The State and Futures of Educational Technologies

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Since the issuance of the National Education Technology Plan (reported in the February, 2011, What Works Column of Teacher Librarian), some critical reports have been issued that give us a glimpse of the technology phenomenon happening with the current generation of young people in the nation. In this column, we highlight three of these reports and their findings:

Pew Internet & American Life Project. Generations 2010. Report issued December 16, 2010 at: http://pewinternet.org/Reports/2010/Generations-2010.aspx

STAR: School Technology Action Report: Emerging Trends 2011. eSchoolMedia Inc., 2011 at: http://www.eschoolnews.com/wp-content/uploads/2011/02/esmstarreport.pdf

Johnson, L., Smith, R., Willis, H., Levine, A., and Haywood, K., (2011). The 2011 Horizon Report. Austin, TX: The New Media Consortium at: http://creativecommons.org/licenses/by/3.0/

KEY TRENDS IN THE HORIZON REPORT:

• The abundance of resources and relationships made easily accessible via the Internet is constantly challenging us to revisit our roles as educators in sense-making, coaching, and credentialing.

• People expect to be able to work, learn, and study whenever and wherever they want.

• The world of work is increasingly collaborative, giving rise to reflection about the way student projects are structured.

• The technologies we use are increasingly cloud-based, and our notions of IT support are decentralized.

• *The Horizon Report* also recommends that E-books and working on mobile devices are the major trends to watch closely alongside game-based learning.

KEY FINDING OF THE STAR REPORT:

• More and more lectures are being moved to "homework" so class time is spent working with individuals and small groups. It is called inverted learning.

• Mobile devices are becoming mainstream in teaching and learning.

• While E-books are often static text, watch developments such as Blio for a new generation of interactive texts.

• VDO (virtual desktop infrastructure) utilizing cloud computing makes all resources available on any preferred student or teacher device.

• The old concept of a "dumb" terminal that connects to a computer remotely is cutting costs for one tone computing solutions.

KEY FINDINGS OF THE GENERATIONS 2010 REPORT:

• Social networking is still firmly entrenched in the vocabulary of the youngest computer users.

• Email is used by teens only for formal communication with adults.

• Personal blogging by younger users is giving way to Facebook-type networks.

While our attempt to condense for the reader the various trends, we urge the reading of the full reports to gain a better and clearer sense of what is happening in technology. However, it should be apparent that the continuous evolution of technology is forever changing current reality as adults and young people interact. It is certain that "keeping up" in technology is a must for every teacher-librarian. We have and continue to recommend that every teacher-librarian develop a PLN (personal learning network) that keeps you informed of new developments. And, the place to start is to surround ourselves with a Geek squad of young techies who teach us and whom we challenge to build a bridge from the social networking skills over into academic skills.

For example, as we read the above trends, we imagine some of the responses that might be incorporated into building a learning commons environment in the school. Our list of suggestions might stir a few ideas:

• Seeing that an increasing number of students and teachers have mobile devices, I would push toward the adoption of the free and safe cloud computing environment of Google Apps for Education (Nevin, Melton, & Loertscher, 2010). And, in that environment you would bypass district servers and often their networks, enabling the mobile devices option so that whether kids had computers, iPads, iTouches, mobile phones, or other computing devices, they would have access to their coursework and the

resources of the learning commons at any time and anywhere.

• If I wasn't an "expert" in the Google family of resources or major open source applications such as Moodle, I would dedicate time to learn them so well that I could be a leader in technology in my school.

• It is time that teacher-librarians know and keep up with every development in the E-book department including e-texts, and free educational resources. The new collection development pushes now from print to digital and from a single person doing and finding the best of the best to a giant collaborative of adults and students building collaborative access.

• I would be a leader in going beyond the mere transference of old assignments from paper and pencil to some form of technology to entire re-invention of teaching and learning where technology is actually boosting both deep understanding and learning how to learn. An example of this is the following list that concentrates on what is to be learned and then selecting the tool to accomplish that objective. You are invited to view and contribute to the list.

TYPES OF LEARNING BOOSTS FROM TECHNOLOGY

Learning How to Learn:

Brainstorming

Question building

Gathering and organizing high quality information

Reading engagement

Analysis and synthesis of information and ideas

Collaborative writing and editing

Collaborative visualization; Mindmapping

Presenting, publishing, and communicating

Reflection and metacognition

Collaborative knowledge building; Collaborative intelligence

Other learning How to Learn Tools

Motivation

Novelty

Real world

Relevant

Experimenting and playing, problem posing and problem solving simulations

Global projects: Appreciation of other cultures

Other Motivational Tools

Creativity and Content Creation

Building/composing, creating using many tools and presentation *venues*

Digital storytelling; growth in oral speaking

Creativity tools and innovation because of those tools

Presenting, publishing and communicating

Collaborative and individual writing

Other Creativity and Content Creation Tools

Efficiency

Tools that save time for individuals and groups

Organizational tools that help everyone get the job done.

Other Efficiency Tool

Deep Understanding of Content Knowledge

Collaborative visualization; Mindmapping

Multimedia experiences not possible in a non-tech world

Growth in Content Knowledge: the major ideas of the various disciplines: what we know and are able to do

Other Deep Understanding of Content Knowledge Tool

Assessing What We Really Value

Deep understanding

Learning How to Learn

Critical thinking

Creative thinking

Habits of mind

College and career ready

Common Core Standards and other standards we value

Formative and summative

Other Assessing What We Really Value Tools

Teaching Strategies, Techniques, and Organization

Differentiation

Presentations

Going paperless

Tracking and managing

Management systems for courses, grading

Environments such as Google Apps for Education; Moodle

Other Teaching Strategies, Techniques, and Organization Tools

Now over to you: Brainstorm about the best Web 2.0 tools, complete the questionnaire on tools at: **https://spreadsheets. google.com/viewform?formkey=dGdK b1JoRDFOalh1VHFQTTY4Mk9YWGc6 MQ**, and then you can view the results at: **https://spreadsheets.google.com/ccc?key= tgJoRhD1NjXuTqPM682OXXg#gid=0.**

The more proficient we are as teacher-librarians in promoting, demonstrating, and implementing super learning experiences that take advantage of the rich and often free information resources out there and that take advantage of the best learning technologies, the more likely we are to hold on to our positions in schools because we are indispensible. It should be clear to all of us, that merely raising each learner to minimal expectation levels must fade as a *push toward* excellence arises. And, should we all lose our positions in times of financial exigencies, we will be equipped to be the very best teachers in the school or as members of any learning organization.

REFERENCES

Nevin, R., Melton, M., Loertscher, D. V. (2010). Google Apps for Education: Building Knowledge in a Safe and Free Environment. Spring, TX: Hi Willow Research and Publishing.