

Integrating Laptops into High School Curriculum:

A Grant Proposal


by

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**Abstract**

Owatonna High School students need technology in the classroom such as laptops to create a learning environment that is engaging and high interest. Due to current limited and lack of resources, students would benefit from technology enriched curriculum into core classes such as English, social studies, and science. Grant funding will allow Owatonna High School to purchase the necessary equipment, develop a curriculum utilizing technology, and provide training for staff. Information and results will be disseminated through local media coverage, and student presentations at the local and state levels. The goal is to establish resources and opportunities in the classroom at the secondary level to students preparing them for the future and success. The grant proposal outcomes improve engagement and participation of students and enhance the professional development of teachers.

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*Table of Contents*

	Page
.....	Page
Abstract.....	2
Chapter I: Introduction.....	5
Statement of the Problem.....	6
Purpose of the Study.....	6
Definition of Terms.....	7
Methodology.....	8
Chapter II: Literature Review.....	10
Chapter III: Project Goals and Objectives.....	21
Chapter IV: Methodology.....	24
Evaluation Plan and Tools.....	27
Dissemination Plan.....	28
Budget.....	29
References.....	31
Appendix A: Cover Letter.....	34
Appendix B: Tables.....	35

## Chapter I: Introduction

Imagine a classroom in which the students – all of them – are excited about school that they can hardly wait to get there. Imagine a classroom with students occasionally being leader of the classroom. Imagine a classroom where students are engaged and interested because they have technology at their fingers. Our students live in a digital world. “They come to school hoping for a learning environment as multisensory and stimulating as the outside world but are often disappointed by old-fashioned textbooks and low-tech approaches” (Lamb & Johnson, 2006, p. 54). Students need visual aids and they also need to be active or incorporated into the lessons. Keeping children in school is important and getting children engaged is imperative. We cannot continue to educate our future children the same way we were educated. According to “20<sup>th</sup> Century Classroom vs. the 21<sup>st</sup> Century Classroom”, at Owatonna High School, we are currently educating our students the old fashioned 20<sup>th</sup> century way (sit in desks, teacher lecture, textbook driven, passive learning, little student freedom, and sometimes work in isolation within the classroom walls). At Owatonna High School in Owatonna, Minnesota, we want to be proactive and educate in new 21<sup>st</sup> century way (more research driven, active learning, more student freedom, curriculum connected to student interest, and work collaboratively in a global classroom).

In addition to our lack of technology in classrooms, students entering ninth grade is a hard transition to make. “More students fail 9<sup>th</sup> grade than any other year” (Wheelock & Miao, 2005, p. 1). Research also says, “The most powerful predictors of whether a student will complete high school include course performance and attendance during the first year of high school (Allensworth & Easton, 2007, p. 6). Therefore, we must develop programs within schools and classrooms to keep kids in high school and engaged. Owatonna High School implemented a program called the academy for struggling students entering their ninth grade

year. This program involves smaller class sizes, more support, and a family type atmosphere. The academy serves approximately one-third of the ninth grade class (140 out of 380). These students enter the program with different backgrounds. Special education students, English language learners, students with poor attendance, students with low reading NWEA test scores, junior high recommendation, and underachieving students make up the population of students in the academy at Owatonna High School. All of these students had a bump in the road along the way and cannot be educated the same way as the other students during the ninth grade year. The problem, however, lies in that the academy does not have technology in the classroom to keep these kids engaged and actively learning.

### **Statement of the Problem**

A problem exists that classrooms lack technology and educational needs of students entering ninth grade are not being met. Technology and laptops within the classroom could significantly improve school performance and expand students' post secondary opportunities for the future. Currently, in the Owatonna High School Academy, we do not have any laptops for one-on-one use. Using such equipment would allow students to read, type, communicate, research, and be creative individually, with a group, or with an entire class. Teachers will be able to diversify lessons to meet these needs of students and keep them engaged.

### **Purpose of the Study**

The purpose of this proposal is to obtain financial resources necessary to purchase and integrate laptops within the classroom to secondary students.

## **Definition of Terms**

**Academy.** The academy is a transition program for a select group of ninth grade students teaching core classes such as English, social studies, and science. The students were selected based upon low reading scores, low academic achievement, poor behavior, poor attendance, special education students, and junior high recommendation.

**Blackboard.** Blackboard is an online virtual learning environment. Blackboard allows for schools and teachers to design personalized learning experiences that enhances every student's success. Blackboard allows for collaboration and communication between students and staff as the classroom can extend outside the school building.

**eBook.** eBook is an electronic version of a traditional print book. An eBook can be read by a personal computer or a handheld reading device. An eBook can be purchased online and downloaded within five minutes.

**English Language Learner.** An ELL (English Language Learner) is a student that speaks English as a second language.

**iPod.** An iPod is a pocket sized device used to listen to music, watch videos, and other media capabilities created by Apple.

**NWEA.** (Northwest Evaluation Association) NWEA is a standardized assessment that is commonly used for students of all ages and grades in the areas of reading and mathematics. This test is not timed and students complete a certain set of questions. The test gets harder as students get answers correct and easier as students get answers wrong.

**Read 180.** Read 180 is a Scholastic reading intervention software used by students to improve reading fluency and comprehension. Each student that has access to this software holds a license that the school has purchased as each school can only hold a certain number of licenses.

**Read Naturally.** Read Naturally is reading intervention software used to improve a reader's fluency, vocabulary, and phonics. This software has a wide range of ability levels and matches the students with stories of high interest.

**Smartboard.** Smartboard is an interactive white board using touch to control computer applications. Smartboard is controlled and operated by a computer that allows students and staff collaborate, draw, or interact with information on the screen. All things done on a Smartboard can be saved for future use.

**Special Education Student.** A student that has a disability and receives additional services from a special education teacher is a special education student. This student is on an IEP (Individualized Education Plan) and will receive services along with individual goals and accommodations.

**Survey Monkey.** Survey Monkey is a free online software used to create surveys, tests, or quizzes with set templates and responses.

**WebCT.** WebCT is an online virtual learning environment. Potential capabilities of WebCT have tools such as discussion boards, mail systems and live chat, along with content including documents and web pages.

## **Methodology**

Chapter two will review current literature in the fields of technology in the classroom. Specific topics include: Current technology in the classroom, benefits for technology, adolescent literacy, passing classes towards graduation, preparing for life after high school, and motivation for students.

Chapter three follows with goals and objectives associated with technology and how it will be implemented.



Chapter four outlines a timeline/action plan along with a budget for equipment and how money would be spent. Also included in this chapter is an evaluation plan to assess effectiveness. A dissemination plan is laid out for communication.

Finally, the grant cover letter and proposal are attached.

## **Chapter II: Literature Review**

Implementing laptops into the classroom curriculum will promote success now, tomorrow, and forever. "Technology can take curriculum and instruction to another level. Children today are visual learners -- it can be very helpful in delivering instruction" (Hardy, 2006, p. 1). Technology can engage students into learning and also provide them with the personal visual aid that is needed. "Laptop computers can truly change the way teaching and learning occurs, both in and out of the classroom. The students are able to use the technology wherever they are located; they do not have to wait until they get to a lab or back to a classroom" (Barron, Harmes, & Kemker, 2005, p. 124).

### **Is Technology Lacking in Classrooms?**

"Students routinely use wireless Internet with their own computers on college campuses, but it's less common in high schools and that may change" (Lemagie, 2009, p. B1). Times are changing rapidly as high school students spend the majority of their time on cell phones, iPods, or computers in all settings. However, when students get to school, all of these prize possessions that students cannot live without get put away and not utilized in any shape or form. For example, several high schools are battling policies and whether they are effective regarding cell phones in school and the distraction it causes. "That's why 69% of American high schools have banned their use or even possession on school grounds, according to figures compiled by Common Sense Media, a nonprofit group that studies children's use of technology. But those policies don't work" (Johnson, 2010). Common Sense Media continues to state that more than 70% of American high schoolers carry a cell phone, Pew reported in June. Common Sense Media found that they send about 440 text messages a week, a quarter of those — more than a hundred a week — while in class. Schools make a case in defense because personal technology usage in schools can be a distraction and used for cheating. Students are able to ask friends for

answers, browse the internet for answers, or even take pictures of quizzes to show friends at a later time with personal technology.

Moreover, students do have access to computers in labs but it is extremely limited unless the classroom provides them. Also, students can only use certain programs as many applications are blocked for student use from administration. Another common policy is that students must also have a teacher present in the lab to use a computer as well. “Laptops in the classroom should be another tool in the teacher’s toolbox” (Palli, 2007, p. 3). Palli also says teachers should not use student laptops every day because there is more to curriculum than just the use of a laptop.

### **Benefits for Laptops**

While there are some drawbacks or concerns about technology in the classroom, there are also a significant number of benefits as well. Having laptops in the classroom will not only engage learners to be more successful, it will prepare learners for future tasks such as post secondary and employment. “According to a quasi-experimental design 27 laptop students were compared with 22 non-laptop students from the same high school, aged 17–18 years. Results of tests and questionnaires showed laptop students had better spatial abilities and computer skills, furthermore higher participation, learning interest, motivation and pressure to perform were found in laptop classrooms” (Trimmel & Bachmann, 2004 p. 151). Obviously, when students gain experience and practice with technology, students gain confidence while being a hands on learner. Laptops will provide greater opportunities for students to increase computer skills and enhance spatial abilities in addition to engage learners on a daily basis within the classroom. “Whether it is gifted students or students who may need extra assistance, computers allow for individualized extra attention, attention that the teacher may not be able to provide during regular classroom hours. Computers can also help improve students’ performance overall in the

classroom in that they can provide students with immediate feedback and instant feedback motivates them (students) to continue. In a decade-long series of studies, students in classes that use computer aided instruction outperformed their peers on standardized tests of basic skills achievement by 30% on average” (United States Dept. of Education, 1991).

Furthermore, "if we are to adequately prepare our students to effectively compete in the global marketplace, we must transform how they learn and how teachers teach" (Hardy, 2006 p. 1). Teachers must receive technology in-service that will increase their abilities to integrate technology into the curriculum. Technology within the classroom will benefit all learners, particularly, non-traditional students in that it will allow for student creativity and innovation. For example, students with a learning disability will have an increased opportunity with additional resources at his or her fingertips. Just putting a laptop in this student’s hands will not solve all problems but it will give this student flexibility and a resource to be more confident and effective. If a student has a writing disability, typing on a computer can close the gap between all levels of writers. “Technology increases independence, personal productivity and empowerment. Technology can facilitate the kinds of interactions that occasion instruction, and it can transform static curriculum resources into flexible digital media and tools” (Jackson, 2004, p. 1).

“With the emerging new technologies, the teaching profession is evolving from an emphasis on teacher-centered, lecture-based instruction to student centered, interactive learning environments” (Patru, 2002, p. 3). One new emerging technology is the multi-touch smart desk which is a life size iPhone. The touch desk may change the way teachers teach and students learn to a whole new level. Information can be accessed by the students themselves researching and engaging with text instead of the teacher providing information from an overhead projector and students taking notes. This allows for the teacher and students to dig deeper into the

information and generate discussions and or questions. The teachers are no longer the sole information giver as students are able to learn and access information without a lecture.

Laptops are not a distraction if used properly and as long as teachers and students understand it can be used as an enhancement to the learning environment. Obvious guidelines and expectations need to be set and understood from the get-go so that learning and opportunities are not impeded. Some proper guidelines would be: staying on task and navigating on appropriate sites connected to the curriculum or lesson, only using computer when it is needed, or using appropriate language and following directions tied with the lesson. There is no doubt that students must be disciplined but as long as students are engaged and understand the alternatives, problems should be minimal. With laptops and technology within the classroom, lessons have the potential to be more interesting and entertaining. For example, a teacher can ask the class a question or poll and students can respond by text on their cell phone and results will be shown on the screen to generate discussion. The question would have several answer possibilities and each answer would have a different number to text in the response. Students can communicate with each other and work collaboratively. An English teacher can create a site where students will blog. Each student can blog on a certain topic and post to the site for all classmates to see. From there, students can be asked to respond and make comments to their peers. The teacher is once again the facilitator but students are controlling the content to an extent. Again, technology is being used to enhance learning and excitement.

Teachers and students can both benefit from having laptops in the classroom because it gives flexibility and opportunities. "Teachers can now make full-use of programs such as Blackboard or WebCT. On these programs, which is essentially an online virtual learning environment, students can view documents, audio, video, and take tests" (Brown, 2009). Blackboard and WebCT are just a few examples of a platform that can be utilized. What

programs like these do is build another communication device amongst teachers and students. Instead of waiting the next day to ask the teacher in class, a student can send a message or question online and the teacher would have the capability of responding that night. The message board is something that is effective because students are able to answer questions, generate discussions, and voice his or her opinions. The learning essentially extends outside the classroom walls as students can continue to communicate at home if wanted or needed. The sky is the limit for students with technology access because learning can take place in the bedroom, living room, or in the garage. As long as the student has access to the internet or a computer, learning can be done. "Another benefit to the classroom is the software that laptops have and can have on them. Microsoft Office in particular is a useful set of applications for any student to use. If an instructor puts a PowerPoint on WebCT, for example, the student can download it through Microsoft PowerPoint instead of the teacher running off a set amount of copies, essentially a "paperless" classroom. The student can also edit the PowerPoint to his or her liking. The teacher could even provide a skeleton PowerPoint that would allow for students to create his or her own rendition utilizing the most pertinent information. Furthermore, all tests and quizzes can be downloaded into Microsoft Word, making it easier to type the answers to all the questions" (Brown, 2009) or they can be created using online software such as Survey Monkey. Survey Monkey is a resource where templates are already set up and teachers can plug in questions or information and students can respond with a click of a button. Without the use of laptops in the classroom, none of this software can be incorporated into lessons and classrooms will continue with paper, pencil, and teacher lectures.

A third benefit stated by Brown, "Laptops are excellent to have in case an instructor displays a website on the Smart Board in class. A Smart Board is an interactive whiteboard that can be utilized with touch. The possibilities are endless. Not only are these beneficial references

to students, but Smart Boards can give the students hands-on experience to explore the site for themselves. They can go to the web links at the same time as the teacher and search for items that their instructor has pointed out. Furthermore, they can bookmark this on their laptops so they always have it a click away. With technology, students and teachers will have the potential to purchase eBooks. “The benefits of eBooks over the print version are great, particularly to anyone in an academic or research environment” (Poremba, 2009, p. 32). Poremba stated the information is available 24/7 and no more waiting for library hours to rent or check out books. The books allow keyword searches, allowing users to look for an exact term and be taken right to that page. Students no longer need a print Dictionary at his or her side which is more or less a convenience issue. Having students learn to use a Thesaurus and Dictionary are critical skills but will they continue to be critical skills if information can be a click away? Another benefit for students is a lighter backpack not having to possibly carry around large textbooks every day. “The cost of eBook versus print books is still about the same” (Poremba, 2009, pg. 37). Poremba added as time goes on, eBooks will continue to rise in popularity and print books will decline.

“Finally, it’s an open door for instructors to create more hands-on classroom projects. Students can explore software more, turn in more difficult assignments, and work on projects that involve a laptop they may never have learned without it. For example, how many students in English classes know how to create tables in Microsoft Word for their research papers? Or, how many students in psychology know PowerPoint well enough to add pictures, sounds, and videos to their presentations? Laptops in the classroom would benefit all of this” (Brown, 2009). Other possibilities include blogging (web page maintained by an individual to express many different types of information), creating web pages, Skype (students can meet and greet with anyone from a distance), or storyboarding (graphic organizers to organize information).

## Adolescent Literacy

According to Wise (2009, p. 369), about six million middle and high school students read below grade level. Students with low literacy skills cannot be expected to graduate from high school and be fully prepared for college or a job. Greater literacy skills in high school will obviously lead to better achievement in all classes, higher success rate on mandatory tests, and contribute to greater college enrollment. Reading is an essential skill to all of life so what could be causing the gap in schools in regards to literacy? “In the past, students’ out-of-class literacy practices would have been in print genres such as comic books, magazines, and romance and science-fiction novels. The difference today is that the out-of-school literacy practices, for many students, happen primarily online. In chat rooms, e-mail lists, online role-playing games, webpages, blogs, text messaging, and e-mail, many of our students use their free time in some form of reading and writing” (Williams, 2005, p. 2). Students are unaware how much they read and write with technology because they are so warped with everything technology can offer. Text messaging and email provide an opportunity to communicate with someone but not get sucked into a long phone conversation or bother the recipient of the text or email. The recipient can respond when he or she is available which makes both types of communication very popular and convenient. Williams continues to say, “Computer technology has resulted in a generation as deeply and consistently immersed in writing as any in years.” The current generation of students are reading and writing in multiple ways via technology but most high schools ban personal technology to be brought or utilized within the school day. There are excellent reading software programs such as READ 180 and Read Naturally to name a few where students can work at an individual pace and reading material is high interest. However, currently those programs are located in a designated room and students must take the class to access these programs. With laptops in the classrooms, these programs can reach and improve the reading of



so many more students who struggle with reading fluency and/or comprehension. “Developing strong reading skills is like building a house: A strong foundation is critical, but if the builder leaves before putting up the walls and roof, it’s not a finished product” (Wise, 2009, p. 370). The Education system emphasizes reading and success at an early age which would allow for continued progress on the continuum through the system. However, as students get older, the emphasis is lost and the product is not finished. Furthermore, Wise (2009, p. 373) stated English teachers are responsible for solving the literacy problem who, ironically, are rarely trained to teach literacy. Every teacher at the high school level whether he or she teaches social studies, science, math, or any other subject needs to contribute and shoulder some of the load to overcome the nationwide literacy issue. The schools across the nation need to make literacy a priority and continue to find ways to fund programs, get more teachers involved, provide technology, and continue building that house by putting up the walls and the roof.

### **Pass Classes towards Graduation**

Reading is essential at the high school level to pass all classes. The reading is more difficult, the textbooks are more advanced, and the workload is more challenging at the high school level. Because reading is a salient ingredient in life success, it is imperative that schools try alternative methods of teaching reading that promote enjoyment (Reis & Fogarty, 2006, p. 32). High schools are trying to cover gaps and make enormous strides, which make the learning and materials not interesting to the individuals. The reasons are different for every student but far more students are dropping out of high school today than anyone is realizing. Can technology save dropouts and engage them enough to stay in school? There was a time when a high school diploma wasn’t necessary. High school dropouts could often get a decent, well-paid job in areas such as farming. “Today, many jobs once held by dropouts or by individuals who had attained only a high school diploma are being automated or going overseas, leaving

minimally educated Americans with diminished options to support themselves and their families” (Wise, 2009, p. 371). Schools understand with common knowledge that the future is filled with technology in every aspect of life. Schools need to develop programs or integrate resources for students in high school to prepare them not only for the future, but keep students interested and motivated to receive that diploma.

### **Prepare Self for Post-Secondary or Job Force**

According to college admission and placement testing, “Standardized reading achievement scores and tests show that many students are unprepared for success in college or jobs” (Reis & Fogarty, 2006, p. 32). Students are not ready for college level reading when leaving high school. Is the plan for high schools to educate students for four years until graduation? Or should the plan be to educate students for four years through graduation and prepare/plan students for at least two years after high school whether it is post secondary or job force? “The disconnect between secondary and postsecondary education has contributed to the growing number of high school graduates who are under-prepared for college-level work” (Kirst & Bracco, 2004, p. 14). Could the disconnect be caused by higher education accepting students now without seriously looking at qualifications? One definite disconnect is high school exit exams are not as difficult as college admissions and placement tests. Additionally, according to Wise (2009, p. 372), because too many students are not learning the skills they need to succeed in college or work while they are in high school, the nation loses more than \$3.7 billion a year in costs associated with college remediation. Educational requirements of the jobs that have supported a strong U.S. economy are changing. Wise (2009, p. 371) stated the U.S. Department of Labor estimates that 90% of new high-growth, high-wage jobs will require some postsecondary education, in comparisons to decades past. High schools want to prepare students for post secondary and the job force, but the schools face several underlining issues that need to

be addressed first and foremost. Technology can provide high school students with resources that can prepare for college exams. Students should have a clear idea of their path and making sure they have the right fit at the next level. High schools need to improve student's reading ability at and schools must provide multiple opportunities for a higher percentage of success now and in the future.

### **Motivation and Engagement**

“The greatest impact of technology is in student and teacher interest and motivation, improved student behavior, increased technology skills for both students and teachers, and development of higher-order thinking skills” (Patterson, 2007, p. 25). Students must be connected to school and feel a sense of purpose. They need to feel welcome, comfortable and relevant. Nothing meets these standards more than technology in their hands. “It is common knowledge, for example, that many high school students find school boring and irrelevant to their future plans (Brand, 2003, p. 11). “Further, they are not inherently interested in performing the academic tasks assigned by their teachers” (Ryan & Deci, 2000). “Access to laptop computers can change the general culture of the classroom, providing students with more autonomy and ownership in relationship to technology and learning, which can facilitate the development of academic motivation” (Mouza, Cavalier, & Nadolny, 2008, p. 414).

Mouza et al (2008, p. 414) pointed out that this is particularly important for students with learning disabilities who may be less motivated and less persistent because of the failures or frustrations they have already experienced with traditional print-based materials. Access to laptops provides opportunities and autonomy and can help students with learning disabilities express themselves in multiple formats, showcasing unique abilities that generally are not revealed in traditional school assignments. Students do have different learning styles but

students are growing up with a generation that relies on technology anywhere and everywhere so it is comforting and natural.

We live in a fast paced world where times change quickly. Technology is advancing and we will fall behind unless we start to implement more technology into our classrooms and educate our children for the future. “We have two choices: We can watch technologies come down the stream and pluck out the ones we think valuable. Or we can, decide that it is better to be further upstream, engaged with the people who are thinking up new technological goodies and be a part of that process to influence their design and development” (Janes, 2002, p. 52). Our country and our schools need paddle fast and get upstream.

### **Chapter III: Project Goals and Objectives**

This chapter will outline the project goals and objectives. The purpose of this project is to meet the needs and demands of students by teaching in the 21<sup>st</sup> century with our technology advances and future use. Owatonna High School is losing students to online learning and post secondary opportunities partly because it does not have the resources to educate and engage students throughout the high school term. To meet these needs and provide students an opportunity, a plan has been developed to integrate technology into core content area classrooms. Founded in 1854, Owatonna is now a city of just over 25,000 people, and is the heart and the heartbeat of a greater community known as Southern Minnesota. The median income for households is \$45,660. The city is made up of 94% Caucasian, 1.5% African American, and other. Owatonna has strong economic status with diverse industries such as Federated Insurance, SPX Corporation, and Cabela's. Owatonna High School enrolls approximately 1700 students served by 185 staff members daily. The school utilizes a modified four-block schedule which means classes are 84 minutes in length and a 1 credit class lasts one semester. A one half credit class lasts one quarter. To complement and support the intellectual, social and emotional growth of the students, OHS offers them the opportunity to participate in drama and music productions, band, choir and orchestra, speech, academic competitions, Mock Trial and school newspaper and yearbook. In addition, the athletic program offers twelve interscholastic sports for boys and twelve for girls. There are five goals along with objectives and every goal pertains to technology and making it more beneficial for students. The goals include: engagement, teaching effectiveness, assessment methods, training opportunities for staff and/or students, and get feedback from people on the use and effectiveness.

**Goal 1: Increase engagement of students in the English, social studies, and science classroom through use of laptops**

Teachers will present a hands-on curriculum that utilizes technology in core content areas. There will be a balance within the classroom so that students are actively learning. Students will have more ownership and input into their involvement which will create an increase in engagement. The students will be surveyed before and after use of laptops to assess attitude and effectiveness of engagement. It is important to note that students are encouraged to be honest while completing the survey so teachers know what students think and believe before and after the use of laptops.

**Goal 2: Increase teaching effectiveness using technology in the classroom**

We live in a world where everything can be accessed via computer or technology device. Why do we continue to spend money on textbooks when resources are available and possibly more effective? Teachers would eliminate or, at least, limit the textbook and move to using some online resources. In addition, teachers will use hands-on teaching strategies and incorporate them into the classroom. The purpose of this goal is to ensure that teachers are collaborating, researching, and using prior knowledge to find ways to connect with students.

**Goal 3: Develop assessment methods to monitor project progress as well as student performance**

The word assessment is used frequently and there are many types of assessment that can be completed. Teachers will develop an assessment tool that works for them while evaluating student progress and participation in class. Then, a survey is completed to evaluate the preparedness of students for future education and jobs technology.

**Goal 4: Provide opportunities for staff to attend workshops on integrating technology into the content areas**

There are workshops and conferences daily on the use of technology and incorporating it into the classroom. Teachers will learn about different uses of technology in classroom for 9<sup>th</sup> grade students, teachers will invest paid time over the summer to implementing technology into

curriculum, and teachers will share knowledge with other teachers during staff development days. Teachers are constantly learning and adapting. It would be a shame to deny opportunities for teachers to grow when money is invested into technology.

**Goal 5: Teachers will survey parents, teachers, and administration about laptop integration and its effectiveness**

Feedback is collected with a pre-survey at the beginning of the school year before laptops are integrated into classrooms to see the overall general feeling before use. Then, feedback is collected with a mid-survey halfway through the school year (January) to find out overall attitudes after the program has started. Feedback is also collected with a post-survey after the school year to get overall attitudes about the program and its future implications. As teachers, we formulate our own opinions based on preference, data, observations, etc... However, it is essential to get feedback from parents, students, and administration as well.

## **Chapter IV: Project Methodology**

This chapter will outline the implementation for the project upon receiving the grant. The timeline, budget, evaluation plan, and dissemination plan will be discussed in detail. The timeline outlines the completion of the project for one full year. The plan will start in April of 2011 once notified of the grant award and an announcement will be sent to the school board. Then, in May of 2011, the grant money will be used and spent to order a cart of laptops to be implemented into the curriculum the following school year.

During the months of June and July of 2011, the planning for the upcoming school year will take place. Staff will develop curriculum utilizing the laptops and also develop assessment tools for teachers. Staff will begin the process by looking at easy and obvious ways that technology can be incorporated into current curriculum from research and experiences. Then, staff will explore with technology and develop multiple ways the laptops can be effectively utilized. One assessment tool will be surveys that will be given at the beginning, middle, and end of the school year. Other assessments will be looked at and set up such as taking tests or quizzes online. The delivery and set up of laptops will also be confirmed making sure all computers are loaded with specific software and on the local server. The software includes Microsoft Office, Read 180, Read Naturally, Skype, WebCT/Blackboard, etc... In August of 2011, a guest speaker will make an appearance to Owatonna to provide training on implementing the laptops into the curriculum. The speaker is a technology expert from the Minnesota Department of Education as he will share ideas from working with other schools and increasing technology into their schools. During this month, staff will register for a Midwest Technology Conference in Missouri in February of 2011. Staff should also finalize pre, mid, and post surveys as an accurate assessment and record of how things are working or not working.



Once school starts in September of 2011, administer the pre-survey to students, staff, and parents at the parent meeting before implementing laptops in the classroom (survey is included in evaluation section and appendix). The purpose of the survey is to get feedback from students, staff and parents to see what is working and see what needs to be looked at. The survey will assess how interested, motivated, and engaged students are in school. The survey will also assess how or if technology could be incorporated and how would that affect student learning. Students will be asked to explain how and why they think technology would enhance their motivation, engagement, learning, and success. Surveys will be collected and compiled for data collection. The surveys will be examined from an anecdotal and ratings point of view. Comments made by students, staff, or students will be discussed and examined to make improvements. Laptops will be incorporated into the classroom along with expectations being set by the staff to students and parents. In October of 2011, Owatonna will host an in-service training for any local staff to attend to ask questions or share ideas with others. This in-service will be an open forum with an IT person in attendance to facilitate and demonstrate how to do things. The IT person in Owatonna has the knowledge and will be able to walk through all applications. The IT person will also demonstrate a mini lesson to the staff as the staff will be the students following and working along like a simulation of an actual class going on. The staff will get a feel for an example of how to run a class but also get a feel what it is like from the student's point of view. This is an excellent time to explore capabilities and share resources with each other since the school year is still new and fresh. Many teachers involved in the academy 9<sup>th</sup> grade program have technology experiences so another example would be a teacher showing another teacher how to integrate or utilize the Smart Board into a lesson multiple ways.

In January of 2012 and around midterm, surveys will be filled out by parents, students, and staff at conference time. When the parents and students come to conferences, they will be

asked to fill out with paper and pencil the survey. The survey is anonymous and parents and students are encouraged to be honest and truthful. All 9<sup>th</sup> grade students, approximately 75 students, will fill out a survey and as many parents that we can access from conferences or another time will also fill out the survey. If a student does not attend conferences with his or her parents, then he or she will fill out the survey the next day during 1<sup>st</sup> period class. Parent feedback is essential so if we have poor turnout at conferences, staff will make phone calls home to do the survey over the telephone. Then the anecdotal data and comments will be collected from the surveys and compared to the surveys from the beginning of the school year. Current staff and administration will do a comparison and contrast to see what is effective and what areas need improvement. Adjustments will be made and considered based on feedback. Potential adjustments would be increasing or decreasing the use of laptops during class time based on test scores, student/parent comments, and effectiveness. Another adjustment could be having students be more independent and creating or demonstrating their own ways to learning the curriculum and meeting state standards. Staff will attend the Midwest Technology Conference in Missouri from February 14-16, 2012 for staff development. At Owatonna High School, we want to get ahead of the game and continue to learn and understand what others are doing across the nation so that our students at OHS are diverse and set up for increased post secondary and employment success.

In May of 2012, results from staff will be shared with the public along with successes and improvements for the future. These results will be shared with OHS newsletter, the school board, and parents. The report will include survey data from students, parents, and staff. The report will also include a portfolio of projects, assignments, or artifacts that were utilized using technology. Examples include student driven projects, technology rich completed tasks, or anything with technology utilized to enhance student learning and success. Once June of 2012

rolls around, a midterm report will be filled out and sent to the grant agency as well giving them an update on how learning is enhanced. The report will be parallel to the report in May and will include portfolio and artifacts. At request, Owatonna High School will be able to send additional examples of student success to the grant agency.

In September of 2012 following one year of implementation, one last paper/pencil survey will be conducted to find out the long lasting effects and feelings with the use of laptops within the classroom. The surveys will be filled out at the parent and student meeting before school starts. All anecdotal data and comments will be collected and compared from the pre, mid, and post surveys. Finally, in November of 2012, information will be shared with staff, administration, school board, and community noting the advantages/successes from the technology and challenges that may still exist. A final report will be put together and sent to the grant agency thanking them for their help and support. The report will be clear with successes and artifacts along with any challenges that may exist.

### **Evaluation Plan and Tools**

A survey will be given to 9<sup>th</sup> grade students and parents before, during, and after laptops are integrated into the classroom. There are seven essential questions and four possible answers for each question. An example of survey is in the appendix. The possible answers for each question are 1 (Not at all), 2 (Somewhat), 3 (Very), or 4 (Essential). The first question asks, "How interested are you in your classes?" Students will need to answer based on past experiences with school. The next question asks, "Currently, do you think the teachers are utilizing their technology in the classroom?" A comment section will be available for students or parents to write in a response after a number is circled to explain their reasoning. Question three asks, "Is it important for you to like being in your classes to be successful as a student?" We want to know if success is predicated on the student enjoying the class. The next question asks,

“How important is technology usage in your classroom?” Question five asks, “Would you become more engaged if laptops for students were integrated into curriculum?” This question is more of an opinion and perception question but it is important to note what the feelings are going into the school year. Next question asks, “Would laptops and other technology be a distraction in the classroom?” This question is interesting because how many students will answer honestly as a high school student or even understand what the word distraction means? Finally, the last question on the survey asks, “In your opinion, would you be more successful if you had a laptop in the classroom?” There might be a lot of the same answers before the school year starts but this question is intriguing because if a student is struggling during the school year, how would they answer this question?

### **Dissemination Plan**

Dissemination of the technology curriculum will occur throughout the grant timeline. Meetings will be held for students, parents, teachers, administrators, and school board where students will present their results after their 3 months of using technology in the classroom and mid-term data has been collected. A midterm report will also be included in the Owatonna newsletter for the community. Press releases of midterm results will be given to local newspapers, radio stations, and TV stations indicating the progress of technology utilized in the classroom. A midterm report will also be submitted to the grant agency.

Following the end of the school year and data collection, additional meetings will be held for students, parents, teachers, administrators, and school board regarding the results of technology integrated into curriculum and its effectiveness. Students will also present projects to students and teachers from schools around the area and the state. Results of the projects will be posted on our school website along with information regarding upcoming projects. A final report will also be included in the Owatonna newsletter for the community. A press release of

the final results will be given to local newspapers, radio stations, and TV stations indicating the progression of technology being utilized by teachers and students in the classroom. A final report with all the results will also be submitted to the grant agency. Our goal is to continue this education with students through the integrated technology curriculum. As a result of this it is our intention to present at local and state conferences and conventions.

### **Budget**

### **Personnel**

The requested budget of \$2400.00 includes 4 stipends of \$600.00 for 4 teachers to develop curriculum utilizing laptops in the classroom. This request would compensate each teacher for 20 hours of work during the summer of 2011. The teachers would benefit from working the same hours if possible to maximize knowledge and be able to share thoughts with each other. Some tasks will be curriculum development, equipment training, and meetings with professionals. Additional hours may need to be spent by teachers and will be organized and divided up amongst the group.

### **Equipment**

The requested budget for equipment is \$26,276.80. This includes 20 laptop computers and a laptop cart. The school district cannot pay for the computers or the cart because they do not have the budget for it. The Owatonna High School was able to replace a set of destination computers in one lab last year. The school was also able to purchase Smart boards for 20 classrooms. However, this year the district faces cuts and technology was an area that got cut. Owatonna High School was told by the Superintendent that no teacher or classroom technology advances will take place as the school is in a technology freeze.

The laptops are certainly the most expensive items in the budget request, but it is also one of the most important tools. The laptops are notebooks, Bluetooth capability, and a webcam

present. These laptops will allow for creativity and flexibility within the classroom. Each laptop costs approximately \$1200.00.

The cart for laptops is critical for organization, security, and durability. The cart can store and charge up to 30 laptops at one time. The cart costs \$2277.00 but is essential. With organization, each laptop can be numbered and the teachers can keep track of which laptops are in use and where they are at. The security is important because the laptop cart has a lock where the computers can be put away and only opened by a security code. Finally, the durability is important so the laptops will last. When the laptops are not in use, they will be stationed in the cart at all times.

Equipment, supplies, and maintenance from the IT in the building will be paid by the school district.

### **Other Expenses**

The requested budget of \$258.00 for other expenses includes transportation and conference fees. \$48.00 is requested for travel expense to a technology conference in Minneapolis. \$210.00 is requested for attendance of 4 teachers and 10 students at \$15 per person.

The cost of the pre, midterm, and post surveys from participants will be covered by the Owatonna School District. All other conferences or training that staff wishes to attend will be covered by Owatonna School District if approved and necessary.

## References

- Allensworth, E. M., & Easton, J. Q. (2007). *What matters for staying on-track and graduating in Chicago public high schools: A close look at course grades, failures, and attendance in the freshman year*. Chicago, IL: University of Chicago, Consortium on Chicago School Research. Retrieved March 9, 2010
- Barron, A., Harmes, J., & Kemker, K. (2005). Authentic instruction in laptop classrooms: Sample lessons that integrate type II applications. *Computers in the schools*, 22(3/4), 119. Retrieved from MasterFILE Premier database.
- Brand, B., & American Youth Policy Forum, W. (2003). *Rigor and relevance: A new vision for career and technical education. A white paper*. Retrieved from ERIC Database (ED478344).
- Brown, J. (2009). *Laptops in the classroom: Favor them or no?* Retrieved May 7, 2010
- Hardy, D. (2006). Phila. gets \$900,000 for new laptops: A state high-tech grant is going to 17 other area districts, too. The city will target 9th graders. *Philadelphia Inquirer, The (PA)*
- Jackson, R. M. (2004). *Technologies supporting curriculum access for students with disabilities*. Wakefield, MA: National Center on Accessing the General Curriculum. Retrieved October 4, 2010
- Janes, J. (2002). How to think about technology. *Library Journal*, 127(2), 50. Retrieved from Literary Reference Center database.
- Johnson, A. (2010). *Some schools rethink bans on cell phones: Bans don't work, so administrators explore using mobile devices to teach*. Retrieved June 12, 2010
- Kirst, M. W., & Bracco, K. R. (2004). *Bridging the great divide: How the k-12 and postsecondary split hurts students, and what can be done about it. Pp. 1-30 in*

*From High School to College: Improving Opportunities for Success in Postsecondary Education*, edited by M. W. Krist & A. Venezia. San Francisco: Jossey-Bass.

Lamb, A., & Johnson, L. (2006). Flash: engaging learners through animation, interaction, and multimedia. *Teacher Librarian*, 33(4), 54-56.

Lemagie, S. (2009, October 14). Wireless internet in Minnesota high schools: How much? *Minneapolis Star Tribune*, pp.B1, B5.

Mouza, C., Cavalier, A., Nadolny, L. (2008). Implementation and outcomes of a laptop initiative in career and technical high school education. *J. Educational Computing Research*, 38(4), 411-452

Palli, Y. (2007). CET 659 teaching in the 1 to 1 computing environment.

Patru, M. (2002). *Information and communication technologies in teacher education: A planning guide*. Retrieved July 7, 2010

Patterson, P. (2007). Mission possible: Teaching through technology. *Principal*, 86(3), 22-25. Retrieved from Education Research Complete database.

Poremba, S. (2008). Take a look at today's vibrant Ebook market. *EContent*, 31(2), 32. Retrieved from MasterFILE Premier database.

Reis, S., & Fogarty, E. (2006). Savoring reading schoolwide. *Educational Leadership*, 64(2), 32. Retrieved from MasterFILE Premier database.

Ryan, R., & Deci, E. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54-67.  
doi:10.1006/ceps.1999.1020.

Trimmel, M., & Bachmann, J. (2004). Original article cognitive, social, motivational and health aspects of students in laptop classrooms. *Journal of Computer Assisted Learning*, 20(2), 151-158.



- United States Dept. of Education. 1996. Getting America's Students Ready for the 21<sup>st</sup> Century. Washington: GPO.
- Williams, B. (2005). Leading double lives: Literacy and technology in and out of school. *Journal of Adolescent & Adult Literacy*, 48(8), 702-706. Retrieved from Literary Reference Center database
- Wise, B. (2009). Adolescent literacy: The cornerstone of student success. *Journal of Adolescent & Adult Literacy*, 52(5), 369-375. Retrieved from Academic Search Complete database.
- Wheelock, A., & Miao, J. (2005). The ninth grade bottleneck. *The school administrator*. Retrieved March 9, 2010
- 20<sup>th</sup> century classroom vs. the 21<sup>st</sup> century classroom*. (n.d.) Retrieved June 4, 2010

**Appendix A: Cover Letter**

December 10, 2009

Tierney Brothers  
ATTN: Classroom of the Future  
3300 University Ave SE  
Minneapolis, MN 55414

Dear Tierney Brothers:

On behalf of Owatonna High School, I am pleased to submit a proposal to the Classroom of the Future requesting nearly \$29,000 in funds to support laptops integrated into the curriculum for classrooms. To better educate our students and staff on the importance of implementing technology into the classroom, with your support, we propose the creation of a technology rich curriculum complete with results and data.

Due to the lack of technology at Owatonna High School, a large group of students, 75 or more, would benefit from your support. The future of classrooms involves technology and students at Owatonna High School would follow a curriculum and report results and data. This would allow for students to expand their knowledge and provide opportunities that not all students receive. At the culmination of the project students will be able to demonstrate and provide samples to the school district and the local community.

Thank you for your consideration of this proposal. Please contact me to answer any questions or to provide further information – phone: (507)444-8833; email: [mskala@owatonna.k12.mn.us](mailto:mskala@owatonna.k12.mn.us). I look forward to working with you on this important project.

Sincerely,

Matthew D. Skala  
Owatonna High School Teacher

## Appendix B: Tables and Charts

### Action Plan and Timeline

<b>April of 2011</b>
· Notification of Grant Award
· Local announcements to School Board
<b>May of 2011</b>
· Use grant money to order cart of laptops to be implemented in curriculum for start of 2010 school year.
<b>June- July of 2011</b>
· Development of Curriculum utilizing laptops
· Confirm delivery of necessary equipment
· Develop assessment tools for teachers utilizing technology
<b>August of 2011</b>
· Book guest speakers with technology knowledge and experience for school presentation
· Identify 'technology in the classroom' conferences and workshops that 10 students and 4 staff can attend (students will be selected by peers and staff)
· Finalize pre, midterm, and post surveys for students, staff, and parents.
<b>September of 2011</b>
· Administer Pre-survey students, staff, and parents.
· Collect all surveys and compile data from pre-survey results
· After collection of all surveys, begin incorporating laptops into curriculum
· Have staff (willing) attend a workshop to get training or staff development
<b>October of 2011</b>
· Technology training in-house administered by local technology experts (exploring options for student laptop use in content-area classes)
· Have staff (willing) attend a workshop to get additional training or staff development
<b>January of 2012</b>
· Give midterm-survey to students, staff, and parents
· Collect all midterm-surveys and calculate results
<b>May of 2012</b>

- Share midterm data found with students, staff, parents, and school board regarding results of surveys, successes in the classroom, and future advantages

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- Report midterm-results in OHS newsletter

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### June of 2012

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- Write Midterm report to grant agency

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### September to October 2012

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- Administer post-survey after 1 year follow-up

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- Collect data from survey

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### November of 2012

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- Share 1 year data found with students, staff, parents, and school board regarding results of surveys, successes in the classroom, and future advantages

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- Report final results in OHS Newsletter

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- Write final report to grant agency

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## Survey

Directions: Please circle on the scale from 1 to 4 for each question. Be honest and take your time.

The questions are based on your academy classes (English, American Studies, and Science)

	Not at all	Somewhat	Very	Essential
Question	1	2	3	4
How interested are you in your classes?				
Currently, do you think the teachers are utilizing their technology in the classroom?				
Is it important for you to like being in your classes to be successful as a student?				
How important is technology usage in your classroom?				

Would you be more engaged if laptops for students were integrated into the curriculum?

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Would laptops and other technology be a distraction in the classroom?

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In your opinion, would you be more successful if you had access to a laptop in class?

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## Budget

### I. Personnel

Description	Quantity and Cost	Budget Request
Development of Curriculum utilizing laptops- 4 teachers (English, Social Studies, Science, Special Education) with 20 hours each during the 2010 summer	4 teachers @ \$600.00 each (\$30 an hour x 20 hours)	\$2,400.00

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### II. Equipment

Description	Quantity and Cost	Budget Request
HP Smart Buy 2730p Laptop	20 @ \$1199.99	\$23,999.80

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(Intel Centrino 2  
 Core 2 Duo  
 SL9400 LV  
 1.86GHz  
 Notebook - 4GB  
 RAM, 160GB  
 HDD, 12.1"  
 WXGA UWVA,  
 56K Modem,  
 Gigabit Ethernet,  
 802.11a/b/g/draft-  
 n, Bluetooth,  
 Webcam, 6-cell  
 Li-ion - Ships  
 with XP Pro  
 installed with  
 option to upgrade  
 to Vista)

Hewlett Packard HP	1 @ \$2277.00	\$2,277.00
HP 30 Notebook Mobility Cart		

### III. Other Expenses

Description	Quantity and Cost	Budget Request
Mileage to workshop	120 miles @ \$.40/mile	\$48.00
Technology Conference attendance fee	4 teachers, 10 students @\$15 each	\$210.00
<b>Total Requested Budget</b>	<b>\$28,934.80</b>	