

2008 STATUS REPORT

Emerge One-to-One Wireless Learning Project

**Name of Project: Assistive Technology & mLearning: Supporting English
as a Second Language Learners**

Prepared by:

Jurisdiction Name: Calgary Board of Education

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Emerge One-to-One Wireless Learning Project

REPORTING INSTRUCTIONS

- Please complete all of the following sections of the Status Report.
- **This section is to be completed by the project team**
- **Status Reports are due October 31, 2008.**
- Reminder emails will be sent out on September 30, 2008 and October 15, 2008.
- Reports must be submitted in Microsoft Word format.

Please submit your completed Status Report to:

Rita Cottrell-Smith
Project Assistant
Stakeholder Technology Branch, Alberta Education
Email: Rita.Cottrell-Smith@gov.ab.ca
Phone: (780) 427-9042 (toll-free by dialing 310-0000 first)

Any questions regarding the Status Report or any other aspect of the EmERGE One-to-One Wireless Learning Project should be addressed to the **project manager**:

Karen Shipka
Manager, Research and Planning
Stakeholder Technology Branch, Alberta Education
Email: Karen.Shipka@gov.ab.ca
Phone: (780) 427-6961 (toll-free by dialing 310-0000 first)

Note: Alberta Education may use the information you provide in this report to expand the resources available to other projects and/or to develop the agenda of Alberta Education hosted events.

Project Team Information Update

Project Members (List all members that have participated to date)

Project Steering Committee Members:

Name, Role and email:

Pauline Auld	Project Lead	pmauld@cbe.ab.ca
Michael Bester	Assistant Principal Henry Wise Wood	mbester@cbe.ab.ca
Kelly Bobke	English as a Second Lang Specialist	krbobke@cbe.ab.ca
Gordon Choate	Assistant Principal Monterey Park Elem	grchoate@cbe.ab.ca
Cathy Faber	Director Curriculum & Learning Technol	cfaber@cbe.ab.ca
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Richard Tapp	Teacher Lead, Tom Baines	rtapp@cbe.ab.ca

Teachers:

Monterey Park Elementary

Lindsay Gorday	lchgorday@cbe.ab.ca	Teacher
Lynnsy Rasmussen	llrasmussen@cbe.ab.ca	Teacher
Ryan Klasen	rkklasen@cbe.ab.ca	Teacher
Stephanie Gordon	sagordon@cbe.ab.ca	Teacher
Sheena Moodie	shmoodie@cbe.ab.ca	Teacher
Tara Musk	trmusk@cbe.ab.ca	Learning Leader

Tom Baines Junior High

Jennifer Kenyeres	jlkenyeres@cbe.ab.ca	Learning Leader
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Sue Robertson	sarobertson@cbe.ab.ca	Teacher
Susan MacKay	sjmackay@cbe.ab.ca	Teacher
Ruth Westland	rlwestland@cbe.ab.ca	Teacher
Jeff Lailey	jhlailey@cbe.ab.ca	AISI Learning Leader

Henry Wise Wood High School

Scott Garen	sagaren@cbe.ab.ca	Learning Leader
Stephanie Chan	sdchan@cbe.ab.ca	Learning Leader
Rose Kwasney	rokwasney@cbe.ab.ca	ESL teacher
Barb Paton	bdpaton@cbe.ab.ca	ESL teacher
Reka Teleky	reteleky@cbe.ab.ca	ESL teacher

Project Overview

Describe your project and project goals in no more than 1 paragraph.

This proposal focuses on enhancing teaching and learning for English as a Second Language learners within the Calgary Board of Education through the deployment of one-to-one mobile learning devices. Assistive technology software and other existing technology solutions are being employed to improve learning in three Calgary Board of Education schools. Monterey Park Elementary School has a significant population of ESL learners (499 students - 72% of student population), Tom Baines Junior High School has 211 ESL students and is designated as an ESL Centre of Inquiry providing leadership and PD, and Henry Wise Wood Senior High School offers Level 1 – 5 programming and an ESL Transition Class serving severe and at-risk ESL learners. This year identified students in grades five, eight and eleven will be involved in this initiative. By tracking student use of these devices over a three year period, significant longitudinal research data is being obtained in determining impact on student learning and in driving systemic change. In addition, information is being gathered on the practice of teachers who are engaged in designing learning experiences using mobile computing devices, assistive technology and existing technologies in their daily teaching practice.

Project Planning and Progress as they relate to the ESSENTIAL CONDITIONS

Describe your progress to date in terms your accomplishments as they related to the listed essential conditions. Please include descriptions and attach any resources you've created and/or used that may be helpful to others.

Leadership/Shared Vision

- ***What strategies have you employed to maintain a shared vision?***
- Steering committee meetings bring key project department leads and school leads together to restate the project focus, share accomplishments and set priorities and directions for year two.
- Status reports and Emerge School jurisdiction reports have been reviewed to inform and provide input into the planning process for year two.
- Schools involved in the project align project focus with school priorities and School Development Plans.
- Teachers in each school set priorities for their professional development using Professional Learning Communities as a vehicle to align the priorities of the project into the school vision.
- Teachers attend eMerge Community of Practice events gaining information and focus on overall project goals and directions.
- On-going communication of opportunities, offerings and events provided by eMerge project.

Professional Learning

- ***Describe the professional learning activities that you have provided.***
- Promotion of 21st Century skills in the teaching and learning context
- Ongoing professional development around the use of laptops in differentiating curriculum for ESL learners
- Professional development around a variety of software applications including Read and Write Gold
- Introduction to the use of iPods with microphones, podcasting
- Introduction into the use of Smart Boards and projectors
- Investigation into the use of Desire2Learn as a resource in supporting ESL learners

- **Describe the changes in teaching and learning that you have observed in the classroom.**
- Teacher confidence in using technology within the teaching & learning process greatly increased
- Student writing, especially using Read and Write Gold – word prediction – has benefited
- Teachers are discovering online solutions to meet student needs
- Student engagement and input into learning increased significantly
- Opportunities for students to participate in inquiry and problem based learning
- Opportunities for project work has increased with the use of laptops and other technologies
- Students are motivated and often provide input into ways that the laptops can be used in the classroom
- **What are the early indicators?**
- Teachers who used the laptops last year are now looking for ways to acquire technology to teach this year
- Students who used the laptops last year are assisting the new teachers how to use them and providing input into their application in the classroom
- Parents are excited about the students using the laptops and the possibility that the students may be able to take them home this year
- Teachers are creating resources at school and at home. Students have ubiquitous access (throughout the school) to resources and learning environments

Promotion of 21st Century Skills

- **Describe the strategies that you have used to promote the development of 21st century skills in both teachers and students.**
- The Calgary Board of Education's Three Year Education Plan states that "students demonstrate high standards in learning outcomes" and include the strategies to achieve the outcome by "integrating a 21st century learning environment in all curricula to differentiate the teaching and learning process which may include information literacy; assistive technology; critical thinking, research, communication and productivity skills".
- Encouragement to participate in Galileo's Intelligence Online (IO), participate in Webinar offerings & attendance at Community of Practice Events
- Engagement in school-based professional learning opportunities embedding the use of technology into the teaching and learning environment
- **What are the early indicators?**
- Students highly motivated and engaged in the learning process when using the computers
- Teachers embracing the use of technology as a way of supporting student learning
- Opportunities to meet the needs of a group of diverse learners
- Promotion of 21st Century Skills are embedded into School Development Plans
- Implementation into teaching practice as teachers communicate daily via email with both parents and students
- Teachers developing online learning environments using Desire2Learn in which parents and students can access curriculum from home
- **How is this different from what you have done before?**
- Prior to the one-to-one initiative, teaching was primarily text based using handouts or textbook materials, now teachers are actively looking to the Internet for tools and online resources to use in their classrooms ie. websites that are specific to ESL literacy
- Students had limited access to computers as they had to go to computer labs or library to access technology
- Other technologies, peripherals and software programs were not available to support student learning

- Limited access to technology and limited knowledge of how to use computers with students in the classroom prior to this initiative

Integration of Curriculum/Technology

- **How are you incorporating the ICT outcomes into your program?**

F.1 - Students will demonstrate an understanding of the nature of technology.

- Using laptops as a device to create meaning and to access shared knowledge through the Internet

F.2 - Students will understand the role of technology as it applies to self, work and society.

- evaluate possible potential for emerging technologies
 - Using Read and Write Gold – Google tools

F.3 - Students will demonstrate a moral and ethical approach to the use of technology.

- Classroom discussions in the context of using the laptops

P.1 - Students will compose, revise and edit text.

- Read and Write Gold word prediction as a strategy

P.5 - Students will navigate hyperlinked resources.

- Ongoing professional learning opportunities embedded throughout the school year

- **What assessment tools and strategies are you using? (provide examples)**

- A variety of classroom assessment tools and strategies are being used including: teacher observation, student reflections, self and peer evaluation, rubrics, ESL Benchmarks, Report Cards
- Anne Davies – Assessment of and for Learning
- School based survey of parents
- ISTE – NETS for both students and parents
- Galileo rubric for 21st Century Learning as a basis for self-reflection and assessment

Multimedia Resources/Software

- ***What new tools are you using in your classroom?***

- Laptops, assistive technology software – Read & Write Gold, Smart Boards and interactive resources, digital cameras, digital video cameras, iPods and other existing software applications available within the school
- AtomicLearning, Visual Thesaurus, Discovery Channel Educational Video and integration of Macintosh OS accessibility options

- ***In what ways do these tools help you make the teaching and learning in your classroom public?***

- Student's often take learning activities home to continue their research and investigation in the home environment
- Sharing of projects and student work with parents and others through school web page
- Classroom projects and artifacts displayed within the school, shared at school assemblies, in buddy classrooms on school web page and in school newsletter
- Parental support has enabled two of the three schools to purchase additional laptops and carts to support more students within this project

- ***Describe how these tools have changed teaching and learning?***

- The teaching and learning process extends beyond the school day and into the home environment as students are able to access curriculum, explore and conduct research and communicate with others using technology

Hardware Acquisition/Deployment/Maintenance

- ***Describe your experiences regarding the acquisition, deployment and maintenance of hardware devices in your project.***
- Acquisition of newer devices has never been a problem. The contract we have with our reseller lets us purchase the approved machines in a reasonable timeframe. Machines either come pre-imaged with the core image from the vendor or the school tech images them using the mLearning image or installs packages after installing core image. Maintenance is performed by in-house Electronics department and replacement parts are readily available from the reseller causing minimum downtime.
- ***What successes have you experienced?***
- As mentioned earlier, success is determined by end-user's satisfaction which we believe has been fairly satisfactory.
- ***What challenges have you faced and how did you overcome them?***
- No challenges with these machines.
- ***What challenges are ongoing?***

Network Architecture

- ***Describe the network environment that you have implemented.***
- *Our Network is based on 802.1x wireless (Aruba & Nortel Technologies). MAC addresses are entered into the radius server which allows machines using Nortel wireless technology to connect to school's wireless network. We're using WEP encryption at the moment and plans are underway to upgrade to WPA.*
- ***What successes have you experienced?***
- *Wireless access is available 90% of the times which I consider to be a success. Our regular Ethernet network is fast (1Gig connection to the end-device) and extremely reliable which I consider to be a huge success especially when we have 35,000 machine connected to our network during business hours.*
- ***What challenges do you continue to experience?***
- Slow wireless access due to shared bandwidth especially when all laptops try to connect to the network at the same time. A possible work-around is to stagger the student login process i.e. 10 student login at one time.

Security Measures

- ***What security measures have you put in place?***
- The question is not that clear. Is it the network security or at the workstation level?

If it is Network security, we're still using WEP encryption and plans are underway to upgrade it WPA or WPA-2.

If its workstation security, our core image is protected by Group policies and students have user-level access on the machines. They do not see control panel, command prompt or any other utilities that may give them additional rights to jeopardize our network or local machine. TREND antivirus is installed on all the workstations which is a real-time monitor and reports all virus-related activities to a central database where it's picked up by security office and is flagged for resolution to school tech.

- ***What successes have you experienced?***
- Our machines are stable 95% of the time as students do not get any loopholes to exploit the operating system. In rare 5% of the cases, school tech re-images the machine in 20 minutes.
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- ***What challenges are you experiencing?***
- No challenges with respect to security of these machines.

Technical Support and Training

- ***What is the level of technical support allocated for your project?***
- No extra funding was allocated towards the technical support of these machines. We already have a support model in place where a technician visits a school once every week and resolves any technical support issues. In case of a work-stoppage, a central technician is dispatched to resolve the issue. Overall, a non-functioning workstation is unusually up and running within a week.
- ***What training/professional learning opportunities are available?***
- We recently provided all our technicians (70) to take Windows Vista courses (5118, 5119) and Mac OSX 5 Support Essentials course. All the techs are preparing to write certification exam in near future and as a matter of fact, 10 of them have already passed the OSX 5 certification exam. We have also allocated one professional day each month for all the techs to collaborate and share knowledge with each other as a team. Techs are allowed to take any certification exam which fits with their job description and they're reimbursed for the cost if they pass the exam.

Community involvement

- ***What strategies have you used to involve/inform your community? (school community and greater community)***
- Classroom projects and artifacts displayed within the school, shared at school assemblies, in buddy classrooms on school web page, in school newsletter and with School Councils
- Curriculum & Learning Technologies Assistive Technology Newsletter and Website
- Project information provided at numerous presentations, journal articles, in-services and workshops
- Presentation at Apple Conference in Calgary May 2008
- Information provided for Chief Superintendents Monitoring Report
- ***Please include a evidence of your communications and a summary of your communication/dissemination plan***
- Curriculum & Learning Technologies Assistive Technology Website
<http://www.innovativelearning.ca/archive/learningspaces/assistive-mlearning.asp>
- Ongoing communication on progress of project on website, newsletters and monitoring reports

Ongoing Assessment and Evaluation

- ***Describe the tools that you are using to assess and evaluate your project.***
- Calgary Board of Education has a research and development team who work collaboratively with the English as a Second language team to collect data and determine the impact of this project on ESL learners English language acquisition and competency levels. This project will be evaluated and used to inform the System in addressing the diverse learning needs of over 23 000 identified ESL learners.
- Calgary Board of Education uses ESL Benchmarks as an evaluation tool throughout the system. These will be examined and be used to determine individual student progress.
- ***How have you implemented them?***

- Discussions are ongoing in how to best collect evidence and evaluate the effectiveness of this initiative on the English language proficiency of ESL learners.

Project Successes:

Please describe the successes that you have experienced in year 1. What exciting learning opportunities have you observed as a result of the one to one program?

While there were many individual successes within each of the three schools involved in this initiative, the overall impact within the System is significant as the Calgary Board of Education looks for innovative ways to address the diverse learning needs of the growing English as a Second Language student population (23,325 – September 30, 2008).

Project successes included teacher adoption of the use of technology to support ESL students. Increased student engagement, understanding and motivation to use the laptops and supporting software. Students having input into the learning process by suggesting ways to use the laptops in their learning environments. Teaching and learning that extended beyond the classroom into the home environment as students found meaning and real life applications for using technology beyond the school day. Opportunities to explore inquiry and project based learning, to conduct research and access online tools and resources ubiquitously within the school environment.

Project Challenges:

Please describe the challenges that you have experienced in implementing a one to one program. (All team members should contribute to this section)

Monteray Park Elementary:

Challenges include the acquisition of additional funds from School Council to purchase more laptops than what were available through this project so that all students in the Grade Four now Five class could participate. The amount of reporting for this project in terms of paperwork, surveys, on site visits, reports, videos, etc. Online surveys were not suitable for Grade Four ESL students.

Tom Baines Junior High:

Our challenges for year w/two are to integrate more technology into the learning environment. We are also concerned about how things will change with students taking their laptops home. Finding the time to access professional development time and money for our staff has been a challenge. As students move into the next grade level the entire cohort of teachers may change and this could prove to be a challenge.

Henry Wise Wood High School:

- Teachers lacked confidence in using laptops
- Teachers weren't familiar with the software and needed repeated PD to feel comfortable (doing well now)
- The decisions to be involved in the project were made within the existing structure of the CBE. Initially this allowed little input from the teachers and it took a while to see a common vision formed
- A variety of technology challenges included
 - Troubleshooting wireless problems
 - Laptops having intermittent access to wireless – 4-5 months to resolve
 - Printer access
- Determining the roles of all involved
- Lack of common prep time for teachers
- Understanding and direction from ESL LL
- Defining roles for the teachers
- Supports for the project from outside of the school seem few, little onsite communication

- Interview process difficult as questions seemed to come from no where – expectations unknown
- Teachers don't work with the students on a consistent basis from semester to semester
- Student population constantly changing

Project Adjustments:

Please describe any adjustments you have made to your project. Provide a rationale and expected results.

- No major project adjustments will be made. Year one was the implementation year and it is expected that year two will run much smoother as teachers and students are familiar with the technology and will be able to focus on the project goals and expected outcomes.
- It is anticipated that the laptops will be sent home with students at one of the three participating schools this year.

Plans for Year 2

Monterey Park Elementary:

Teachers are new to the project this year as the laptops moved with the students. Ongoing professional development in terms of using the laptops and supporting software and resources with ESL learners. Teachers have expressed a desire to focus on differentiating curriculum for multilingual learners. They would like to focus on Universal Design for Learning, accessibility and assessment. They would also like to explore Podcasting, Blogging and authoring and publishing websites in the Desire2Learn shell, video conferencing and using elluminate. Participation in Webinars with Anne Davies

Tom Baines Junior High:

Our plans for year 2 are to fund 3 more in-school day long workshops for the project team to work on developing resources and lesson plans for the One-to-one Learning Environment. We are planning to expand the one-to-one learning environment to other classrooms over the next year. This will create a larger knowledge base to share ideas and be self-supporting.

We want to see what we can do with the Discovery Video content in the one-to-one environment. Our team is planning to do at least 2 site visits to other one-to-one schools to gather ideas so they can implement them at our school.

Henry Wise Wood High School:

1. Set goal for this year as a PLC
 - a. **How does 1-1 computing impact ESL literacy?**
 - b. Interest in learning the following:
 - i. Using the scanner
 - ii. I.O. work with Galileo
 - iii. Continued work with D2L
 1. Gillian (AISI) supporting Science 14
 2. Stephanie (AISI) will provide PD for Smart Boards
 3. Portfolios with PowerPoint Using digital camera may be pursued 2nd term
 - iv. Ipods with microphones will be given to teachers who can explore possible uses in the classroom
2. Meeting in PLC to read through *1-1 Learning: Laptop Programs that Work* by Pamela Livingston