Transforming Education with Cloud and Mobile Learning Environments

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Topics

• Benefits of Digital Access
• Digital Learning for Employability
• Microsoft’s Commitments to Education
Benefits of Digital Access
### Students and communities need more from education

<table>
<thead>
<tr>
<th>Schools are challenged</th>
<th>Communities are challenged</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Not all students are ready to learn</td>
<td>• Work is evolving</td>
</tr>
<tr>
<td>• Students have a wide range of learning needs</td>
<td>• Life is dynamic and complex</td>
</tr>
<tr>
<td>• Teachers and schools are doing more with less</td>
<td>• Employers need problem solvers and creativity</td>
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</tbody>
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Students and communities need more from education
EDUCATION FUELS
GROWTH AND PROSPERITY

Better education outcomes
Empowers knowledge economy
Enables entrepreneurial growth
Higher GDP
Digital Access Outcomes

Logic
- 24/7 computer
- 24/7 internet

Impacts
- + 6-8% school completion
- + reading ability
- + 6-8% economic impact
Leaders in PISA growth in both math and reading over a decade:

<table>
<thead>
<tr>
<th>Country</th>
<th>1:1 program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>Eduinnova</td>
</tr>
<tr>
<td>Peru</td>
<td>OLC-Peru, PCs for all students in 500 schools</td>
</tr>
<tr>
<td>Poland</td>
<td>European Schoolnet, ePoland</td>
</tr>
<tr>
<td>Portugal</td>
<td>Magellan, public private partnership</td>
</tr>
</tbody>
</table>

Policy changes in the most improved countries include:

- Improving **data** on learning
- Increases in **student-computer ratios**
- Increases in **teacher capacity**
Social Benefits of Digital Access

1. Individual benefiting from digital inclusion will make positive contributions to society.

2. Increased high school graduation rates and enrollment in higher education.

3. Increased earnings and reduced unemployment.


5. Increased usage of cost-saving eHealth and eGov services.

6. Savings from reduced incarceration.

7. Savings from decreased reliance on publically funded services.
Benefits to Utah of Digital Access
TRANSFORMATING EDUCATION

Microsoft’s Commitments to Education
Microsoft’s Commitments to Education

- Partners in Learning program investment of $750 million in 15 years
- YouthSpark programs for 300 million youth
- Partner in Teach.org with US Department of Education
- Partners with UNESCO, British Council
- R&D on innovative teaching, assessment, deep learning with ETS, SRI
- Leadership in student data privacy
Microsoft’s Focus on Education

- Microsoft-wide priority on learning
- New education-specific products
- Multi-platform approach
- Built for collaboration and sharing
- MS Research focus on learning
- Faster development timelines
- Global and national specialist teams and evidence-based resources
TRANSFORMATING EDUCATION

Digital Learning for Employability
# Jobs of the Future

<table>
<thead>
<tr>
<th>Depend on Human Traits</th>
<th>Opportunities</th>
<th>Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>For noticing nuance and analyzing complexity</td>
<td>Personal transit, water harvest, sharing economy, quantified self, drones, sensors, big data, 3D printing, energy grid, housing, bio-factories</td>
<td>Innovation is a key skill needed by employers</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Advanced Skills</th>
<th>Education Needs</th>
<th>STEM Programs</th>
</tr>
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<tbody>
<tr>
<td>Designing and analyzing physical systems and data</td>
<td>Dynamic relevant curriculum &amp; assessments, spaces.</td>
<td>Tech labs, robotics, media design, coding, data</td>
</tr>
</tbody>
</table>
1. **Large and significant positive effects** for technology-enhanced learning
2. Positive effects for technology in learning **reading**
3. Significant positive effects for technology in learning **mathematics**

Success factors:
- **teacher facilitation** rather than direct instruction
- **innovative** technology applications
- extensive **professional development**
- assessment using **non-standardized tests**
Pen technology engages students

<table>
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<tr>
<th>Benefits</th>
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| Scientific evidence for touch/pen interface  
(The Design of Future Educational Interfaces, 2013, S. Oviatt) |
| Increase in quantity and quality of **ideas** and **problems** solved                     |
| Reduce cognitive load, more **attention** to learning                                     |
| **Divergent** thinking, a component in creativity                                        |
| Learning by **low performing** students                                                   |
| **Natural** communication and thinking                                                    |
| **Psychomotor engagement**, **conceptual** learning                                      |
| Reduce shifts among input and output, aiding students with **learning disabilities**      |
| **Symbolic** **thought**, all written languages and representations                        |
| **Help learners become** **experts** in their own learning                               |
Microsoft Education Transformation Framework

Vision of Anytime Anywhere Learning for all

Leadership and Policy
- Strategic Planning, Organizational Capacity and Sustainability
- Quality Assurance
- Partnerships for Employability
- Teacher and Leader Capacity

21st Century Pedagogy
- Curriculum, Content, and Assessment
- Inclusion and Accessibility
- Personalized Learning
- Learning Communities
- Learning Environments

Designing Technology for Efficient and Effective Schools

Adopted by education ministries and validated by research
For evidence and expert perspectives, Microsoft in Education Transformation Framework