



Educational Technology Advisory Committee
Annual Report for 2007-2008

October 09, 2008

Chair: Jim Stephens

Chair-elect: Briggs Buckley

Board of Education Liaison: Reneé Howell

District Liaison: Dan Maas, CIO

Committee Membership 2007-2008

Jerry Anderson	Chris Moore	Troy Greenwood	Larry Jewett	Matthew Shankle
Barrett Blank	Laura Jones	Donovan O'Dell	Terry Petrie	Brian Hensman
Craig Herrera	Bill Reddig	Spencer Zepelin	Jesse Klekamp	Diane Frank
Ben Horblit	Steven Newell	Boni Hamilton	Anne Smith	Jean Gragg
Neil Heimbigner	Ron Lee	Cheryl Fleming	Dayle Redman	Maureen Medved

The LPS Educational Technology Advisory Committee just completed a dynamic 2007-2008 year. Our charge was:

As a diverse community voice, the charge of the ETAC will be to advise the Littleton Public Schools regarding implementation of technology to support a world-class learning community that promotes student achievement, empowers educators, and develops students into productive citizens.

ETAC will be a forum for ideas and innovation

ETAC will provide an avenue for gathering community support

ETAC will review equitable technology policy

For the 2007-2008 school year, ETAC's objectives are to

- Contribute to an on-going assessment of the state of technology for the district in order to determine impact on the educational process for students
- Assist the CIO in the identification of major technology initiatives for the future
- ETAC will provide an avenue for gathering community support

ETAC addressed the first objective through visits to 7 schools during the school year; summaries of those visits are included below. The school visits not only enabled building staff to highlight technology successes in education, but also provided an avenue for staff to discuss challenges and needs. Again this year ETAC witnessed incredible successes with technology, but the theme of inconsistency persisted. ETAC's recommendations to the Board of Education address this theme head-on.

ETAC met the second objective through a spirited process of discussion and debate in response to Board of Education questions raised during last year's annual report. The substance of those questions was: "What are a small number of technology-specific investments ETAC believes LPS should make, and what would they cost?" In response, ETAC unanimously supports the following four recommendations:

Recommendation Priority 1 : \$600,000 could be found if Mil Levy were passed "Gap Fund"

Concept: Document cameras and mounted projectors in all classrooms to create a collaborative learning environment that every teacher can use.

Cost: \$600,000

Recommendation Priority 2: Enter fund request into a Mil Levy -improvement project

Concept: Allocation of funds to be used for staff time and training for additional contract days, training stipends and substitute pay for release time. Staff will have job-embedded time to get training to focus on student-centered learning.

Add 2 days to the teacher contract (~\$341,000/day/year) and the balance for stipends (\$150/day) and substitute pay (\$110/day).

Cost: \$1.5 million/year **Recommendation Priority 3: Could be found if there was a reallocation of existing Capital Reserve Funds.**

Concept: Staff computers should be maintained on a reasonable refresh rate of 3-5 years with options for desktops and laptops at no additional cost to school budgets.

This will ensure that staff will be equipped at least as well as other knowledge workers.

Cost: \$425,000/year

Recommendation Priority 4 – Future Bond Election Initiative:

Concept: VOIP phone system and infrastructure upgrades should be included in a future bond election initiative. Without an upgrade, our phones will fail within 3-4 years drastically impacting service and safety. Internet and network redundancy will also become essential.

Cost: \$4.5 million

Two additional priorities **1:1 notebook program in all High School language arts classrooms and 1:1 laptop project for K-12**) fall slightly behind the first four in priority and support from ETAC. **This could be accomplished if practical methods of ownership were established. ITS might also be able to cut funds from other areas (ie: Microsoft Licensing fees)** The estimate for the first is \$400,000 implementation cost and \$100,000 annual recurring cost. The estimate for the second has not yet been developed.

ETAC spent little time on the third objective this year, sacrificing gathering community support to creating the prioritized list of recommendations. I believe that the 2008-2009 school year will provide ample opportunity to communicate and build support for any of the recommendations the Board of Education endorses.

This past year reinforced to me that LPS excels in many areas of educational technology. I believe ETAC has helped map the first steps toward taking those areas of excellence and transforming them into initiatives to benefit all LPS students. When LPS commits itself to this path, the destination of world-class 21st-century education will quickly come into view. I wish Briggs Buckley every success in his leadership of ETAC and thank the Board of Education (particularly our liaison Renee Howell) for supporting our efforts.

--Jim Stephens

Executive Summary – Jim Stephens
Educational Technology Advisory Committee 9-27-07
Host School Site: Options High School
Number of Students: 175 2007-2008
Free/Reduced Lunch Rate: 29.25
Presenters: Brian Hensman and Key “Options” Staff Members

Discussion:

Mr. Brian Hensman, Principal welcomed the committee and shed light on some important information (listed below) regarding Options and the student population attending the school. Options Science Teacher Brett Boyles presented the use of a *CPS Chalkboard* which in essence performs like a miniature Smart board. The CPS chalkboard is one third of the price of a Smart board. Options, owns and uses 5 of these devices. Anna Gianakos, Art teacher at Options gave the ETAC committee a demonstration of the use of CS 3 Photoshop an incredible new art software that allows for the engagement and expansion of creativity for students at Options.

1. Options is a liberal arts high school with a focus on technology
2. Options places the tools of technology in the hands of the students.
3. Options places a priority on investing in technology.
Annually this = 30% of Budget.
4. Interview questions for new staff include a technology proficiency skills questions.

Current tools in place:

- 1:2.9 ratio of students to computer
- LCD Projectors in every room.
- COW w/16 wireless laptops
- 67% of rooms have a SMART Board
- Mobile Document camera
- Math has a classroom set of TI graphing calculators
- Science has a classroom set of CBR “Rangers” with light sensors, temperature sensors, voltage sensors, Vernier Photo gate, microphone, as well as an overhead device to attach to a teacher’s calculator.
- Math has Algebra, Geometry, and Algebra II textbooks online,
- Mobile Document camera
- COW w/16 wireless laptops
- 67% of rooms have a SMART Board,
- 1:2.9 ratio of students to computer
- 50% of staff have web pages
- 2 sets of eInstruction CPS Clickers

Options offers on-line classes for credit recovery (PLATO)

Options High Tech classes offered:

1. Art Photography using Adobe Photoshop
2. Digital Yearbook
3. Movie Making – partnership with Binning Family Foundation
4. Computer Applications Class

Survey results:

- 83% of students have access to a computer at home
- 75% have internet access
- 4% have created a podcast

- 19% have used a wiki
- 48% have used a Blog
- 89% of students have above average skills using word
- 66% of students have above average skills using PowerPoint
- 33% of students have above average skills using Excel

Needs:

- Continued Teacher Training.
- License agreement that does not require paying for licenses over the schools allotment or make allotment larger. 2% of Options Budget goes for extra licenses.
- School servers to be taken over by IT
- Digital Video Camcorders for movie making class.
Graphics tablets/drawing boards and digital cameras for Art Photography

Educational Technology Advisory Committee 11-28-07
Host School Site: Highland Elementary School
Number of Students: 352
Free/Reduced Lunch Rate: 13.82
Presenters: Debra March, Kathy Woodward, Staff members

HIGHLAND:

On behalf of Highland Elementary, Principal Debra March welcomed and thanked the committee for celebrating the technology successes of Highland Elementary.

The PowerPoint which highlighted Highlands's use of technology was presented and narrated by Kathy Woodward; Technology Coach at Highland the presentation is attached for the committee's review. Listed below are some of the technology resources that are used by the Highland staff to engage the students.

- 30 Dell Computers in Computer Lab
- New Dell for every teacher and student work stations in classrooms
- Alpha Smarts on traveling cart
- Document Camera in Art
- E Instruction – Classroom Performance System
- Digital Cameras & Video Cameras
- SMART Boards are located in every classroom Grades 1-5, Computer Lab, Library
- Teachers use them daily to integrate curriculum & technology
- Everyday Math- teachers and students interact on the SMART Board
- United Streaming and special programs on the Smart Boards are motivating for students

Ms. Nicholle Shughart is a first grade teacher at Highland who explained the success she had using the motivating and interactive characteristics of the SmartBoard to teach students about the Continents. She also created a Wiki with the help of Randy Stall, District Technology Integration Specialist. The Wiki will enable her students communicate with students in Japan. The committee wishes Ms. Shughart best of luck with her application for the Fulbright Scholarship. This is a full grade scholarship to live and learn in Japan for several weeks. If successful in attaining the scholarship, she will implement what she learns about Japan in her classroom. Go Nicholle!

In an effort to expand cultural awareness and improve student scores in writing, Instructional Coach Amy Tharp-Lumley, described the [www.travel4life](http://www.travel4life.com) website. Mr. Dean Jacobs, the author of this website (and book called "Wondrous Journey") made a personal visit to the Highland Elementary students several years ago. He now travels the world and relates his experiences through the Travel 4 Life website. The website allows students to interact with the author with questions as he provides information on his travels. Amy offers students instruction on how to navigate through the website. The communication and interaction with the author also incorporates the use of blogs and podcasts.

Ms. Jennifer Russell, also a first grade teacher at Highland was a Peace Corp volunteer in Gambia. Ms. Russell presented her Intercultural Studies and Pen Pal unit through a Peace Corp volunteer from Ghana. With the aid of the SmartBoard, the Highland students collaborate and correspond with their foreign pen pal.

Educational Technology Advisory Committee 01-23-07

Host School Site: Littleton Academy

Number of Students: 450

Free/Reduced Lunch Rate: N/A

Presenters: Jerry Thuelin Media Specialist, Cara Clouston, Computer Technology Coach, Rayma Nilsson, 6th Grade Social Studies Teacher, Jan Johnson-Pote, Principal

Ms. Johnson-Pote extended a welcome to the ETAC committee and introduced the Littleton Academy Governing Board.

Ms. Johnson-Pote then highlighted some of the technology challenges and success **Littleton Academy** has experienced.

Challenges	Successes
Obsolete Computers	Replace and upgrade hardware/software
Old version software	Used grant to purchase new equipment
Limited number of computers	Wireless
Limited Technology	Applied for E-rate discounts
Limited Budget	Used ITS personnel for staff training
Slow Bandwidth	Integrating technology into curriculum

Ms. Rayma Nilsson gave examples to the committee of how she used e-mail to give feedback and communicate to her 6th grade class regarding term essays they had written. Their enthusiasm kept her awake well into the evening hours! Ms. Cara Clouston demonstrated how she transferred student art work onto a CD following a field trip. Students were able to narrate and interpret their piece of artwork and describe their experience in the accompanying audio portion of the CD. Mr. Thuelin had a demonstration of his student's work where after interviewing an elderly individual living at the Life Care Center next door to Littleton Academy, the students put together a CD slide show of the important life and times of the individual they interviewed.

Thanks to Littleton Academy for sharing their successes with the ETAC Committee.

Educational Technology Advisory Committee 02-27-2008

Host School Site: Arapahoe High School

Number of Students: 2,180

Free/Reduced Lunch Rate: 4.04

Presenters: Karl Fisch and Arapahoe High Students

Discussion:

Presenters: Director of Technology at Arapahoe High School, Mr. Karl Fisch, and AHS students: Ms. Hannah Leffingwell, Ms. Paige Newell, Ms. Maria Krump, Mr. Spencer Zepelin, and Mr. Ben Horblit.

Mr. Karl Fisch introduced the five Arapahoe students who were asked to provide a 10-15 minute improvisation when asked the question, **“How has your learning changed?”**

These are just some of the spontaneous comments the students made:

- We are learning “how” to learn. The teachers provide guidelines as to what they expect; we are not spoon fed information. As students, we now develop our own opinions and collect documentation to support our opinions from internet sources. We learn how to decipher reliable sources of internet information. In this way of learning the teacher has more of a facilitator role which creates feelings of independence, creativity and responsibility in us as students.
- Since students have more ownership of their learning, it becomes more personal. Students can see and understand the meaning in what they are doing. Access to the internet has created a much more dynamic learning environment. When references are limited to what is on the shelf of the library, students cannot pull from as many sources. The internet provides much more information at your fingertips.
- Students have the ability to learn how to use the technology itself. For instance, how to use the “help” function, spell check, thesaurus. Also helps them to have the confidence to adapt to new and ever-changing software/hardware updates.
- The use of technology allows a student to expand their organizational capabilities. Students can fit so much more information onto a thumb drives versus carrying cumbersome and heavy books around.
- Students can add audio/visual enhancements to reports. Technology tools such as these can give papers an impact beyond their normal scope. In addition, a student can share their work via the internet with people around the world acquiring interesting perspectives from many types of cultures. This powerful capability gives a student more vested interests in their work. Students spoke of discussing their essays with students from Japan and New Zealand.
- The implementation of technology takes away the cement walls and confines of the school building. Learning becomes unlimited. The opportunities and exposure that technology creates fosters the ability for students to hone in on their interests, career and professional interests and in general what makes them happy earlier in life.
- It’s great to have the ability for quick reference and look-up capabilities with the Podnet, I-phone and I-touch.

- Are laptops a distraction? The students thought that the kids who were distracted by laptops are the same students who would be doodling with pencil and paper or napping instead of learning. Students expressed gratification at having the responsibility of ownership of technology. The ownership they said builds a mutual trust between student and teacher which the students enjoy.

Questions from the committee to the students

What is your perception of teachers in general and how they are using technology?

There seems to be a great disparity amongst teachers and the use technology. Some seem very comfortable while others are still afraid. The students were hesitant to say that these instances seem to align themselves with age, but it seems that younger teachers are more naturally inclined to use technology while some of the more mature teachers are more hesitant.

What is the ideal role of the teacher with technology?

- In a word, Guidance! There is still a curriculum that needs to be followed and the teacher understands those requirements. If a student “gets stuck”, needs further clarification or help in any way the teacher can provide guidance and structure both individually and as a class.

Use the beginners mind, think like a child. . . Mr. Spencer Zepelin had the committee perform a drawing exercise exemplifying that educators need to continue to foster wonderment and creativity in conjunction with experience to grow student minds without destroying individuality and the child-like imagination.

Mr. Karl Fisch- Summary: Arapahoe High School hosted a seminar involving some 150 participants. The seminar was called Learning 2.0. Teachers, School Board Members, Students, Administrators and Parents all participated. Arapahoe High School has been awarded grants which have allowed them to buy technology equipment enabling them to have great learning opportunities they have not previously had. An example of this is the Videoconferencing sessions with Daniel Pink.

Mr. Fisch stated that staff development is at the heart and soul of successful learning. He attributes a large part of Arapahoe High Schools success on ongoing, sustained staff development. Arapahoe High is in its' 3rd year of staff development meetings which occur every 2-3 weeks. This session involves teachers teaching teachers, with a “big picture focus”. Teachers look at today’s students learning in a 21st Century environment and try to figure out what is best for them. “We are living in an age of information abundance and flat world conditions. We need to make student centered decisions.” he said

Educational Technology Advisory Committee 04-02-08

Host School Site: Lenski Elementary School

Number of Students: 605

Free/Reduced Lunch Rate: 2.89

Presenters: Ms. Trecie Warner and Lenski Staff Members/Students

Discussion:

Ms. Trecie Warner, Lenski Elementary Computer Coach greeted the committee and introduced the Lenski Elementary presenting committee which consisted of a teacher from each grade level and 5th grade students who exemplified how technology was being used in their class. (Second graders were not present due a 2nd grade event.)

1st grade: For their final presentation, the first graders put together a **PowerPoint** on a mammal of their choice and illustrated where in the world that animal is found.

3rd graders: created a **podcast** where students imagined that they were news reporters for the “Lenski Science Network.” The students gave reports on Ocean Habitats. On this grade level students begin to move toward independent critical thinking. (Example: “What do you think you need to know about this topic?”) and **use Internet sources** for supportive documentation in first drafts. Student work is frequently done on a computer as available. With the use of a **document camera** students are able to use pictures of subject matter in their written final project.

4th graders: At this level there is a greater push to get away from traditional research projects where teachers drive all the questioning and information. The fourth graders are studying volcanoes and also collecting and validating **Internet resources** being used for their final

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5th graders: A wonderful bunch of 5th grade Lenski students described to the committee the work they were doing making Public Service Announcements. First, a combination of research books and websites are obtained by students for a project. **Websites are validated**, then used to find important and interesting facts regarding the topic. Students employ note taking skills via computer in 2 column format in **MS Word**. They use **copy and paste** functions to take notes from internet websites and must also document websites used as resources. All **editing and revision** work is done on a computer. The last week of school there will be a film festival at Lenski where all the students Public Service Announcements will be shown in addition to posting the project to the 5th grade Lenski **Wiki space** to be shared with friends and family.

In one Lenski classroom, (due to generous donations) there are 28 laptop computers which is one per child. This is most desirable because it allows for maximum flexibility due to tight scheduling and high demand of laptop carts. The children use the laptops for a variety of functions all day.

Kids learn how to troubleshoot and problem solve. They share their knowledge with teachers and student peers as they collaborate to solve computer challenges.

Lenski also has a mentoring program that involves third graders teaching kindergarteners how to insert pictures and borders and write paragraphs on the computer.

The Lenski teachers believe that technology embedded curriculum work is a valued culture within the school; it’s deemed to be important and is supported by the leadership team at Lenski.

Educational Technology Advisory Committee 4-30-07

Host School Site: Field Elementary

Number of Students: 439

Free/Reduced Lunch Rate: 71.13

Presenters: Mr. Mike Montgomery

Discussion:

Mr. Montgomery demonstrated the value of a software assessment tool he uses to improve teacher instruction called E-Cove. This tool provides teachers with immediate feedback from the principal and generates valuable data. Mr. Montgomery uses the data as a starting point to have a conversation with the teacher regarding student instruction.

Field Elementary is a Title 1 school which means Field receives federal funding due to the fact that 70-75% of the students are on the free and reduced lunch program. A considerable challenge that the school faces is how to create the same 21st Century learning opportunities for children when a title one school has shallow fund raising capabilities.

Amongst the teaching staff at Field, Mr. Montgomery feels that there is a wide spectrum of technical comfortability. Looking ahead to the future at Field, Mr. Montgomery's stated that his vision was influenced by Alan November. He would like to have every classroom have the capability of being a Global Communication Center. This in part is motivated by the fact that the demographics of Field include students that speak 16 different languages and come from 28 different countries.

By the end of 2009 Mr. Montgomery would like to see every classroom have a white board, a mounted projector, a document camera and a Smartboard.



ETAC COMMITTEE RECOMMENDATIONS

Recommendation Priority 1

Concept: Document cameras and mounted projectors in all classrooms to create a collaborative learning environment that every teacher can use.

Cost: \$600,000

*Unanimous decision by ETAC Committee

Recommendation Priority 2

Concept: Allocation of funds to be used for staff time and training for additional contract days, training stipends and substitute pay for release time. Staff will have job-embedded time to get training to focus on student-centered learning.

Add 2 days to the teacher contract (\$341,000/day/year) and the balance for stipends (\$150) and substitute pay (\$110).

Cost: \$1.5 million/year

*Unanimous decision by ETAC Committee

Recommendation Priority 3

Concept: Staff computers should be maintained on a reasonable refresh rate of 3-5 years with options for desktops and laptops at no additional cost to school budgets.

This will ensure that staff will be equipped at least as well as other knowledge workers.

Cost: \$425,000/year

*Unanimous decision by ETAC Committee

Recommendation Priority 4 – Future Bond Election Initiative

Concept: VOIP phone system and infrastructure upgrades should be included in a future bond election initiative. Without an upgrade, our phones will fail within 3-4 years drastically impacting service and safety. Internet and network redundancy will also become essential.

Cost: \$4.5 million

*Unanimous decision by ETAC Committee

Recommendation Priority 5

Concept: High School language arts classroom sets of notebook computers. (such as eee pc's) Deploy 1:1 environment in the high school classroom where writing and authorship are the highest premium.

Cost: \$400,000 implementation with \$100,000 recurring annually

*ETAC Committee 21 aye 2 opposed

Recommendation Priority 6 – Future Bond Election Initiative

Concept: 1:1 laptop project K-12 requested to be included in future bond election initiative

Cost: TBD

*ETAC Committee: 7 member for 5 members against 10 abstained

Charge for ETAC 2007-2008

ETAC recommends to the Board of Education the following Charge:

As a diverse community voice, the charge of the ETAC will be to advise the Littleton Public Schools regarding implementation of technology to support a world-class learning community that promotes student achievement, empowers educators, and develops students into productive citizens.

ETAC will be a forum for ideas and innovation

ETAC will provide an avenue for gathering community support

ETAC will review equitable technology policy

For the 2007-2008 school year, ETAC's objectives are to

- Contribute to an on-going assessment of the state of technology for the district in order to determine impact on the educational process for students
- Assist the CIO in planning for funding and implementation of the recommendations forwarded to the Board
- ETAC will provide an avenue for gathering community support