



...the educational prism through which students realize meaning and purpose in their lives...

**TO: Members, Board of Education
Dr. Constance Collins, Superintendent**

FROM: Kevin M. Anderson, Ed.D.

RE: Technology Planning – Part 1: Empowering 21st Century Learners

DATE: February 9, 2010

This presentation and report are focused on the changing nature of teaching and learning that are necessitated in an effort to meet the needs of 21st century learners. An overview of recommended learning conditions is provided from the ISTE National Educational Technology Standards for Teachers. Also included is the process that was followed in addressing the learning environment over the past several months.

Part of the oral presentation to the Board will include a segment on our District's Digital Leaders. During the past 18 months, several core subject teachers from across the District have been involved as Digital Leaders in preparation for the new emphasis on using 21st century learning tools in the classroom. Under the leadership of Susan Oxnevad, teacher-leader for instructional technology, these teachers have worked to develop new techniques for engaging students and staff in the digital world.

This presentation will be devoted to the evolving philosophy of 21st century teaching methodologies. The next report will focus on the essential tools needed to meet these goals.



OAK PARK ELEMENTARY SCHOOL DISTRICT 97
Oak Park, Illinois

February 9, 2010

District 97 Technology Planning – Part 1:
Empowering 21st Century Learners

Strategic Plan End Results:

- 1.3 Adapt instruction to meet the needs of different academic abilities and learning styles.**
- 1.7 Implement professional development programs designed to improve student achievement.**
- 5.6 Ensure 99% uptime for every-day technology needs.**
- 7.6 Ensure current, cohesive, and extensible technological systems and support for communication across the district.**

Introduction to 21st Century Learning Skills

Our world is changing... We've progressed from a society of farmers to a society of factory workers to a society of knowledge workers. And now we're progressing yet again – to a society of creators and empathizers, of patterns recognizers and meaning-makers.

A Whole New Mind
Daniel H. Pink (2006)

Society is changing... Every young person will need to use Information and Communication Technology (ICT) in many different ways in their adult lives, in order to participate fully in a modern society.

Are Students Ready for a Technology-Rich World?
Organization for Economic Co-operation and Development
(OECD, 2006)

Based on the recently revised ISTE National Educational Standards for Students (NETS-S), certain skills have been identified as being of greatest importance during the next decade. ISTE (the International Society for Technology in Education) has been the premier instructional technology organization for more than 25 years and its rigorously researched and reviewed standards for students, teachers, and administrators have

become the international guidelines for schools around the world. As identified by ISTE, students will need practice and support to become competent in the following areas:

1. Demonstrate creativity and innovation
2. Communicate and collaborate
3. Conduct research and use information
4. Think critically, solve problems, and make decisions
5. Practice digital citizenship
6. Use technology effectively and productively. (ISTE, 2007)

In order to provide the appropriate setting for students to become proficient in these skills, several essential conditions have been noted:

1. **Shared vision** – Proactive leadership in developing a shared vision for educational technology among school personnel, students, parents, and community
2. **Implementation planning** – A systemic plan aligned with a shared vision for school effectiveness and student learning through the infusion of ICT and digital learning resources
3. **Consistent and adequate funding** – Ongoing funding to support technology infrastructure, personnel, digital resources, and staff development
4. **Equitable access** – Robust and reliable access to current and emerging technologies and digital resources, with connectivity for all students, teachers, staff, and school leaders
5. **Skilled personnel** – Educators and support staff skilled in the use of ICT appropriate for their job responsibilities
6. **Ongoing professional learning** – Technology-related professional learning plans and opportunities with dedicated time to practice and share ideas
7. **Technical support** – Consistent and reliable assistance for maintaining, renewing, and using ICT and digital resources
8. **Curriculum framework** – Content standards and related digital curriculum resources
9. **Student-Centered learning** – Use of ICT to facilitate engaging approaches to learning
10. **Assessment and evaluation** – Continuous assessment, both of learning and for learning, and evaluation of the use of ICT and digital resources
11. **Engage communities** – Partnerships and collaboration within the community to support and fund the use of ICT and digital resources
12. **Support policies** – Policies, financial plans, accountability measures, and incentive structures to support the use of ICT in learning and in district and school operations
13. **Supportive external context** – Policies and initiatives at the national, regional, and local levels to support schools in the effective implementation of technology for achieving curriculum and technology (ICT) standards (ISTE, 2007)

Technology Planning Process

Since the instructional computers are nearing their end of life (or have already passed it), it was time for a plan to address the computing needs of the students and staff over the next several years. In Fall 2008, the TechVision 97 committee was convened with several teachers, administrators, and community members in attendance. This committee struggled with the idea of how to provide ubiquitous technology for all members of the District 97 community. Focusing on access for all, the committee came up with a vision statement and several goals addressing the need for better accessibility to state of the art equipment, a consistent funding source, professional development for all staff on a regular basis, and easy access for students at school and home. While many of the discussions and final goals dealt with obtaining more equipment, the overarching theme of the committee was to address a change in attitude toward the use of technology for addressing 21st century learning skills.

With the help of the consultants from Apple Computers, Inc., the District began a planning process in Fall 2009 for the improvement of classroom instruction, including 21st century uses of technology. It was repeatedly impressed upon the District 97 planning team that technology purchases should not be desired goal. Instead, changing the way teachers and students used new information should be the goal, with technology playing a part when appropriate.

The Apple consultants interviewed District administrators, principals, and teachers to determine the atmosphere for pedagogical change. Since computers had been available mainly for productivity tasks by teachers and for visits to the labs by students, the time was right for detailing a new way to address 21st century innovations in teaching and learning. A technology planning team was convened on October 16 to discuss how classrooms should evolve to meet the needs of today's students. Twenty-four teachers, principals, Board members, and university professors met for a full day to provide insight into the changes envisioned. Buying more equipment was not the focus... changing the culture of learning in our classrooms was the goal. At the end of the day, these participants had delineated the general steps toward making the technology planning process a vehicle for instructional innovation.

Site visits at nearby schools were arranged for District 97 teams so that members could interact with staff and students who had gone through this instructional transformation. Visits were conducted at LaGrange Highlands District 106 Middle School and Washington Middle School (Kenosha, WI) to view their recent technology initiatives and to observe how classrooms had changed to address skills identified by the 21st Century Learning Partnership. These schools had each moved to a 1 to 1 model of providing instructional computer access to their students, following an earlier initiative of providing their teachers with laptops, LCD projectors, and interactive whiteboards. While the addition of these computing resources was impressive, perhaps more impressive was the emphasis placed on professional development for staff. Both site visits made it very clear that adding more equipment was not the answer without the addition of heavy doses of professional training for staff. Training was provided consistently on a regular basis in

groups differentiated by need. Staff meetings were regularly used for short training sessions since the laptops provided teachers with the opportunity to create a “training lab” anywhere in the building. No longer did everyone have to fit into the wired lab to receive training, collaborate on projects, or try out new methods. In addition, the large number of projectors and interactive whiteboard available to teachers made it possible to more fully engage students in live lessons, videos, and websites.

On January 4, 2010, a draft presentation of the pedagogical changes envisioned under this plan was shown to the Education Council. Following a 30-minute slide show of proposed innovations, the teachers in attendance were supportive and enthusiastic about the possibilities that were demonstrated. Again, professional development was of primary importance, with many questions raised about the type and frequency of training and collaboration that might be available. It was noted that the theme for the next couple years should be changing the classroom learning environment through the judicious use of technology.

Apple then provided an executive briefing for a 12-member team on January 21 and 22. In attendance were the Superintendent, members of the Cabinet, the technology administrator, three principals, three teachers, and two members of the Board. The focus of the briefing was “Supporting Learning,” with presentations and discussion targeted on changing expectations for teachers and learners. For our 21st century students, the learning environment must:

1. adapt to changing needs of students
2. provide personalized learning opportunities
3. integrate digital tools
4. provide for collaboration and teamwork
5. reflect the mobile lifestyle.

Success will no longer be measured just by test scores and homework, but also by creativity and innovation. Teachers will transition from being providers of content to being providers of context, allowing students to make decisions, judge information, and collaborate on meaningful, life-centered problems. The teacher will need “to be skilled on creating conditions for invention rather than providing ready-made knowledge.”

(Seymour Papert)

In order to provide meaningful professional development to teachers and administrators, presenter Rae Niles stressed that research from the Apple Classrooms of Tomorrow project indicates that the District must recognize and address the following stages of transition:

1. Entry: *I’ll use this only if I have to...*
2. Adoption: *“These are great productivity tools for me to use...”*
3. Adaptation: *“Now I know how to enhance my existing curriculum...”*

4. Appropriation: *“I’m ready to redesign my curriculum...”*

5. Innovation: *“I have a whole new way to teach!”*

Ms. Niles also stressed the need for establishing relationships between colleagues so that no one felt left out or unsupported through the learning process. Mentoring and peer coaching were mentioned as excellent ways to provide this learning support as teachers transition from one level to another. She also noted that the National Staff Development Council has found that professional development in better classroom techniques for integrating technology has a real pay-off: student achievement gains of 21% have been noted when teachers receive a minimum of 49 hours of meaningful professional development and practice during the course of a year. This study also found that hit and miss efforts (5 – 14 hours per year) result in no achievement gains for students at all. Professional development must be meaningful, sustained, and connected to the classroom learning environment.

Finally, it is important that staff and students be able to demonstrate how the use of creativity and innovation through technology integration improves the learning environment. All teachers must have personal learning goals for improving their instructional methodology and must be able to effectively use the technology provided through a supportive, collaborative team environment. Differentiation of instruction and support is as essential for the teaching staff as it is for our students.

Board Presentation

Part 1 of the technology planning presentation, Empowering 21st Century Learners, will focus on where we want to be as an innovative, learner-centered school district. The literature on 21st century skills is extensive, so this written report is only touching on the fundamental basics of moving toward a 21st century teaching and learning system. Much more will be shared in the oral presentation during the Board meeting. Members of the site visit teams, Apple Executive Briefing team, technology planning team, and District 97 Digital Leader cohort will be on hand to give a view of the future for District 97. The focus will be on the changing philosophy needed to move the District into the 21st century and on the skills necessary for our students to be successful in high school and beyond. Following the presentation, a discussion will be held around the points presented, with the Board having the opportunity to ask questions of those teachers and administrators who have had the chance to experience the changes possible through the integration of new technologies.

Following this discussion, the second part of the plan will be presented at a subsequent Board meeting. The next report will outline the steps taken by the District over the past ten years to stay current in respect to technology infrastructure and equipment. Also included in the next portion of this comprehensive report will be the recommended tools necessary for the changes detailed in the first report, the timeline associated with these acquisitions, and the projected costs of the plan. Included in this outline will be other

projects and associated costs for such things as an updated phone system, a district-wide printing solution, upgrades to systems in finance, HR, and student information, and an identification of areas needing further study due the ever-changing nature of technology.

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