"Where Panthers Roar And Students Soar"

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January 25, 2011

Nellie Mae Educational Foundation
1250 Hancock Street - Suite 205N
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In reference to: NMEF Proficiency-Based Pathways Initiative - Request for Letters of Interest.

Dear reviewers,

This response to your request for Letters of Interest (RLOI) describes a project that has been "In the wings" at the Nashua School District for more than a year. We believe this project aligns with your suggested categories and themes. We further believe the district's educational philosophy and commitment to remodeling instructional delivery map perfectly into the NMEF Proficiency-Based Pathways Initiative. The Nashua School District's Superintendent, Mark Conrad, fully supports this response.

The Nashua School District's two high schools are an ideal location for such an initiative. With 4,000 students, they are increasingly diverse in ethnicity, language and income. In addition, the district, like so many others, is struggling with its budget to avoid increasing the tax burden on its residents. The City of Nashua itself is an ideal environment for testing educational innovation because it draws students from urban, suburban and rural neighborhoods that mirror the many aspects of life in New Hampshire and the country in general.

What follows is an outline of a program intended to significantly increase the number of students who can take advantage of technology courses offered by the Nashua School District.

The project requires innovation and a remodeling of traditional instruction methodology and delivery. It will encourage students and instructors to engage new technology. It will, indeed, demand thinking "outside the box", with the "box", in this case, being the classroom. It will bring a 21st Century approach to technology education in Southern New Hampshire and its proficiency-based implementation will be scalable and repeatable in districts throughout New England and the US.

This letter does not request funding for an untested academic exercise. It, instead, describes a plan that will overcome existing obstacles to technology education by making full use of proficiency-based pathway elements, such as leveraging technology, hybrid learning, time flexibility, robust learning opportunities, and peer-teaching within an existing academic structure. Over the last three academic years, because of state mandated competency-based technology education, some of these elements have been tested and used successfully, yet none have been fully implemented throughout the institution.

With funding from NMEF, the Nashua School District will have the ability to create a plan to remove existing obstacles to a full PBP approach in technology education and further field test successful strategies that could migrate to other disciplines, other districts, and other regions. The district, at the end of the grant period, would be ready to pilot and then implement the program.

Thank you for this opportunity to express interest in your PBP Initiative.

Sincerely,

James A. Pfeiffer

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LETTER OF INTEREST
NMEF PROFICIENCY-BASED PATHWAYS INITIATIVE
DESCRIPTION OF THE PROJECT

Brief Description of the Project

The project seeks funding for the design and development of a 21st Century, student-centered, proficiency-based alternative to the brick and mortar model currently used to deliver regional Technical and Vocational Education in Nashua, NH, Southern New Hampshire, and the United States.

Current Situation: Brick and Mortar Regional Technology Education with Traditional Grading.

The Nashua School District, in September of 2004, after a nine-year design and construction process, renovated its existing high school and built a new high school to accommodate an expected ongoing population of 4000 High School students in the city.

The technical education programs were also expanded, from 6 to the 19. Federal, State and local funds were used for this expansion and with that money came a mandate that the programs be proficiency-based and offered to students in the surrounding communities ("Area students").

Nashua's 19 programs are split between two high schools. and, to take these courses, some Nashua students must commute to the other high school. Coordinating transportation of students each day within the city and from the "sending" schools to the technology course classrooms for 86 minutes of instruction each day is a daunting logistical challenge. This challenge is faced by many school districts in the United States.

In addition and appropriately, the NH State Department of Education has mandated Proficiency-based evaluation within the technology courses. The Nashua School District is philosophically committed to a PBP approach, and competencies have been developed within each department, but the program has not been implemented.

The Problem Defined

Budget Reductions
Transportation costs are rising at the same time communities are increasing their scrutiny of school budgets. This has led to several years of budget cuts in Nashua, making it increasingly difficult to implement the "Area" technical education model.

Uncoordinated Assessment Strategies
Area schools are at different stages on the road to Performance-based-Pathways. Some have fully implemented competency-based instruction. The Nashua School District plans to do this but has not yet. All schools translate their performance-based assessments into letter grades with numerical values in order to generate "typical" transcripts for parents and external institutions. To complicate matters, all technology courses are competency-based by NH Department of Education mandate. Instructors report to the state on a four-step competency scale, and deliver grades to the district on a traditional A-F/100-0 scale.

Maximum Technology Class Size
Technology classes are capped at 18 students per class. Typically, there are 36 physical seats for first-year students. If seats are reserved for traveling students, about 15 seats are available for each Nashua High School and 6 seats or less for area students.

Area school schedules and calendars do not match
Different school-wide testing dates, early release days, delayed openings, vacation dates, assemblies, differing snow days and modified schedules are creating diverging school schedules and calendars among the Area high schools.

Logical outcomes verify the problem
If Area students are required to be physically present in a chair for 86 minutes of instruction per day, mis-matched school calendars and transportation expenses make it unlikely technical courses will have any traveling students. This year, for example, 100% of the area (regional) students enrolled in the video production course withdrew before the start of school.

The Solution Proposed

A hybrid learning model combined with a flexible schedule, alternative education and Performance-based assessment. This includes:

- Webcasts, regional video chat, secure instant messaging, online video instruction, online assessment, collaborative forums, open meeting software, and access to supporting media that is licensed for classroom use.
- Significant reduction in student transportation requirements and costs.
- "House calls" hybrid course instructor travels to regional schools for in-person instruction.
- Use of after-school time and intensive summer courses to provide regional students with hands-on experience in technology labs.
- 100% no-paper web-based instruction and PB assessment on servers installed and maintained within the district.
- Peer instruction and student-assisted course development. Students teach students and aid in the refinement, delivery and maintenance of the "learning system" through internships, learning opportunities, and work-study.
- Student support of professional development. Experienced students help teachers understand and implement 21st century instruction.

The Need for Funding

School districts seek external funding for the development of new programs and practices. School districts are not in the business of research and development. They are in the business of adopting innovative educational strategies, processes and programs to enhance the education of their students. The Nashua School District would not, and should not ask the taxpayers to fund this necessary R&D activity. Appropriately, the NMEF Initiative would fund the described R&D.

Preliminary Budget

The budget for this effort will be approximately $175,000. This budget will be refined, but not likely reduced, in the final proposal.

The budget covers:

- A teacher/developer salary + benefits. James A. Pfeiffer (linkedin.com/in/jimpfeiffernh.)
- Expenses: Travel to external locations and one appropriate conference.
- An administrative assistant or para-professional.
- Technology services either inside or outside the district to provide server support and necessary software for course development activities.
- 100% of the activities described on page 3 of the RLOI document from NMEF.

Timeline

This project will be developed during the academic year 2011-2012, implemented (piloted) during the 2012-2013 academic year, finished by August 30, 2013, and made part of the Technology Center in September of 2013. The district is aware that the initiative only funds R&D for one year and one month (April 1, 2011 – May 30, 2012). If full implementation can be achieved in September of 2012, or if the district agrees to a smaller pilot approach for the first year of operation and funds that effort, no additional external funding would be necessary.

The Approach

Curriculum	Assessment	Professional Development	Technology	Infrastructure
Establish and track concrete Indicators mapped to state competencies so that students fully understand the behaviors they must demonstrate and the skills they must have to achieve PBP proficiency.	Develop an Area school approved matrix that translates PBP evaluation to grade point averages, credits, letter grades and numeric grades, so technology assessment is consistent in all schools. Develop skill-based practical examinations to replace traditional asessment.	Through approved internships, Extended Learning Opportunities, and high school work-study programs, identify and recruit tech-savvy students to help teachers master 21st Century classroom technology.	Move all course material, resources, assets, assessment and texts online through the use of open-source software and technology (e.g., Moodle, Sakai). Complement online instruction with "home visits" to area schools. Explore and implement effective third-world technology solutions in response to budget crisis years. (e.g., Umbuntu laptops for editing.)	Rethink class time to include out-of-class research. Log that activity online. Employ competency "progress bars" online to present students with their Performance-based status hourly. Partner with institutes of higher education to establish an application-free path to a reasonably priced BA or BS.

Goals and Objectives

Goals

- To develop and implement a solution to the logistical problem faced by the district and the area.
- To eliminate the problems presented by traditional approaches to technology education.
- To bring technology education to more students in the area and thereby achieve the vision behind the creation of the Nashua Technology Center programs.
- To design a PBP assessment strategy that satisfies the needs of the state and the schools and moves every stakeholder toward practical PBP assessment in every department.
- To develop a scalable and repeatable PBP model that can be used for regular and STEM education throughout New Hampshire and the United States.
- To develop a structure and framework that will easily migrate to administer, track, manage, and enhance student performance as districts move toward Common Core Standards.

Objectives

- Eliminate logistical problems by implementing a hybrid approach to technology education by providing a concrete example of one technology program following the model.
- Remove current obstacles to technology education in the greater Nashua area by expanding offerings outside of the normal 7a-2p school day.
- Establish greater integration with area schools to offer and then conduct this hybrid solution.
- Achieve agreement in the region or state-wide on assessment tools and practices to eliminate conflicting home-brewed approaches.

Deliverables in Place at the End of the Grant Period

- A functioning server with software that allows 100% of one Nashua technology course to be offered as a hybrid model online.
- A single technology course on the server with a repeatable template and substantial capacity for additional courses.
- A technological infrastructure that would support the conversion of all technology programs to the hybrid model over five years.
- A logistical plan for the single hybrid course that allows for remote and local instruction online and in person.
- Documentation for teachers and administrators that explains the plan and the implementation of the plan.
- A "road-map" to help regular education teachers adopt technology course PBP best practices and create a template.
- A video-based documentary that covers the work made possible by the grant, beginning with the award announcement and ending with student reaction to implementation. (Delivery: June of 2013) Source video available as it is recorded.

Staff

- Experienced Technology Teacher/Developer, James A. Pfeiffer – see biography below.
- Technical Support professional with experience in online course management.
- Hourly/daily consultants in specific technology areas necessary to implement the plan.

Potential Partner Institutions (All have been approached, but none have been asked to commit at this stage)

- *Area High Schools*. One or two area high schools willing to work on the project with the Nashua School District.
- *Nashua School District*. Support from the Superintendent of Schools and Board of Education.
- *NH Department of Education*. Positive support for this initiative from the NH Department of Education.
- *Nashua Technology Center*. Support from the Director of the Nashua Technology Center.
- *Nellie Mae Educational Foundation*. Funding by the foundation.
- *Nashua Community College*. Establish a partnership that provides a smooth transition to affordable post-secondary education.
- *Government Agencies and Organizations*. Support and advice from government agencies, e.g., NASA and the FAA interested in technology education (STEM – Science, Technology, Engineering, and Math).

James A. Pfeiffer – Short Biography (For more, see: Jimpfeiffer.com – linkedin.com/in/jimpfeiffernh)

James Pfeiffer came to the Nashua School District in 2003 to open the TV Studio and teach video production broadcasting classes in the Nashua Technology Center. Proficiency-based education was the goal for all programs from the start. As a result, Pfeiffer implemented computer-based strategies to track performance and re-tooled classroom exercises to match state-mandated competencies. Critical to this work was the development of web-based hands-on indicators, hands-on activities students could do, and skills that students could demonstrate, that mapped into state competencies. He has long believed that hybrid education holds the solution to many of the obstacles that technology education faces, but, with a full teaching load, he has not had time to work on documenting repeatable solutions. The potential of this grant would eliminate that obstacle and allow Pfeiffer to suggest and promote a path to full PBP implementation for area schools in Southern New Hampshire.