies analog videos to digital form and organize all the digital content owned by the department in the enhanced media retrieval system. Access to educational, public cable channels will also be provided. It is our intent to take full advantage of all of these digital resources and services. To fully implement effective use of the technology, we must plan for every step of the process. It is also recognized that student achievement will not improve simply by providing teachers and students with technology. Therefore, the action plan outlined on the following pages highlights the tasks, the people responsible, and the culminating product for each task in order to ensure that this project comes to fruition.

The library media specialist, instructional technology specialist, and the curriculum cadre specialist will be facilitating professional development after school and support teachers through curriculum development and technology use. The grant manager will keep all documentation and records throughout the grant period, work with the business department to generate purchase orders and track budget expenditures. The grant manager will complete federal reports mid and end year.

Implementation strategies to accomplish major goals will include 4 full days of intensive professional development during the summer 2010 for participating Social studies teachers on the video conferencing system and curriculum planning, 1 full day of VRDL technology equipment training and curriculum planning in the early fall and 2 full days in spring. An additional 50 hours of professional development will be provided after school hours during the school year that include the use of the equipment for practice and application and curriculum development and alignment, and approximately 10 hours on weekends for field work with students. 2 of the in-service days this school year (2011) will be used for introductory training on videoconferencing and resources. 5 of the 7 in-service days in 2011-12 will be used for time and support in locating digital resources, strategic project planning for

implementation, and assessment writing. Sustained training will continue with online resources and webinars provided through a wiki and group list serve set up by the instructional technology specialist with contributions made by the project participants. The library media specialist and team participants will create a rotating schedule for access and use of equipment on a weekly basis and based on virtual sessions available. (*See attached timeline of professional development*) Teams of students will be established within classes and possibly across curricular areas to storyboard and create meaningful, authentic virtual projects aligned with instructional goals. Teachers will decide on the best method for keeping a journal to track progress on a regular basis. Student projects will be published online and made available to other schools and the community to access. Teachers will publish their collection of virtual resources as they align to the instructional units from the core curriculum. This project will not only encourage the effective integration of technology resources and systems with teacher training and curriculum development for enhanced learning, but will provide a foundation for future possibilities in offering distance education with other institutions for both staff and students.

### Timetable

<b>Dec. 2010- Feb. 2011</b>		
<b>Activity</b>	<b>Implementation Strategies</b>	<b>Action</b>
Planning Committee formed to provide leadership/governance throughout the grant period.	Lead Project planners from CHSD will meet with key staff members, to include administrators and CHHS department chairs to establish a times to regularly meet during the course of the grant to oversee project goals and coordinate professional development. The first meeting will be to draft the commitment letter and create a presentation overview of the project for teachers. A training schedule that incorporates inter district training will be developed.	12/10/10 Meeting with DTI rep and York Telecom 1/24/11 Social studies team meeting and discussed the project with them. 1/28/11 Meeting held with social studies department chair to further discuss targeted needs and goals and commitment for participation. 2/2/11 Conference call with the DOE Education Associate. 2/3/11 Phone conference with York Telecom
<b>March 2011</b>		
Overview of the project/In-service	A presentation of the project will be made to all project participants. Teachers will sign a commitment letter and returned for documentation file. Magpi and DTI will set up VC for demonstration and an overview of VC. Curriculum planning with U of DE prof dev	Held on 3/23/11
District wide Loti surveys	Grant participants will update information, complete the Loti Survey, print out and hand	

	in for baseline data.	
<b>April – May</b>		
Establish area for sharing resources and communication.	The Cape Henlopen School District technology specialist will create the website and links to resources to be shared.	
Meet with technical staff and vendors to request purchases for technology.	Purchase orders will be processed for equipment and professional development dates will be secured for summer.	.
List serve will be set up for communication, collaboration, and support	Teacher emails will be entered into a list serve and a welcome email will be sent to all participants.	
Inservice	Overview and basic introduction of LoTi, Developing a Professional Learning Community. Curriculum planning to determine which unit topics will be targeted.	
<b>June-August 2011</b>		
LoTi Workshop	Hands on LoTi – Dr. Chris Moersch	
Technology training and Curriculum planning	Grant participants will attend four in-service days for video-conferencing training with State of DE and Magpi	
<b>September- December 2011</b>		
Teacher training	Teachers will go through Magpi online modules	
Video-conferencing sessions	Teachers will locate digital resources and set up and facilitate video-conferencing sessions.	
Inservice days for curriculum alignment and planning.	Teachers will meet with State Ed Associate(s) for Social studies Prioritized curriculum planning and project planning for students.	
Student virtual tours	Students in each Social studies Class will visit at virtual museums to experience a virtual tour, research historical archives and collect relevant information related to project tasks.	

Teacher training for VRDL	Grant participants will attend in-service days for VRDL to learn how to use the equipment, application, creation, and preparation for student projects.	
<b>January 2012 – February 2012</b>		
Student preparation for using VRDL and creating virtual tours	Students will gather research for information to be used for storyboarding and scriptwriting for their virtual projects.	
Video conferencing sessions	Teachers will expand digital resources for global connections.	
<b>March – May 2012</b>		
Publish virtual tours	Students will publish virtual tours for comment or feedback from the public.	
Students VR projects	The library media specialist and instructional technology specialist will work in and beyond the classrooms with groups of students on a VR project.	
Student/Teacher field work		
Student Post Survey	Students will take the online post-survey w/reflection.	
Loti Profile	Teachers will update and complete the Loti Profile	
Debriefing Workshop	Teachers and specialists will meet to debrief projects, video conferencing and VR, and other digital resources and services.	

### Evaluation Plan

Several evaluation tools will be used throughout this grant project. First, student performance will be analyzed through DCAS assessments, taken periodically through the year. Secondly, once common assessments (based on the DE Prioritized Curriculum) have been written, the participating teachers will create anchor papers; score the assessments, and track student progress quarterly. Student projects created will be evaluated based on a rubric created with criteria for the process and final product. In addition, all participants will use a blog and wiki to highlight daily and/or weekly activities. Teachers' progress will be evaluated through their LoTi profile levels, spring 2012 school year in comparison to previous years including spring 2011. Revised units will incorporate a log or tracking system for media resources identified, including videoconferences, eBooks, broadcasts, etc. integrated into social studies curriculum. Details for evaluation aligned with participant goals and activities can be found in the chart above.



## Budget Explanation

This budget summary explains why the expenses outlined in the federal budget sheets are necessary and how they relate to the project objectives and strategies.

The total amount of grant funding for this EETT Technology Innovation Project, ***Beyond Classroom Walls***, is \$126,000, of which approximately 62% from FY10 funds will be used and 38% from FY 11 funds will be used towards project implementation.

The largest component of that funding, 46.76% (approximately \$58,918), is allocated to professional development for participating instructional staff. This includes stipends and OEC's for our academic teachers, who will participate in 112 hours (of which at least 50 of those hours are beyond the work day) that includes training on new technologies, professional planning and curriculum development, and other project implementation activities as stated on p. 17 of the project proposal. This is approximately \$50 per hour for 10 participating teachers totaling approximately \$25,000. This rate is less than per diem, but slightly more than product rate, as teachers will be expected to develop extensive units with assessments, as detailed in the grant proposal.

The cost of substitutes, approximately \$4,500, includes 3 full days to release teachers for professional development related to grant goals. Professional contracted services are also included for high quality professional development to support and align with project goals. The budget allows for 32 hours of professional training services through Magpi on videoconferencing for participating teachers, 12 hours from Digital Frontiers for hands on Virtual Reality Lab training, and a 6-hour workshop provided by Dr. Chris Moersh on LoTi (Levels of Technology Innovation. This totals approximately \$10,000.

The grant manager is budgeted to receive a stipend of \$2,100 for overseeing the project, collecting data, mid-year and end-year reporting, web development and documentation of project progress, as well as facilitating after school work sessions and unit review. In addition, the district's curriculum cadre specialist, who is an LFS trainer, will work with teachers throughout the grant, facilitating curriculum and assessment writing and jurying finished units for a stipend of \$1,000.

Another expenditure for professional development is through Magpi Professional Development Program. This includes 60 to 90 minute videoconferencing sessions, such as: *Videoconferencing: Best Classroom Practices and Virtual Field Trips*, *Increasing Interactivity: Enriching Videoconference Collaborations with Web 2.0 tools*, and *Building Interactivity into your Classroom with Videoconference Collaborations*. Teachers will participate in these and other relevant VC sessions after school and during block planning, as part of professional development to increase their understanding of higher level learning through video conferencing and enhance their unit planning with an innovative strategic approach. These sessions range from \$125 to \$250 per site. \$2,500 has been allocated to these teacher videoconference professional development sessions. As detailed in the project proposal and outlined under teacher/student goals on pages 16 and 17, teachers will determine appropriate digital resources, including videoconferencing sessions through CILC. Each teacher will select a total of two sessions that align with his/her instructional units. Each of these sessions is approximately \$300. This includes a \$25 fee, if necessary, for use of Magpi's content server in the event the VC provider permits recording and/or the event will be streamed throughout other Social Studies classrooms.

The second major component of the grant with totals approximately \$43,000 or 34%, is the equipment necessary to successfully implement video conferencing with social studies students. This videoconferencing solution includes the following components: a dual cart video conferencing display to allow for viewing and presenting, an HD camera to connect sites for visual collaboration, a remote control to make adjustments such as panning the room, zooming in, etc., an omnidirectional

microphone for students to interact with distant audience and/or presenters, ancillary equipment such as cables and connectors, a credenza to support the display with a slide out drawer for the laptop, and a built in cabinet for securing components when not in use, the services provided for system installation and project management, and travel expenses. A laptop computer and connector cables will be purchased to be used in the library media center, as part of this system for approximately \$2,100.

A third component includes the virtual reality development lab that supports the goal for student projects. This system includes all necessary equipment for social studies classes to share to allow for students to collaborate and create virtual reality projects that align to curricular goals. This lab includes HD Nikon Camera, Tripod, Case and Software for \$5,795.00.

A fourth component of this grant funding that supports the goals for increasing digital resources and accessibility to eBooks, videos, free resources through iTunes U, and educational apps is to purchase iPads. Eight iPads will be purchased along with a secure syncing cart for a total approximately of \$7,942. Both students and teachers can use these mobile devices through the library media center for multiple reasons. First, as an eReader, students and teachers can access electronic books that supports curriculum and provides primary resources for research in social studies. Second, the iPads can be used to access digital content, videos, and podcasts from iTunes U for enhanced learning of social studies concepts. Finally, apps can be accessed on these devices for interactive and engaging learning of social studies concepts. Electronic books and apps that align to the curriculum will be selected by teachers to be put on each of the iPads to be integrated into this project. The allocation for this is approximately \$6,000. *See the attached chart for examples of social studies related apps. These apps are under consideration for evaluation by the teachers to use in support of their curriculum.*

A fifth component of this grant funding that will support the goals of this grant by providing enhance learning, exposure to current news and events, and virtual experiences in social studies, is the addition of a single large screen digital LED monitor display. This monitor display will be connected to Comcast cable for the purpose of broadcasting educational content through public television. Currently, there are no televisions in the high school to provide access to any outside resources. Social studies teachers and students come to the library media center for current information, news, as well as primary and secondary resources for research. This digital display will not, at this time, be integrated into the videoconferencing system; however, it will be integrated with the iPads through the "airplay enabled" Apple TV device for under \$100. A standard, commercial DVD recorder will be purchased and placed on a mount near the LED display for recording content that is within copyright legalities for archiving and distribution through the schools' current media retrieval system. Airplay through Apple TV is a connection that allows for the iPad to display content wirelessly to the monitor display. Appropriate content will be displayed during the entire school day specific to social studies topics such as world events, economics and historical documentaries. Social studies teachers will arrange designated times for students to visit the library with a graphic organizer to take notes on topics and issues in various places around the world as part of their learning experiences. Another use for the LED display monitor is to periodically display student media projects.

Finally, ancillary supplies will be purchased, such as DVDs, labels, and cases to support any recorded content related to this project.

A content/media server will not be purchased with this grant funding. The services provided by Magpi will be utilized for recording and streaming any videoconferences that are permitted.

## Poverty Level/ Technology Need

Cape Henlopen School District ranks as a "high need" school district serving high numbers and percentages of children living in poverty, based on U.S. Census data. Schools served in the Cape Henlopen School District are ranked by percentage of school-aged children living in poverty, from highest to lowest through free and reduced lunch provided. Schools that are high poverty with high academic needs have been identified and selected to serve through this grant. The Cape Henlopen School District will target the students with the highest poverty and highest academic needs. Technological needs in the Cape Henlopen School Districts are improving; however currently there are limited resources available in our high school library media center. The library media center is not equipped with a mounted projector, and permanent Smart board. There is no cable connection or display for educational content, such as PBS, nor is there any capability for high-end video-conferencing. Targeted classrooms at CHSD are equipped with a teacher laptop connected to a Smart board and document camera, but have limited access to school mobile computers that are shared among grade levels. They have access to a computer lab and/or library once per week.

### Statistics for Cape Henlopen High School - 41.74% free and reduced lunch

35.71% Free 6.03% Reduced

### Annual School Technology Survey for Cape Henlopen High School

2009-2010 Annual School Technology Survey: Snapshot on October 31, 2009: SCHOOL SUMMARY

School	Cape Henlopen High School	SchoolCode	0726
District	Cape Henlopen School District	DistrictCode	17
Contact Person	Richard J. Davis		
Contact eMail	richard.davis@cape.k12.de.us		

Meets DCAS Recommended Specs	Classroom	Computer Lab	LMC	Other Instruction	Total	Administrative
PC	109	0	22	3	134	14
PC Laptop	185	0	25	12	222	21
Mac	8	68	0	0	76	0
Mac Laptop	134	0	0	5	139	1
Other	0	0	0	0	0	0
<b>Total</b>	<b>436</b>	<b>68</b>	<b>47</b>	<b>20</b>	<b>571</b>	<b>36</b>
Meets DCAS Minimum Specs	Classroom	Computer Lab	LMC	Other Instruction	Total	Administrative
PC	0	0	0	0	0	0
PC Laptop	0	0	0	0	0	0
Mac	0	0	0	0	0	0
Mac Laptop	0	0	0	0	0	0
Other	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Does NOT Meet DCAS Minimum Specs	Classroom	Computer Lab	LMC	Other Instruction	Total	Administrative
PC	0	0	0	0	0	0
PC Laptop	0	0	0	0	0	0
Mac	0	0	0	0	0	0
Mac Laptop	0	0	0	0	0	0
Other	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Number of Computers in the School</b>	<b>436</b>	<b>68</b>	<b>47</b>	<b>20</b>	<b>571</b>	<b>36</b>

Total Instructional PCs

356

Total Instructional Macs

215

Student to Computer Ratio

2.1

Servers	5
Classrooms with Audio Enhancement	85
Printers	124
Digital Cameras	0
Document Camera	67
Response System	1

Wireless Permanent	34
Wireless Portable	0
Projection Permanent	80
Projection Portable	1
Interactive Whiteboard Permanent	60
Interactive Whiteboard Portable	5

Students 1,222

Classrooms 92  
Classrooms with Computer 85



# BEYOND CLASSROOM WALLS - LEARNING WITH TECHNOLOGY

## BUDGETARY DETAILS 2011-2012

### Professional Development

SERVICES	TOPICS	LENGTH OF TIME HOURS	DATES	TOTAL AMOUNT
Magpi Professional Training	Videoconferencing	32	Summer, Fall, Winter (2011-2012)	\$4,500.00
VRLD training	Virtual Reality Lab training	12	Fall - Spring 2011-2012	\$2,300.00
LoTi training	LoTi framework, HEAT, LoTi resources	6	Fall 2011	\$3,000.00
Social Studies Curriculum	SS digital content, and resources	50	Spring/ Summer/ Fall 2011, Winter/Spring 2012	N/A provided by district/state
Field Work (student projects)	Teachers/student projects	12	Spring 2012	
<b>Total Hours PD</b>		112		<b>\$9,800.00</b>

### Teacher Stipends

PROJECT DEVELOPMENT	TEACHERS	STIPEND	DATES	TOTAL AMOUNT
PD and Unit development	10	\$2,500.00	Summer - Spring 2010-2011	\$25,000.00
Instructional Support	1	\$1,000.00	Summer - Spring 2010-2012	\$1,000.00
Grant Management	1	2100	Summer - Spring 2010-2011	\$2,100.00
Substitutes (3 full days)	10	4500		\$4,500.00
OEC's				\$8,018.00
<b>Total Teacher Stipends</b>				<b>\$40,618.00</b>

## Hardware

	ITEM	QUANTITY	UNIT PRICE	TOTAL COST
Video Conferencing System w/ Services for installation and set up and training, including travel	Dual Cart Video Conferencing and Presentation System	1	Quote attached	\$44,200.00
VR Lab		1	Quote attached	\$5,950.00
DVD's, cases, markers, labels				\$150.00
Laptop for Library set up + DVI cable		1		\$2,110.00
iPads for Library ebooks		8	729	\$5,832.00
iPad skins and protectors				\$240.00
H3635LL/A Bretford PowerSync Cart for iPads (security and charging)				\$2,500.00
Apple TV( transmitter for iPad and laptop airplay)				\$100.00
<b>Total Hardware</b>				<b>\$61,082.00</b>

## Software

ITEM	QUANTITY	COST		TOTAL AMOUNT
electronic books				\$4,500.00
Volume Voucher for digital resources for iPad ( iWork productivity suite, research and productivity apps)				\$1,500.00
Magpi VC programs				\$2,500.00
CILC sessions 10 teachers X 2 sessions X \$300. This includes content server fee.				\$6,000.00
<b>Total Software</b>				<b>\$14,500.00</b>
<b>Grand Total</b>				<b>\$126,000.00</b>
<b>% for Professional Development</b>	<b>\$58,918</b>		<b>46.76%</b>	

## **Professional Development Video –Conferences provided by Magpi for Participating Teachers**

### **Videoconferencing: Best Classroom Practices and Virtual Field Trips**

#### **2 hour videoconference session**

This session explores best classroom techniques for videoconferencing, virtual field trips and where to find content providers. After participating in this session, educators will understand the basic premises of virtual field trips; know how to use the CILC, MUSE and VC Content Provider databases to find content providers, and will understand basic videoconference etiquette for educational programs.

### **Building Interactivity into your Classroom with Videoconference Collaborations**

#### **2 hour videoconference session**

This seminar investigates best practices for designing collaborative projects and class-to-class videoconference events. Learning strategies for successful planning of interactive videoconference events, educators in this session will go through a “mock process” of planning an interactive videoconference-based project. Each seminar involves an overview of possible collaborative project ideas, successful best practices and strategies for seeking collaborators.

### **Increasing Interactivity: Enriching Videoconference Collaborations with Web 2.0 tools**

#### **90 minute videoconference session**

Participants will explore how various web 2.0 technologies can enhance class to class videoconference collaborations. Participants will be guided through an analysis of several successful class-to-class videoconference project models that foster constructivist learning and incorporate web 2.0 technologies. Technologies discussed will include wikis, blogs, video sharing applications, Google apps, social networking and more. Participants will come away with strategies for seamlessly integrating and managing multiple collaborative technologies into their student videoconference-based projects.

### **International Engagement: Bringing the World to your Students through Interactive Technologies**

#### **60 minute videoconference session**

This session will provide strategies for finding international partners for collaborative projects and project examples/templates. This session will be targeted to high school.

### **Adding the WOW factor to your lessons- streaming media, virtual collections and digital learning objects available over advanced networks**

#### **1 hour videoconference session**

Looking for a video snippet to show students during a lesson tomorrow? Need an animation to illustrate a scientific technique? Want to take students live to the Congressional Floor? Learn about various video streaming, virtual media collections and digital learning objects available over advanced networks that you can access instantly from your classroom computer!

### **On-Site services:**

**Interactivity Summer Institute:** 4 Days of on-site training: ½ day in March, ½ day in May, 3 full days in August includes Overview and hands-on experiences in Videoconferencing, planning for collaborative projects, exploring VC resources, web 20 tools to enhance interactive video projects, talk about best practices for VC set-up in the classroom, review dialogic instruction techniques for videoconferencing, provide strategies for engaging students in videoconferencing projects, provide guidance during project development/planning/resource creation.