Open and Shared Educational STEM Resources in the Middle School

Kim Lightle, MSP2 Portal
Mary Henton, NMSA
Christine Loew, Curriki
MSP2 – An Overview

Quality resources and powerful connections for math and science in the middle grades
http://www.msteacher2.org
Goals for Users

• Easily locate and identify exemplary, standards-based resources for teaching and learning.
• Develop increased content knowledge in science, mathematics, technology, and developmentally appropriate pedagogy.
• Develop an increased understanding of Web 2.0 tools and effectively integrate technology into existing teaching practice.

• **Participate in a virtual professional learning community and create and share knowledge within and beyond the MSP2 community.**
• Contribute to wiki pages
• Chat with others that are online
• Blog (public or private)
• Participate in discussions in forums and groups
• Participate in online, live, professional development events
Curriki is....

- a free, open and shared online innovation that enables teachers to help every student learn
- committed to empowering and supporting teachers
- helping to improve teacher engagement and effectiveness
Curriki is building this world

We harness the collaborative knowledge of the K-12 education community
The power of next-generation Web 2.0 technologies to transform education

Teachers can:
• Find, create, and share free and open resources
• Find targeted curricula
• Collaborate with professional colleagues

Schools can:
• Spend less on instructional materials
• Save or reallocate financial resources
• Capture knowledge and best practices from within their local community
Open and Shared provides significant advantages to the traditional model

Digital content and learning hold promise

The textbook market focuses on the needs of 37% of students, yet personalized content yields powerful results

Online instruction produces similar performance outcomes and more than double the course completion rate with half the effort

**Personalized content yields better student outcomes**

<table>
<thead>
<tr>
<th></th>
<th>Traditional</th>
<th>Individualized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of students getting an A or B grade</td>
<td>28%</td>
<td>39%</td>
</tr>
</tbody>
</table>

**Hybrid models yield greater efficiency**

<table>
<thead>
<tr>
<th></th>
<th>Traditional</th>
<th>Hybrid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcomes¹</td>
<td>84%</td>
<td>85%</td>
</tr>
<tr>
<td>Effort/Hours²</td>
<td>100%</td>
<td>50%</td>
</tr>
<tr>
<td>Completion³</td>
<td>41%</td>
<td>99%</td>
</tr>
</tbody>
</table>

¹ Percent of students passing the course
² Percent of "traditional student" hours required to complete the course
³ Percent of students who completed the course

Sources: McKeeback et al; Dynamic online homework system (2005); Carnegie Mellon, Open Learning Initiative, Lovett et al., and Joel Smith testimony to FCC
Curriki’s Approach

Build a repository of free, open and shared curricula & resources, that is focused on:

– Collaboration
– Assessment and Evaluation
– Participation
Curriki’s Repository

Free, Open and Shared Content:

• Lesson Plans
• Units of Study
• Full Courses
• Multi-Media
Curriki’s Tools

- **FIND** – Search the repository and build collections of resources
- **CONTRIBUTE** – Share your best curricula with our global community
- **CONNECT** – Work with others to collaborate on new content development
Curriki’s Quality Control

The Curriki Review System

- Robust multi-level quality control
- File Check
- Review by subject matter experts
- Member Comments
- Metatagging to include connection to standards
- Member star rating system
Rapidly Growing Reach

• Total Resources – 33,000+

• Members – 93,000+
• Groups – 440+
• Continued growth and impact, with more than:
  – 150,000 “Friends of Curriki”
  – 4.85 million page views
  – 21,000 content assets downloaded
• Followed by many more on:
Open and Shared Content offers enormous cost savings

### Instructional Materials Market

<table>
<thead>
<tr>
<th>K-12 Teachers</th>
<th>Avg. per teacher materials spend</th>
<th>Annual instructional materials spend</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1M</td>
<td>4.5K</td>
<td>$14B</td>
</tr>
</tbody>
</table>

### Curriki Educators (10% adoption)

<table>
<thead>
<tr>
<th>Curriki Educators</th>
<th>Avg. per teacher materials spend</th>
<th>Annual spend on these teachers today</th>
</tr>
</thead>
<tbody>
<tr>
<td>310K</td>
<td>4.5K</td>
<td>$1.4B</td>
</tr>
</tbody>
</table>

### Curriki Educators (10% adoption) - New spend per Curriki Educator (50% less)

<table>
<thead>
<tr>
<th>Curriki Educators</th>
<th>New spend per Curriki Educator (50% less)</th>
<th>New annual spend on Curriki Educators</th>
</tr>
</thead>
<tbody>
<tr>
<td>310K</td>
<td>2.25K</td>
<td>$700M</td>
</tr>
</tbody>
</table>

**Annual Savings with Curriki** $700M

Note: Conservative assumptions used. Additional savings could result when Curriki is adopted by a group of teachers, such as a district. Simba estimates the K-12 instructional material market to surpass $10 billion by 2010; NCES estimates $14.7 billion for 2006. Current Curriki membership equals 2 percent of U.S. teachers; 10 percent is a conservative assumption for the future.

Sources: 2006 U.S. Census; Simba’s “Publishing for the K-12 Market”; National Center for Education Statistics.
Supporting local educational learning objectives

Curriki is working with partners in the US and abroad to develop educational content in multiple languages, and to create federated Curriki sites that support local educational learning objectives. Such projects underway include:

**Europe**
Federated Curriki site deployed by the Intergeo project [http://www.i2geo.net](http://www.i2geo.net)

**India**
Teacher portal project

**Indonesia**
Federated Curriki Indonesia site
Teacher-training workshops
Content development

**Middle East and North Africa**
Planning stage for an Arabic language content-development project

**Sri Lanka**
A Curriki site in Sinhalese and Tamil
The Open and Shared Movement

• Become a member of Curriki today

• Share Content

• Encourage teachers to form groups and collaborate on curriculum projects

• Build and share collections

• Donate to movement
Thank You
Any Questions?

This presentation along with other resources can be accessed on the Curriki Group:
http://NSDL2009-DC.groups.curriki.org

Christine K. Loew
Curriki
cloew@curriki.org
202.626.8556
www.curriki.org

Kimberly Lightle, PhD
MSP2 Portal
Lightle.16@osu.edu

Mary Henton
National Middle School Association
mhenton@nmsa.org
www.msteacher2.org