Statewide School Inventory and Engineering Study

Utah Education and Telehealth Network

Ray Timothy, Ph.D.
CEO/Executive Director
rtimothy@uen.org
SB 222 Digital Teaching and Learning Program

- **USBE**
  - develop a master plan for a statewide digital teaching and learning program (DT&L)

- **UETN**
  - conduct an inventory of the public education system’s current technology resources;
  - Perform an engineering study to determine the technology infrastructure needs of the public education system to implement a DT&L program
  - As funding allows, provide infrastructure and technology support for districts and charter schools
    - Inventory of Educational Technology Professional Development
Educational Technology Professional Development

Dr. James Marshall, San Diego State University

• Eight areas of focus
  • Current Research
  • ISTE Standards (International Society for Technology in Education)
Nearly one-half (47%) of districts and charter schools feel that adequate PD and training resources are not available in their budgets.
Statewide Use of Each Application

- Microsoft Office: 92%
- Google Apps for Education: 85%
- Adobe Reader: 62%
- Adobe Acrobat: 44%
- Pioneer Online Library: 43%
- ALEKS-Math: 37%
- Adobe Photoshop: 35%
- USOE|Open Educational Resources: 34%
- Canvas (LMS): 28%
- eMedia: 21%
Computing Devices Available for Student Use in Utah Schools – 380,600+

- Desktops using Windows OS: 108,114
- Google Chromebooks: 90,772
- iOS tablets: 78,428
- Laptops using Windows OS: 45,680
- Mac laptops: 27,218
- Mac desktops: 23,381
- Android tablets: 4,889
- Windows tablets: 1,196
- Other: 981
Computing Devices per Student in Utah Schools

- Statewide: 0.61
- School Districts: 0.63
- Charter Schools: 0.46
Average Age of Hardware in Utah Schools

- Newer than one year old: 10% Wireless, 13% Wired
- One year old: 11% Wireless, 5% Wired
- Two years old: 17% Wireless, 16% Wired
- Three years old: 36% Wireless, 22% Wired
- Four or more years old: 25% Wireless, 42% Wired

Wireless (among those with Wi-Fi service)
Tools and Software Needs Reported by Utah Schools

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>72%</td>
</tr>
<tr>
<td>Math</td>
<td>66%</td>
</tr>
<tr>
<td>Software for Students With Special Needs</td>
<td>58%</td>
</tr>
<tr>
<td>Language Arts</td>
<td>57%</td>
</tr>
<tr>
<td>Test Prep</td>
<td>56%</td>
</tr>
<tr>
<td>Social Studies or World Languages</td>
<td>49%</td>
</tr>
<tr>
<td>Tools for Student Products (coding, video editing, etc.)</td>
<td>48%</td>
</tr>
<tr>
<td>Online Books</td>
<td>47%</td>
</tr>
<tr>
<td>Teacher Professional Development Software</td>
<td>46%</td>
</tr>
<tr>
<td>Learning Management Systems</td>
<td>44%</td>
</tr>
<tr>
<td>Open Educational Software</td>
<td>42%</td>
</tr>
<tr>
<td>Tools to Track Student Device Usage</td>
<td>35%</td>
</tr>
<tr>
<td>Research Databases</td>
<td>32%</td>
</tr>
<tr>
<td>Counseling or Comprehensive Guidance</td>
<td>29%</td>
</tr>
<tr>
<td>Videos, Games, or Apps</td>
<td>27%</td>
</tr>
</tbody>
</table>
Digital Content License Agreements in Utah Schools

- **School Districts**
  - Own Digital Licenses for All Textbooks: 1%
  - Own Digital Licenses for Some Textbooks: 9%
  - Do Not Own Digital Licenses for Any Textbooks: 67%
  - Other Arrangements Made: 42%

- **Charter Schools**
  - Own Digital Licenses for All Textbooks: 7%
  - Own Digital Licenses for Some Textbooks: 46%
  - Do Not Own Digital Licenses for Any Textbooks: 25%
  - Other Arrangements Made: 3%
Wi-Fi Access Points vs. # of Classrooms or Instructional Spaces

.58 APs per classroom or instructional space

More than 17,000 Instructional spaces without APs
Engineering Study

- Wide Area Network (WAN)
- Wireless (Wi-Fi)
- Security & Content Filtering
Wide Area Network (WAN)

• Continue year over year bandwidth increase.

• Monitor and prepare for large-scale wireless implementations across LEAs

• Seek Stable Sustainable Operational Funding Sources

• Standardize Software and Hardware for Procurement Economies of Scale
WiFi

- Establish baseline of 20 Mbps per student
- Define and meet cabling requirements for digital learning
- Establish supported vendor list
- Add wireless support staff and tools for rapid response and resolution to issues
- Add or outsource high level wireless architect
- Set state standards for WiFi policies and practices
Security and Content Filtering

• Add additional security experts

• Limit BYOD

• Establish Security Event and Incident Management Practice

• Continue development of Vulnerability Management Practice to support LEAs

• Set state standards for security policies and practices

• Address and Support statewide Content Filtering Needs
Key Results and Findings

• 0.61 devices per student

• 11% of schools deploy 1:1

• Only 5% of schools deploy 1:1 and allow students to take the devices home

• Wi-Fi infrastructure is lacking

• Adequate Professional Development not available

• Wired and wireless infrastructure is aging
“Once we go all in with Digital Teaching and Learning, the network becomes a utility; something as critical as water and power in a school.”

Sanity Solutions
Questions?

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