**Benchmark School District
"Enhancing Education Through Project-Based Learning
and Technology"**

Prototype Grant Proposal Concept Paper:
How would you update this approach in 2021?

Purpose

The purpose of this concept paper is to describe our project-based learning approach to support teachers and students as 21st century digital learners -- *able to think, create, analyze, apply, and share rigorous content standards through a variety of engaging and worthwhile digital products and performances.* Moreover, this concept paper demonstrates two major School District commitments to:

- Implement our vision of "Transforming to Excellence" in classrooms because the approach described herein forges a new and engaging way of teaching our students

- Apply the Pennsylvania Standards Aligned System within a project-based and technology rich approach to improve student achievement

Our project-based learning approach will guide the development of a proposal to compete for funds from Title II, Part D (Enhancing Education Through Technology) of the No Child Left Behind Act.

Project-Based Learning Model

Our approach will apply project-based learning as the central framework for organizing students, teachers, teaching, technology, and resource management. According to one of the nation's leaders of project-based learning, the George Lucas Educational Foundation, project-based learning is defined as follows:

Project-based learning is a dynamic model for teaching and learning in which students explore real-world problems and challenges, while developing cross-curriculum skills as they work in small collaborative groups.

Project-based learning is designed to deliver active and engaged learning experiences. This means it motivates students to obtain a deeper knowledge of the content and skills they are studying. Edutopia.org (2009) indicates that "students are more likely to

retain the knowledge gained through this approach far more readily than through traditional textbook-centered learning. In addition, students develop confidence and self-direction as they move through both team-based and independent work."

Project learning is also an effective way to integrate curriculum, instruction, and assessment into technology. Student projects available on Edutopia.org demonstrate how "A typical project can easily accommodate computers and the Internet, as well as interactive whiteboards, global-positioning-system (GPS) devices, digital still cameras, video cameras, and associated editing equipment."

Our project-based learning model will integrate the **PA Standards Aligned System** in the following manner:

- **Clear Standards**: PA content standards, assessment anchors, and eligible content define what our students learn;

- **Fair Assessments:** District common, 4Sight and PSSA tests, and classroom authentic project assessments measure what our students learn;

- **Curriculum Framework:** Big ideas, concepts, and essential questions within a project-based and technology rich setting define our curriculum framework;

- **Instruction:** Our project-based and technology rich learning model offers engaged, rigorous, and digital instruction for all students;

- **Materials and Resources:** Our project-based and technology rich approach offers lessons, authentic assessments, instructional materials, and professional development in Web 2.0 formats for District, State, and global sharing;

- **Interventions:** Project-based learning integrated into technology offers the opportunity to modularize learning experiences based on individual student needs, preferences, readiness levels, and growth patterns.

An innovative feature of our project-based learning model is how the **Standards Aligned System** is applied in the following framework steps for designing and customizing lessons, teaching, and learning and for assessing student progress:

1. **Set high expectations -** Introducing and using real world settings to help all students to achieve their personal goals and academic standards, assessment anchors, and eligible content assessed on classroom authentic projects and PSSA.

2.   **Activate prior knowledge -** Using student prompts or graphic organizers to determine what students already know and want to know about their personal goals and academic standards, assessment anchors, and eligible content assessed on classroom authentic projects and PSSA.

3.   **Acquire data, content, and skills -** Teaching the students to extend their prior knowledge and to acquire new vocabulary, skills, concepts, and other data needed to achieve their personal goals and academic standards, assessment anchors, and eligible content assessed on classroom authentic projects and PSSA.

4.   **Visualize information -** Engaging the students to arrange, organize, and store the data they acquired in step three to create patterns and construct meaning, including student prompts, graphic organizers, and multimedia to engage all students in visualizing the information as part of their role in real world settings.

5.   **Apply knowledge -** Teaching the students to learn from the information they visualized in step four and putting the information to productive use, including student prompts, graphic organizers, and multimedia to engage all students in applying knowledge as part of their role in real world settings.

6.   **Report results -** Facilitating the students to reflect on their prior knowledge and report the results of completing their project-based learning. Students will be expected to produce web sites, wikis, blogs, Web 2.0 presentations, and other technology rich products and performances in our project-based learning setting to demonstrate their personal goals and academic standards, assessment anchors, and eligible content assessed on classroom authentic projects and PSSA.

Project-Based Classroom Delivery System

Our project-based classroom delivery system will transform conventional classrooms into project-based learning settings. The following ten components will support five newly configured classrooms and two existing "Classrooms of the Future" for a total of seven project-based classrooms that will support all seventh and eight grade teachers and students.

1.   A conventional classroom outfitted with a mobile cart containing 24 laptop computers connected wirelessly to the Internet.

2.   Desktop, Internet browser, and Web 2.0 applications installed on each laptop computer including but not limited to word processing, spreadsheets, databases,

multimedia programs, photography, movies, music, web site development, blogs, wikis, social media, scheduling, web conferencing, email, calendars, and search engines.

3.	One classroom teacher for up to 24 students delivering project-based learning experiences in 45-minute periods for five days per week for five or six periods of instruction per day.

4.	Desks or tables arranged in small groups to promote a variety of strategies for collaborative interaction, production, and demonstrations of learning.

5.	One SMART Board including a wireless tablet that allows students to engage and interact with the SMART Board during instruction and assessment.

6.	One data-projector suspended from the ceiling to project any computer image on a screen or white wall.

7.	Two networked printers, including one color printer.

8.	Wireless high-speed Internet connectivity through the School District network.

9.	Daily project-based learning experiences that support teachers and students as 21st century digital learners.

10.	Alignment with the School District Strategic Technology Plan to leverage resources and implement student and teacher expectations described in the plan through the project-based classroom delivery system.

The project-based classroom delivery system offers instruction for each student 45 minutes per day for five days per week for a total of 225 instructional minutes per week. Teachers will develop and carry out daily instructional routines that minimize the amount of instructional time needed to start-up laptop computers and maximize the use of laptops during instruction on a daily basis. The teacher and each student will use laptop computers daily because our project-based approach calls for the *integration of curriculum, instruction, and assessment into technology.*

The project-based classroom delivery system uses a blended-learning model. The classrooms follow a traditional school calendar and daily class schedule with highly qualified teachers in the classrooms, but teachers are not the primary source of the learning content. In our blended model, teachers act as instructional facilitators of real

work projects that students complete with the support of technology resources on their laptops. In this setting, teachers initiate instruction and then encourage and mentor students and provide assistance when needed to help students apply content and complete projects individually and in teams.

The learning climate, culture, and physical aspects of the classroom delivery system will reflect the characteristics of a "project room" or real world work or design setting and not a traditional classroom setting. Over time, the students and teachers will collaborate to develop the culture, climate, and efficacy of our project-based learning setting.

Role of the Teacher

Our project-based learning model and classroom delivery system envision a 21st century role for each teacher. The role is dedicated to helping all students to compete, produce, and lead in our ever-changing society. In this role, our content teachers and technology specialists will focus on using project-based learning to help all students achieve content standards, assessment anchors, and eligible content assessed on authentic classroom projects, District common assessments, and PSSA and other standardized tests. *When implemented with fidelity, this role will transform our current ways of teaching into ways that support our students' learning styles, preferences, performances, and interests.*

To carry out the role, teachers will use LearningFRONT social media and professional development tools to learn, create, and share learning resources. The following teaching tasks describe what is expected of our teachers to support the 21st century teaching role in our project-based learning setting:

1. Connect online daily with colleagues individually and in teams

2. Plan, teach, assess, and analyze the results of project-based lessons and assessments

3. Share best practices and results with colleagues in school-based and online data dialogue meetings

4. Use wikis to edit and share samples of teaching and learning in the LearningFRONT online community and on the Benchmark District Web site

5.   Create online professional learning communities to promote and improve project-based learning in our schools, local community, and worldwide

6.   Contribute to and engage in a blended approach to school-based and online professional development

The impact and contributions of the teaching role described above will be made known through our School District web site and through a variety of online and school-based professional learning communities.

Professional Development

Professional development will support our project-based learning approach through the following online and blended strategies.

- **The Online Strategy -** Teachers work independently using a computer connected to the Internet to complete professional development programs. The Online strategy may involve online coaching or mentoring using social media, eLearningTeacher, and web conferencing.

- **The Blended Strategy -** Teachers combine their "Online Strategy" work using a computer connected to the Internet with the face-to-face support of a teacher, team of teachers, peers, professional learning community, or consultants. For example, a blended strategy meeting can initiate a professional development program that is followed by three online strategy sessions, and, then, teachers meet in a final blended session to demonstrate results.

The following framework will be used to design, develop, deliver, and update professional development to support our teachers' start-up and on-going efforts to implement our project-based learning model.

1.   The teachers will complete and contribute to professional development delivered by the LearningFRONT professional development tool, eLearningTeacher™. It delivers professional development anytime, anywhere to individuals using a computer connected to the Internet. For example, it has been used to deliver training and coaching to beginning and experienced teachers on the job, to prepare graduate teacher education students, to help *Passport to Teaching*^{SM} candidates to prepare for the Professional Teaching Knowledge exam administered by the American Board for the Certification of Teacher Excellence,

and to assist individual users to acquire in-service credits to renew teaching certificates.

2.   Laptop computers will help teachers to access online professional development programs for project-based learning, teaching, and assessment. A team comprised of project-based teachers, department heads, the District Assistant Superintendent, and a LearningFRONT consultant will design, customize, and develop start-up online professional development programs during the Spring 2010.

3.   Each online professional development program will be available to any school or teacher after it is launched in LearningFRONT. The District and LearningFRONT will seek sponsors for the programs to make them available free of charge and customizable through the open content LearningFRONT online platform. Revenues from the sponsors will be targeted to improving current and developing new online programs for our project-based approach approach.

4.   The Online Strategy will take place during planning time, during time allocated in the District calendar for professional development, and on-demand as needed and determined by individual teachers to support project-based lesson planning, teaching, and assessment.

5.   The Blended Strategy will take place during time allocated in the District calendar for professional development and in school-based professional learning community meetings.

6.   The start-up professional development strategies will be completed and field-tested during the Spring 2010. Then, the Online Strategy will be available during the late summer 2010 and thereafter. The Blended Strategy will launch with the beginning of the 2010-2011 school year and continue thereafter.

Long Range -- Scaling Up

We would start the scaling up process for the project-based technology rich learning approach described in this concept paper for the middle school grades identified above. With additional fiscal resources, the start-up year could involve more classrooms. Thereafter, the project-based technology rich learning approach will scale up to all students on a long-range schedule coordinated with our District Improvement Plan (PA-Pact) budgeting processes and additional federal, state, and foundation grant proposals.

School District and LearningFRONT Partnership

The Benchmark School District and LearningFRONT™ will develop a partnership arrangement to design, develop, implement, and continuously improve the project-based learning approach in short and long-range projects. In this partnership, the Benchmark School District is responsible for delivering academic programs to ensure all students complete their educational programs and earn the high school diploma. LearningFRONT is responsible for assisting the Benchmark School District to develop project-based learning programs, develop and deliver professional development, and support the process for scaling up project-based learning to all students.

Funding

By January 2011, this concept paper will be used to guide the development and submission of a grant proposal in response to the Pennsylvania Department of Education eGrant Application/Guidelines for *"Enhancing Education Through Technology."* The Benchmark School District is eligible to receive up to $150,000 of which at least 25% or $37,500 must be set-aside for sustained, intensive, high-quality professional development.

Implementation Sequence

Assuming that funds are available in February 2010, the following phases and steps will guide the Benchmark School District project-based learning approach for *Enhancing Education Through Technology*:

Start-Up Phase (February - August 2010)

1. **By 1 February 2010,** organize a project team to lead, manage, and improve the start-up, beta, and implementation phases.

2. **By 10 February 2010,** execute all purchase orders to procure software, hardware, and networking technology to support the project.

3. **By 15 February 2010,** contract with LearningFRONT to support the project team and the development of project-based and technology rich lessons and assessments and online professional development programs.

4. **By 28 February 2010,** design the project-based and technology rich curricular maps for the first month of school in 2010-11.

5. **By 15 March 2010,** complete professional development with a cadre of lead teachers to develop project-based and technology rich lessons and assessments using LearningFRONT tools.

6. **By 30 March 2010,** develop the alpha versions of project-based and technology rich lessons and assessments for the first week of school in 2010-11.

7. **By 15 April 2010,** field-test the alpha versions of project-based and technology rich lessons and assessments for the first week of school in 2010-11.

8. **By 30 April 2010,** develop beta versions based on field-testing results of project-based and technology rich lessons and assessments for the first month of school in 2010-11.

9. **By 15 May 2010,** develop and launch in LearningFRONT alpha versions of online professional development programs for all project-based teachers.

10. **By 30 May 2010,** field-test the alpha versions of online professional development programs for all project-based teachers.

11. **By 30 June 2010,** develop and launch in LearningFRONT beta versions based on field-testing results of online professional development programs for all project-based teachers.

12. **By 15 July 2010,** develop the online and offline agenda, schedules, and materials for school-based professional development to support project-based learning in the first half of the 2010-11 school year.

13. **By 30 July 2010,** complete all start-up professional development for project-based lead teachers to implement the first month of project based lessons and formative assessment.

Beta Phase (August - December 2010)

14. **By 30 August 2010,** complete start-up professional development for all project-based teachers to implement the first month of project based lessons and formative assessments.

15. **During each month of the beta phase,** post examples of student and teacher work in the LearningFRONT online community and on the District Website.

16. **During each month of the beta phase,** implement project-based and technology rich learning in the seventh and eight grade classrooms and make adjustments for improvement, as needed.

17. **During each month of the beta phase,** implement online and school-based professional development to support teachers implementing project-based learning.

18. **During each month of the beta phase,** conduct meetings of the project team to make adjustments in the implementation sequence based on student performance, ideas for improving project-based learning, and assessment results.

19. **By 30 December 2010,** make adjustments based on the results of the Beta Phase to improve for the full implementation phase of project-based and technology rich learning.

Implementation Phase (January 2011 - June 2011)

20. **During each month of the implementation phase,** continue project-based and technology rich learning in the seventh and eight grade classrooms and make adjustments for improvement, as needed.

21. **During each month of the implementation phase,** post examples of student and teacher work in the LearningFRONT online community and the District Website and build collaborative relationships in global learning communities.

22. **During each month of the implementation phase,** continue online and school-based professional development to support teachers implementing project-based and technology rich learning.

23. **During each month of the implementation phase,** conduct meetings of the project team to make adjustments in the implementation sequence based on student projects, ideas for improving project-based learning, and assessment results.

24. **By 30 June 2011,** make adjustments based on the results of the implementation phase to institutionalize project-based and technology rich learning in the Benchmark School District.

References

George Lucas Educational Foundation - <u>Edutopia Web Site</u>

LearningFRONT - <u>Products and Services</u>