

Idaho Technology Pilot Project Grant Application Assurance Sheet

Project Title: Parma Technology Project Amount of Request: \$83,567.59
 District Name: Parma School District District Number: 137
 School Name: Parma Middle School School Number: 0282
 Project Duration: 1 July 2013 - 30 June 2015

By signing below, I certify that we have submitted an Internet Acceptable Use Policy to the State Department of Education, and have attached to the submitted documents as reference. I also certify that we have submitted a Technology Plan that meets the minimum requirements, and have attached to the submitted documents as reference.

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Step 2: Abstract

With more than a decade of the twenty-first century behind us, the challenges of evolving technologies and their implications in education become clearer. Technologies that have stood the test of time take their rightful role as necessary to providing quality instruction; experiments that proved overpriced or underperforming fell by the wayside. What has emerged is a clear vision of what is referred to as the Next Generation Learning Environment (NGLE)—a model in which every student can be supplied with tools “to provide a solid foundation of knowledge and skills on which [to] build a rewarding career and life of purpose,” which is the mission of our district. The NGLE--by virtue of its background of data-based research and applied field-testing of cutting-edge technology--can offer individualization and differentiation to diversified learners, with strategies that engage digital nativism and relate content in a meaningful way.

The project outlined within this application proposes to meet not only the immediate needs of Parma Middle School’s Next Generation Learners, but also to “match future learning experiences with advanced learning resources” as posited by the agency responsible for the concept (Office of the Under Secretary of Defense www.adlnet.gov). Thus, we look not only toward bridging existing gaps, but also to laying the groundwork for the paths that will be taken by these students as they step forward into the workplace and assume leadership in the mid-2020s. A panoply of stakeholders have put heads together to assess current needs and to create a proposal for this Technology Pilot grant that will best meet requirements to improve student achievement. Those stakeholders represent not only the middle school itself, but the “book-ends” of achievement; that is, the elementary and high school that make up the other parts of this three-school district have agreed that the logical site upon which to focus the resources of the Pilot is the middle school, where students are most apt to “flounder” in that critical time and age category where interest can flag, home support can waver, extraneous influences can prevail, and self-realization can falter. In joint agreement, Parma Schools supports this two-year Technology Pilot in the following significant areas: **1) Infrastructure, 2) Digital Content, 3) Technology Equipment, and 4) Professional Development**, all of which work together to transform the classroom to a smooth-running, compelling, challenging atmosphere of goal-setting and accomplishment, with refinement of knowledge and skills that promote cognitive adaptability in a technology-mediated world. Components include items such as network switches, interactive online curriculum, multi-touch interactive surface display tables, and training for all instructors in the inter-relationships of technology, instruction, and achievement.

Our proposed expenditures correlate directly to areas of need, which when met will lead to marked improvement in student achievement. Current shortcomings include below-proficient standardized test scores, academic credit deficiencies, poor grades, absenteeism, behavioral misconduct, lack of literacy, mathematical underperformance, and other subject-related inadequacies toward making progress into high school and beyond. Additionally, this project intrinsically adheres to the four critical categories of *connection, collaboration, networking, and Common Core Standards Evaluation (Smarter Balanced)*. Our goals are to create an NGLE that will meet each of the needs and bring measurable improvement for every student in a way that is economically and rationally scalable to every other school in the state. This application metricizes overall cost and breaks it down into a per-student two-year economic figure that shows each of the bulleted categories above, each vital to an NGLE, can be attained and sustained, bringing with it empirical gains in student achievement.

Step 3: Educational Need and Goals

The academic, social, intellectual, artistic, mathematical, scientific, literary, and creative needs of a middle school student remain as they have for generations a “tall order” to fill; yet added to the challenge is the fact that these needs are changing every year, every day, as the world itself changes. The inherent nature of the pre- and neo- adolescent is that of a changeling, fired by growth spurts, hormonal surges, a burgeoning sense of autonomy and a lingering attachment to dependency. As their parents continue to love and nurture them nevertheless, so do we at school stand by them as we sympathize with their struggles, practice patience against their impatience, and assist them in attaining a solid education while at the same time searching for their individuality and allowing them to establish their own codes of comportment while bolstering them with pre-established sets of norms.

Parma Middle School does not stand alone in these regards to students in grades five through eight; every other middle school faces the same difficulties. But we have our own set of impediments, based upon such circumstances as rural isolation, a high mobility rate, elevated poverty, a number of students with special health issues, families affected by incarceration and criminality, non-native English language speakers, migrancy, homelessness, and broken homes. While our counterpart schools might have any or several of these hurdles to overcome, we have all of them. Knowing our students come from these backgrounds, we discuss the issues, investigate them situationally and via scholastic research, and try every way we can to meet them head-on. We have been assisted in our quest by Capacity Builders and the bastion of Indistar, with the WISE Tool and WiseWays as guiding lights. We are earnest in our desire to provide education that will result in high test scores and other measurable positives. We know success rarely comes overnight, yet we are frustrated that our assiduous campaign for improvement yields results so slowly.

Because our elementary and high school—the single school before us in the district and the one next in line chronologically—are both doing relatively better (elementary and high are both 4-Star status schools; Parma Middle School is 3-Star status--60%: 36/60 points and 15/25 points), we wonder what can be the marker here, that elusive component that is holding back Adequate Yearly Progress. We are governed by the same superintendent (who by the way was Idaho’s Superintendent of the Year for 2011), the same energetic and supportive school board (of such stellar quality that one trustee who just recently retired was honored with an Award of Merit by the Idaho Association of School Boards), the same district business manager (also a state award winner), and a principal who is a past winner of State Middle School Principal of the Year. We have up-to-date facilities, a community that shows its solid support at the polls, and documentation of hours and hours of work on School Improvement. Our final conclusion is this:

What Parma Middle School lacks is full implementation of modern educational technology to make our classrooms ready and operable as Next Generation Learning Environments.

Parma Middle School enters Year 8 of School Improvement Status with the harsh descriptor of Adequate Yearly Progress once again “not being met,” and targets continue to be missed in Math Proficiency for Economically Disadvantaged students. Latest numbers include these in the table:

ISAT Reading 87.6	Mobility Rate 34%	Poverty (free/reduced lunch) 70.4%
ISAT Math 71.1	Homelessness 1%	English Language Learners 12%
ISAT Language 69.6	Migrancy 7%	Behavior: 79 suspensions during yr.

In both formal surveys and informal discussions during advisory periods, etc., our STUDENTS clamor for technology—both directly and tangentially (*CEE Survey, Center for Education Effectiveness*, Feb. 2012). That is, while they explicitly voice their desire for inclusion of technological instruction via specific devices and methodology, they also express awareness of shortcomings that can be expeditiously addressed through technological additions. These include dissatisfactions in being provided with early intervention, effective monitoring, personalized instruction, and provision of assessment data. A technologically driven system of instructional delivery and evaluation would address all of these concerns.

PARENTS also unequivocally express the need for technology in the middle school. This is made clear in a number of forums, including the Parent Involvement Analysis, undertaken in a two-part session on November 1st and 3rd, 2011, and even more recently in an extensive survey given to middle school parents in March of this year by the Parma 21st Century Learning Center. Alongside explicit directives for more “computer literacy,” “technology activities,” “telecommunications,” “computer games,” “enrichment technology,” “technology literacy,” and so on, parents also called out for more emphasis on “critical thinking skills,” “engineering activities,” “robotics,” “problem-solving skills,” “self-esteem enhancement,” “video film production,” and other skillsets that can be jump-started and sustained through technology infusion.

Our SCHOOL BOARD also recognizes the need for the technology that supports Next Generation Learning Environments. In a communique to the Parma superintendent written on behalf of the entire board of trustees, the following bullet points were included as they advised him on what they would like to see addressed on the subject of school reform, as he prepared to attend “Leadership Boise,” upon being selected as a delegate to that educational panel:

- “Computerized, interactive homework assignments. Saves teachers time, and also allows the student to work through the problems at their own pace with immediate feedback.
- Increased use of electronic text books.
- Investments in new hardware such as our smart projectors, or the interactive [table] that you had the opportunity to see in action.
- Continued use of electronic class schedules, tests, course syllabus, parent communication, etc.”

(Jeff Johnson, 27 November 2012)

As our greatest stakeholders recognize the need for specific, precisely directed, innovative technology for school improvement and increased student achievement, and as it is backed up through data-based research and contextual evidence, we submit the request for this Technology Pilot grant, and seek the goal of remediating each of these academic needs within the two-year span of the project.

Step 4: Scope & Sequence

Pre-planning prior to submittal of this application provides first steps toward creating and maintaining clear vision among all participants to underpin smooth and logical sequences of meaningful activities that lead to preferred outcomes. Bottom line: The ultimate goal of this pilot project is **improved student achievement**. From that endpoint, we cannot overemphasize the importance of stakeholder buy-in and shared visualization, which when articulated will not only drive the project but will assure growth in measurements made in the ongoing and final assessments. Therefore, our first task is to clarify the role of each participant. The school board will expect an ongoing report of progress, as well as detailed accountability of expenditures. The superintendent will mandate the principal to make these reports, as the latter directly oversees the work of the teachers as they unroll the project, with first-hand and team-generated oral and textual commentary gathered on a continual basis throughout this year and next. If the ambitious reporting template sounds unsupportable, let us say we have already established groundwork for strong documentation and communication. Middle school teachers regularly participate in multiple groupings like grade-level pairings, shared-subject teams, a leadership team, and temporary ad hoc committees for special purposes. While under the improving influence of Capacity Builders, our staff was trained in process of establishing meeting norms and grilled in the importance of setting agendas and keeping team minutes, which are digitally collated. Therefore, we fully commit to keeping a detailed record of the unfolding of this pilot project, so that not only can we keep the project on track, *but for purposes of scalability among other schools, we will have a comprehensive written chronicle to share with other districts.*

Assessment of success can be shown regularly through progress monitoring, which will occur at least every two weeks with students deemed at-risk in any of three areas as determined by ISATs, IELAs, and the prior spring's AIMSWEB report. This will keep the school's finger on the pulse of improvement in achievement, with summative assessments via ISATs and IELAs, and further indicators seen through discipline slips, attendance records, and so on.

The technology requested within this application provides the tools we need to

- 1) **Run digital programming in an expeditious and seamless way**, the reason for the large allocation for infrastructure improvement, the pipeline that makes it all happen. Our current system demonstrates our own "half-way" point that drives the purpose of this grant in getting technology out to schools who have sincerely *begun* to incorporate 21st Century tools but cannot quite "get there." Software programs mandated by the state or previously included to meet immediate needs but not shored up by infrastructure to allow full implementation--along with an idiosyncratic setback of being one of just five school districts who did NOT receive IEN services for many of its first years--means this district has often had to play catch-up with broadbanding, etc. Installation of high-powered switches in internet wiring of the buildings will secure the basis of all other tools requested in this project.
- 2) **Provide meaningful digital content through highly interactive and engaging curriculum**, especially in 5th/6th grade science and 5-8 math. Our elementary school has had EXCELLENT results in using Pearson EnVision digital math curriculum. When we see that students perform well up through grade four, then experience a drop when they reach middle school, it seems a no-brainer that we would follow their lead in choosing the same digital content. Likewise, the HMH Science Fusion curriculum makes content available to parents and students 24/7, with a gamut of immediate explanation as well as enrichment, pinioned by targeted instruction, scaffolding, prescriptive intervention, Smarter Balanced assessment, and all of the other facets of Common Core State Standards and inquiry-based instruction. Math

story problems and embedded science exposition will consequently boost student achievement in other areas of need—Reading and Language. Speaking of the latter, the highly visual and aural qualities of digital content will be of special consequence to our English Language Learners, who are targeted for improvement in our ISAT goals.

- 3) **Introduce innovative equipment for Next Generation engagement and high-level learning**, with emphasis on inquiry and collaboration, and broad-based application among academic disciplines. This equipment aims at a full integration model, to be used among all subjects and levels in two experiential modes. The first is the electronic tablets, which seek to blow-out the walls of the traditional “computer lab.” A portable charging station keeps them organized and within the radar at all times. These handheld devices offer instant access to research, keep editing tools such as dictionary and thesaurus at hand during composition, and make any classroom a laboratory or theater or virtual field trip. Promethean ActivTables, placed in a designated room available by sign-up to any teacher, allow groups of up to six students per table to participate and collaborate in team investigation, and can be monitored by the instructor not only for substantive qualities but for ratios of involvement among the table team. This ensures that each student will fully participate. This cutting-edge technology is very important to a pilot project, as it experiments with the limits of what technological tools can do to promote student achievement. The accounts kept during this trial period of highly collaborative, inquiry-based study, undertaken with the kick-off of Common Core Standards and Smarter Balanced evaluations, will be invaluable to other schools throughout the state. Another note on our ActivTable setting: This room, at district expense, will be outfitted with Menlo-Park-type accoutrement; i.e., colorful additions of a small aviary, fish tank, terrarium, cloud charts, solar system model, interactive board, etc, to serve as “stations” of inquiry while the dozen classmates take turns at the tables.
- 4) **Intensive, multi-site, trickle-down, cascade-up Professional Development.** Training is keystone to this project. Teachers and administrators require understanding, first of the intention of the project, with its inextricable link to student achievement via its tie-in to CCSS and SBAC. Therefore, #1 priority after or alongside the infrastructure reinforcement is an orchestrated introduction, conducted by the principal and experts appointed by her to explain in detail the intent, purposes, and methodology of the project, and to assign roles of leadership among the staff for scaffolding of information and results. A local budget for professional development will be dovetailed with the allocations of the pilot project for double bang-for-buck and full connectivity of philosophy and operations.

A preliminary timeline includes 1) upgrade of **infrastructure** to begin immediately upon notification of funding. 2) School year 2013-'14 will begin with **professional development** as described above and will continue formally during in-services / informally as needed. Some PD will be aimed at extracting better instructional practices from *existing* technology. 3) Orientation for parents of all students, with special sessions for all math and 5th/6th science will be presented as well, as **digital content** will start up this fall. 4) **Equipment installment:** Thoughtful and methodical planning of the ActivTable room, which need not be “open for business” until semester-change in January 2014. The electronic tablets can be ordered right away, but they will NOT be launched until widespread training has occurred so that students and staff can get the most from them. 5) The schedule of **assessments** is described above as well as reference to ongoing teacher team meetings, yielding continuous impetus and reflection to the project. 6) We want to give this project every chance to succeed so will go all the way through the 2014-15 school year, with an added report to SDE in June 2015.

Step 5: Sustainability & Scalability

This Technology Pilot Project takes full advantage of the goal of its formulators to provide an energetic leg up to those schools that either have extremely limited access to technology or, like us, have managed to get “about half-way there” but not to the extent that we can step across the void and reach Next Generation Learning Environment status without some outside help.

Once we make it there, however, we can offer assurance that the project can be **sustained** by the school district. We can offer evidence of impending self-sufficiency through a number of tangible outcomes and projections.

First, the improvements to the **infrastructure** bring it ultimately and truly “up to speed” to handle *existing* devices and programs, those *further requested in the grant proposal*, and others *yet to come*. Like many other schools—especially small rural ones such as ours—it has been a constant game of Catch-Up as we scramble to put into place the substructure not only to get equipment and software up and running, but to distribute the electronics so that one system isn’t suffering while another “sucks up” all the bandwidth, etc. This renovation in our transceiving capability levels the playing field and allows our regular budget an adequacy in *maintenance* and *sustenance*.

Second, the math and science interactive curriculum, like infrastructure, gets us off the ground and onto the higher playing field where we can begin to compete with larger schools who have stepped into the realm of **digital content**. Unlike a regular textbook replacement policy, wherein over time and in rotation a budget can be manipulated to pump money into one area one year and take it easy for the next few years while turning to another subject, the change to electronic, interactive curriculum requires a paradigm leap. Alongside this incipient entry into interactive curriculum comes the start of a new cycle of renewal, rather than replacement, for which we can plan and allocate local funds.

Both the science and math content we are requesting in this application propel our classrooms toward becoming Next Generation Learning Environments that will bridge the gap between guided practice and interactive learning as we make the change to Common Core State Standards. The program features of this digital content allows 24/7 access by students, teachers, and parents to the lessons, further explanation, extra links, and other increased instruction. This full-time access fits neatly into the around-the-clock outreach currently being built through our website, through parent log-ins to student performance sites, and with other connections such as CIS (Career Information System) that *virtually* opens the school doors on weekends, holidays, and overnight. These are trends that are here to stay, and our district is committed to supporting these amenities. Once begun through the auspices of the grant, they will be continued through district support.

Third, the **equipment**, like the digital content, provides a base of operation, going from “nothing-to-something” in the cases of both the electronic tablets and the interactive tables. While the tablets are becoming almost “common” in many places, the tables are very innovative—we might say cutting edge—and we believe this experimental quality is important for a pilot project. While we usually labor merely to “keep up” with technological advances, these interactive tables catapult us a distance *forward*, and allow creative minds and excellent instructors within the district to experiment with methodology that could quite well set new

standards for other districts throughout the state.

Fourth, the district joins this project in sharing costs of **Professional Development**. This tandem effort provides proof that our school district recognizes the tremendous importance of PD and will sustain the movement of keeping teachers and staff well-trained in contemporary pedagogy.

As for **scalability**, we are confident that this project could be duplicated in a cost-effective way throughout the state, and that the four components we have set in bold above are the keys to going from “inadequate” to “exemplary” toward reaching Next Generation Learning Environments and improving student achievement.

Our technology pilot project provides a model for reaching Next Generation Learning Environments by

- 1) establishing a sound **infrastructure** that can smoothly, efficiently handle the “load” of technological tools. A certain irony is evident when we realize that the small rural school—relatively remote, limited in financial and other resources and therefore most in need of the advantages that technology can offer—is also often the last to attain the means to access technology in a uniform and reliable way. The upgrade we request here is aimed at bringing peak performance, which other districts of similar size and situation can emulate.
- 2) offering basic subject matter through **digital content**. For a long time now, even non-professionals have recognized that students live “two lives”—the “real one” and the one at school. Digital content breaks down old stereotypes about how we learn and relies instead on data-based research to construct and supply instruction with engagement and engrossing problem-solving, real-world challenges, hands-on activities, video-based projects and other absorbing methodology that pique and hold students’ interest and lead to increased student achievement. We believe this transition from textbook replacement to digital content will offer a prototype for other Idaho schools like ours to see how this bridge to a Next Generation Learning Environment can be duplicated, with similar positive results.
- 3) incorporating technological equipment into instruction for all students. Various classroom units using electronic documents will be undertaken, with documentation (including pictures) of successful projects, etc., that will be shared in our reports and through other venues such as conferences and workshops. We are especially excited about the interactive tables, as they represent the cutting-edge quality important to a pilot project. We are scheduling a full six months of planning and preparation before we begin to avail ourselves of their possibilities, because we want to do it right and have outstanding results with them to share with other schools throughout Idaho.
- 4) Our district is building a reputation of providing high-quality, highly applicable Professional Development. Merging district funds with pilot grant funding will guarantee ample, appropriate PD and set a standard for other schools to recognize its importance.

Total project cost of \$83,567.59 divided among 317 students, stretched between two years, results in a total per-student/per year cost of \$131.81. Furthermore, as we explained in Step 4, because our school has a protocol for chronicling educational events through team meetings that begin with agendas, continue with minutes, and are documented by an archive, *we can supply a compendium of experiences for other schools to follow.*

Step 6: Budget Narrative & Spreadsheet

A large allocation for strengthening **infrastructure** is crucial to all parts of the plan, as well as to running existing technology within the school. Our situation typifies the modern Idaho school sincerely attempting to bring technology into the 21st century, while scrambling to provide state-mandated databases, equipment to run critical software, and so on; adding to our particular struggle was the fact that IEN was totally unavailable to us and four other districts in our area until only recently. Through assiduous combined effort, we have managed to become a school “half-way” at seamless and efficient technological service. It takes 100%, however, to provide substructure to run all equipment and programs so teachers and students don’t encounter glitches and frustrations. The six expenditures listed for switches, adapters, transceivers, cable, and installation labor represent a package deal to bring streamlined efficiency, allowing high-speed operation of all tools of this project as well as those in existence. It is the basis of moving toward an NGLE, permitting all pieces of the project to work at increasing student achievement. The resulting infrastructural system can serve as a model for other districts.

Digital Content is focused in science and math. Both interactive digital curricula are comprehensive and interactive, with hands-on application, real-world challenges and video-based projects geared toward development of critical thinking skills to prepare students for success in workplace, higher education, and real-life situations. These curricular inquiry lessons provide three levels: directed, guided, and independent inquiry—all outstanding components for reaching CCSS, while supporting a strong language module in story problems and exposition. These factors are essential for our English Language Learners and ALL students as they strive in this middle-school period of their lives to make sense of subject matter and absorb material for immediate and later use. Again, we are currently ‘way below the mark on providing digital content to our students; even “textbook replacement” in its old style has been a struggle; this pilot will send us one giant leap forward in attaining NGLE.

Equipment expenditures as listed consist of a classroom set of electronic tablets that can be used outside the regular computer lab setting, freeing up space to allow research, composition, video-learning, etc., to occur more often and in a more natural setting. District funds will increase wireless areas to accommodate usage. Interactive tables take a step into the future; we believe that a surge forward is an important experiment to be tried, documented, and shared with other districts. Both the tablets and the tables provide irresistible engagement for students, and avid and engaged students = good learners. The Promethean ActivTables will go into a designated classroom (an open one is available), which at district expense will be accoutered with Menlo-Park-style items of bright and attractive interest from all disciplines (aquarium, solar-system model, busts of authors, flags of nations, interactive screen, etc.) so students can cycle through stations of study, application, and inquiry in an immersion of content and activity. Tables are designed to allow instructors not only to monitor the actions of group involvement, but also the INDIVIDUAL contributions of students within the group to the task at hand, so that every student can be observed and provided individualized encouragement and support.

Allocation for **Professional Development** has been set by cost-sharing/dovetailing with district PD funds and events. Prices for bringing in professionals to the district to present on RTI, etc., usually run about \$125 per attendee, often including lunch, etc. Forum fees, stipends, etc. often run about \$500 to send a person to a conference in Portland or Seattle. These two figures bring about the average cost listed of \$312.50 each for 20 PD instances over two years. Because this is probably only half enough, and because our district recognizes the importance of PD for executing important initiatives and this new technology, it will match grant dollars.

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Category	Item	Description	Number	Cost per	Total
Infrastructure	Ethernet switch	Cisco Catalyst	17	\$1,799.95	\$30,599.15
"	Fiber Optic Adapter	Tripp Lite	10	\$29.95	\$299.50
"	Tranceiver	TAA/Cisco Compliant SFP	10	\$99.99	\$999.90
"	Fiber Optic Cable	Tripp Lite	2	\$29.95	\$59.90
"	Tranceiver	Cisco GLC-LH-SM 1-port	2	\$109.95	\$219.90
"	Installation labor	Switch configuration per switch	17	\$300.00	\$5,100.00
Digital Content	Envision Math	Digital math courseware, grades 5-8	231	\$24.47	\$7,756.99
"	HMH Science Fusion	Interactive Digital Curriculum Gr. 5	71	\$23.55	\$1,648.50
"	HMH Science Fusion	Interactive Digital Curriculum Gr. 6/5 mo	85	\$42.75	\$3,633.75
Equipment	Electronic tablets	Dell w/portable charging station include	25	\$400.00	\$10,000
"	Interactive tables	Promethean ActivTable	2	\$8,500.00	\$17,000
Professional Development	All-staff inclusive	Inservice, off-site, teach-to, etc.	20	ave. \$312.50	\$6,250
			GRAND TOTAL		\$83,567.59