

**Opportunities for Educational Technology
In
Blackduck, Minnesota
Year 3**



**Review by Curt Madison, PhD
For the Bruce E. Clubb Family Trust
May 11-13, 2015**

Overview

In two years, we have seen steady advance from inchoate searching for an appropriate fundable activity to a functioning digital system within the management capacity of Blackduck Public Schools. BPS is well positioned to take advantage of enhancements of its already good learning environment.

The 1:1 Conversion Project was conceived as a three year effort beginning in Spring 2013. Blackduck Public Schools needed more access to technology-enhanced learning to unlock a treasure of web-based information.

There are many challenges in adopting a web-enabled environment. Some of these challenges were amenable to solution by outside funding. However, success clearly depends on sustainable effort that is fully understood by all the participants. Private foundation grants are necessary but not sufficient to overcome the barriers. From the beginning, the 1:1 Conversion Project has been a collaborative effort. Without the financial capital of the Clubb Family Trust and the social capital of the Blackduck community, little of the progress to date could have been accomplished.

The remaining year of the project can be devoted to the operational implementation of both capacity and operations. Now focus can be turned towards development of a pedagogy that most utilizes the distributed format enabled by ubiquitous personal computing power. We should not underestimate the cultural change that might ensue as teachers move from sages with answers to guides with questions.

Our measures of success have been in network speed and breadth of device deployment. We can begin to look at speed and breadth of student learning. Are students finding unique answers to questions they pose themselves? Are the areas of study localized with authentic experience? Are students progressing at their own pace without interfering with other students? Is the school experience enhanced with routine collaborations among students and staff beyond the district boundaries? Is the new opportunity of individualized learning still retaining all the social advantages of working together? In short, have students adopted active learning behaviors piqued by their own inquisitiveness and shared with other students? And, can this be done within the normal parameters of teaching staff workloads?

Blackduck has strong students as measured by competitive success in both academic challenges and sports superiority. Blackduck Public Schools is a preferred place to work for the teaching staff and the administrative personnel. Northern Minnesota does not enjoy a salary advantage compared to larger districts in the south nor does it enjoy balmy weather. Yet the successful student outcomes are obvious from Baseball to Robotics. In the near future perhaps there will be a growing obligation to share the lessons learned in the 1:1 conversion project with other Minnesota educators.

Recap of 2014-2015 Recommendations

2014-2015 Strategic Goals provided by the BPS Technology Committee

- Summer 2014 - Infrastructure
- Fall 2014 - Pilot Classroom expansion
 - Elementary = 5 classrooms
 - High School = 2 classrooms
- 2015 School Year - 1:1 Implementation school-wide



Bruce Allen Clubb, Wallace Schoeb, Robin Mystic, Bruce Edwin Clubb
Watching 2nd Grade in action seeing the mix of small groups, presentation, and individual study

Visits by Clubb Trust to Blackduck

- April 7-9, 2013 - *Curt Madison*
- July 21-24, 2013 – *Bruce E. Clubb, Curt Madison*
- December 9-11, 2013 – *Bruce E. Clubb, Curt Madison*
- April 29-May 2, 2014 – *Bruce E. Clubb, Bruce A. Clubb, Curt Madison*
- October 1-3, 2014 – *Bruce E. Clubb, Merriam Mashatt, Curt Madison*
- May 11-14, 2015 – *Bruce E. Clubb, Bruce A. Clubb, Curt Madison*

2014-2015 Recommendations for Consideration provided by the Clubb Trust

- Build out wireless infrastructure [✓]
- Purchase and distribute tablets or Chromebooks [✓]
- Encourage teacher professional development [✓]
- Provide support for new pilot program teachers [✓]
- Continue to refine the BPS website [✓]
- Establish a formal mentoring program [✓]
- Continue support for the BPS robotics team [✓]
- Review the use of Read 180 and Math 180 [✓]
- Explore GIS and Augmented reality

2015-2016 Recommendations

1. In concert with school administration, support BPS teacher and staff attendance at national and regional conferences that include tracks on educational technology.
2. Establish a scholarship fund to support teaching staff seeking advanced degrees in the area of educational technology.
3. Find a way to incorporate exposure to computer controlled fabrication devices either through partnership with nearby school districts or creation of a Fab Lab as part of BPS.
4. Support a partnership with the Kitchigami Regional Library System- Blackduck Branch to provide Chromebooks for checkout. The effort should include enhancements to the library Wi-Fi network and Internet bandwidth to encourage students and community members use of web resources outside the school building.
5. Produce a video record of the 1:1 Conversion Project with some brief portions aimed at public display on the BPS website.
6. Extend robust wi-fi coverage to the complete Blackduck Public School campus to encourage practical learning in authentic environments for science and humanities. This recommendation follows the perspective that “the classroom is not the classroom”. Students can be learning anywhere with naturally occurring observation.

Closing thoughts

The overall impact of establishing the digital learning environment in Blackduck is the window it opens for Blackduck students to become cultural creators as well as learners.

Given the speed of innovation it is safe to say that both things are probably true although it is hard to know which is which. At this point there is no reason to believe that Blackduck is solely a receiver of educational method and content. Blackduck also can be a contributor. The important cultural building skills of appreciating public expressions of educational practitioners and articulating new ones can be amplified now.

Education serves both a present and future need. In the present, students need to be able to function with literacy and numeracy skills in the current economic context. In the future, students need to be able to create the economic context itself. The goal of education is short-sighted if it only prepares students for jobs that currently exist. A goal to read only in English, or to use a spreadsheet on a computer is not enough. Educated students need to be able to define and articulate problems and collaborate successfully to promote solutions. They will need to be able to function in an economic world that involves communicating across continents forging trust relationships with people they will never meet. In short, education today is about the practical necessities of local living balanced with the abstract necessities of imagining what does not yet exist.

The tools of the digital realm can enable far reaching educational goals, but they cannot guarantee them. It is not only having the devices that counts. It is also keeping abreast of the best practice of using them. This project will not be complete until the cultural context of the Blackduck Public Schools includes active attendance at educator gatherings both as participant and presenter. In addition, some members of the Blackduck educational community should seek to gain further expertise through focused study either as part of a degree program or part of a research team.



Bruce Allen Clubb, Josh Grover, Bruce Edwin Clubb, Lorraine Warden, Nance Kunkel