Using Web 2.0 Applications as Educational Tools for 21st Century Teaching and Learning

Global Conference on Technology, Innovation, Media & Education

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The movie that we shared at this point in our presentation is a clip from a video called, “Iowa, Did You Know?” and available here: http://youtu.be/E1JyLYphevc

The "Iowa, Did You Know" content was developed by Dr. McLeod, with all storyboarding, design, and animation by XPLANE | Dachis Group.

· XPLANE | Dachis Group: http://www.xplane.com
· Dr. Scott McLeod: http://www.dangerouslyirrelevant.org
· IowaFuture: http://www.iowafuture.org
· School Administrators of Iowa: http://www.sai-iowa.org
· Downloadable discussion guide: http://bit.ly/ogPE9U

Your cell phone…

What's your reaction?

At this point in our presentation, we asked participants to use Poll Everywhere, a free, Web 2.0 tool, to let us know what they thought about the video, "Did You Know?".

Participants used their cell phones to text their words, and the results were displayed dynamically on this PowerPoint slide.

http://www.polleverywhere.com

Where are YOU
in relation to using
21st century technologies
for instruction?

Overwhelmed and confused!
Catching on, but still puzzled!
Digital Native, I can't remember not using it!
Digital Immigrant, but making progress!

Where are you?

At this point in our presentation, we asked participants to use Poll Everywhere, a free, Web 2.0 tool, to let us know in which of the previous categories they were a part.

Participants used their cell phones to text a number that corresponded to a particular category, and the results were displayed dynamically on this PowerPoint slide.

http://www.polleverywhere.com

Think about the last professional development session you attended

Use Facebook

Use a blog

Use Twitter

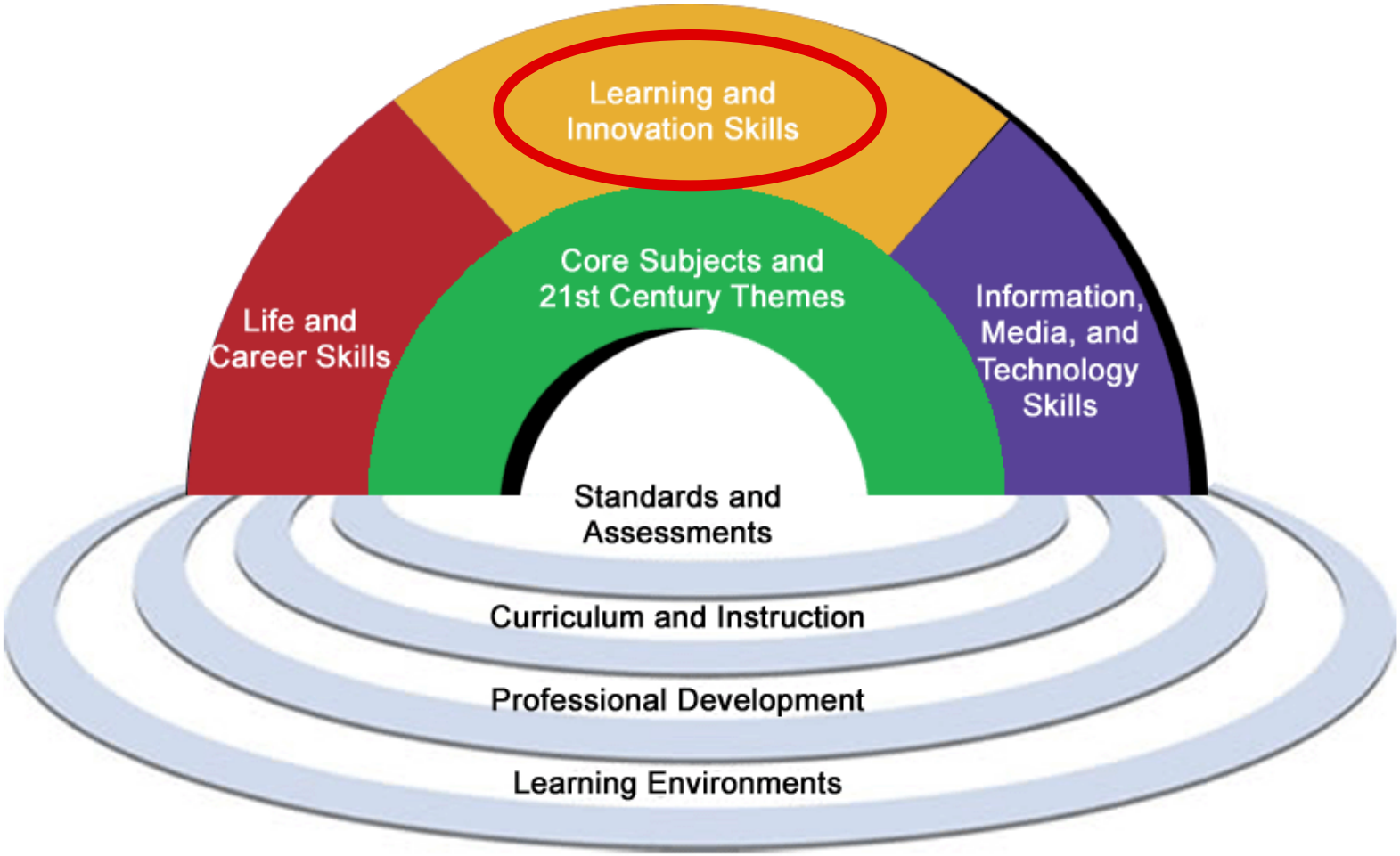
Use Diigo

Use Wordpress

Use a reader

USE !!!

Partnership for 21st Century Skills



Partnership for 21st Century Skills

Learning and Innovation Skills

- Critical Thinking and Problem Solving
- Communication
- Collaboration
- Creativity and Innovation

21st Century Skills

Critical Thinking and Problem Solving

Reason Effectively

- Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

Use Systems Thinking

- Analyze how parts of a whole interact with each other to produce overall outcomes in complex systems

Make Judgments and Decisions

- Effectively analyze and evaluate evidence, arguments, claims and beliefs
- Analyze and evaluate major alternative points of view
- Synthesize and make connections between information and arguments
- Interpret information and draw conclusions based on the best analysis
- Reflect critically on learning experiences and processes

Solve Problems

- Solve different kinds of non-familiar problems in both conventional and innovative ways
- Identify and ask significant questions that clarify various points of view and lead to better solutions

21st Century Skills

LEARNING & INNOVATION SKILLS

Critical Thinking and Problem Solving

- *Exercising sound reasoning in understanding*
- *Making complex choices and decisions*
- *Understanding t interconnections systems*
- *Identifying and c significant questi clarify various p view and lead to solutions*
- *Framing, analyzi synthesizing info in order to solve and answer que*

4th Grade

OUTCOME: Use technology to graphically display data about a community or state public issue and ask questions about and pose possible solutions to the issue.

spreadsheet of
to sev ol
ath
ney
nd then by
. They discuss
lata as they seek
Which districts
nding and scores?
in the schools
npared with the

8th Grade

OUTCOME: Use digitized resources to investigate and define political or social issues in the past and then illustrate, through a multimedia presentation, how one such issue relates to their community.

EXAMPLE: Students use online databases, such as www.census.gov to determine patterns of immigration and compare these patterns with changes in the demographics of their community and school district.

OUTCOME: Working in online research groups, students research a contemporary or historic issue, post significant questions about alternative courses of action, and/or analyze the information they have gathered to generate options for responding to the issue.

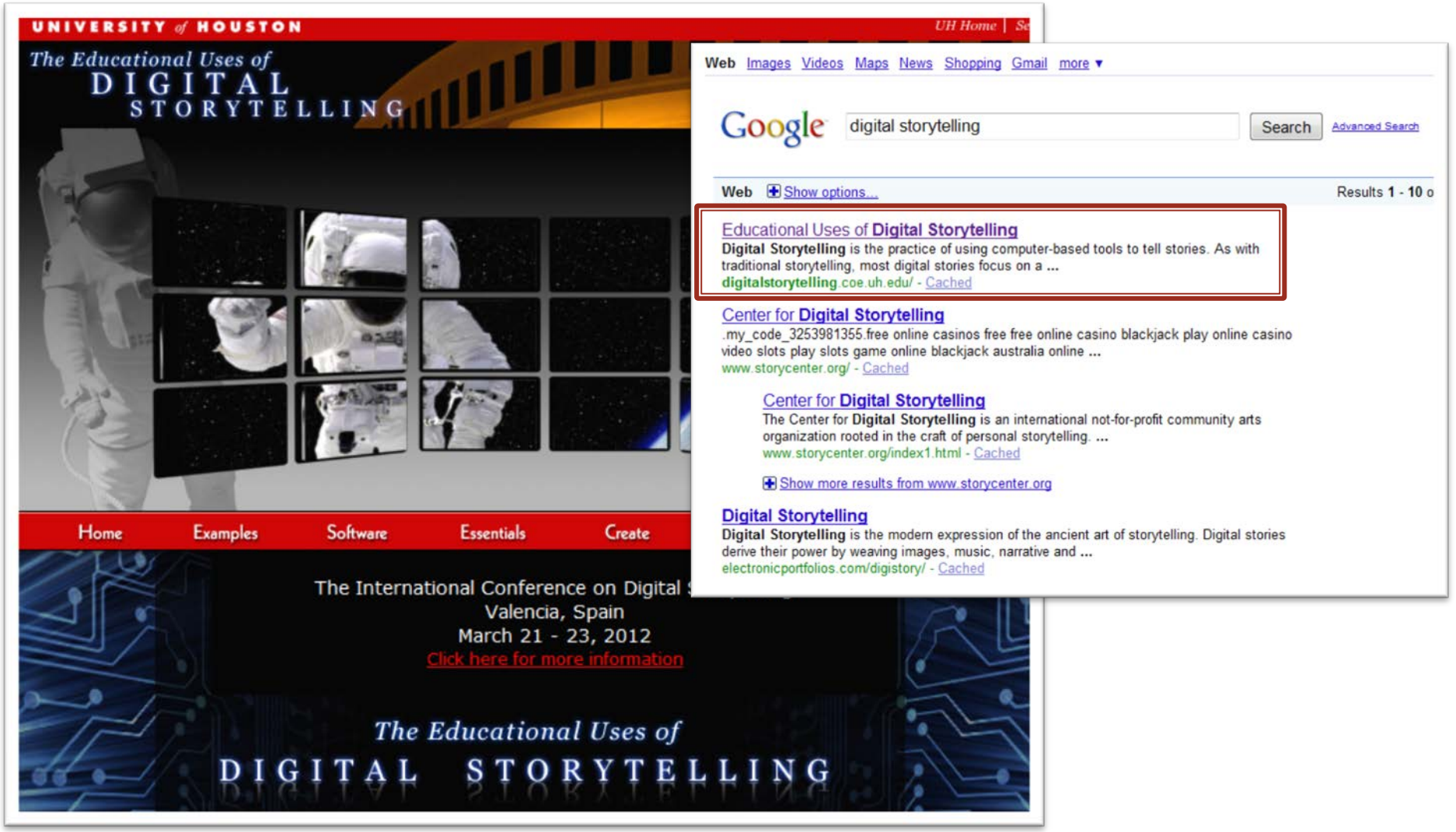
12th Grade

OUTCOME: Using sound reasoning and relevant examples, students analyze the historical evolution of a contemporary public policy issue, place it within an historical context, and use a digital publishing tool to report their work.

EXAMPLE: In groups, students explore how selected societies of the past used their natural resources for fuel (e.g., England's use of its forests at the beginning of the Industrial Revolution) and the economic impact of that use. Students use videoconferencing (e.g., www. skype.com) to collect information from relevant government officials about the use of corn for biofuel instead of food and analyze the environmental and economic implications of this use. Students use district-approved wikis to publish the results of their research.

What is the "best" tool that a student could use to create this multimedia presentation?

Digital Storytelling



21st Century Skills

Communication & Collaboration

Communicate Clearly

- Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts
- Listen effectively to decipher meaning, including knowledge, values, attitudes and intentions
- Use communication for a range of purposes (e.g. to inform, instruct, motivate and persuade)
- Utilize multiple media and technologies, and know how to judge their effectiveness a priori as well as assess their impact
- Communicate effectively in diverse environments (including multi-lingual)

Collaborate with Others

- Demonstrate ability to work effectively and respectfully with diverse teams
- Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal
- Assume shared responsibility for collaborative work, and value the individual contributions made by each team member

21st Century Skills

LEARNING & INNOVATION SKILLS

SOCIAL STUDIES

Communication

- *Articulate thoughts and ideas clearly and effectively through speaking and writing*

4th Grade

OUTCOME: Research, organize and present historical information in clear, complete and effective formats.

EXAMPLE: Working in small groups, students will choose an area from their state's history, organize a storyboard on the person/place/event, and use digital tools to create a presentation that teaches their topic to the remainder of the class.

8th Grade

OUTCOME: Research, organize and present information in clear, complete and effective formats.

Global Awareness

EXAMPLE: Research information on the local implications of a global issue of concern (e.g., child poverty, hunger, homelessness). Students organize their information and a possible solution and write a persuasive letter that is to be proof-read, peer edited, and finally sent via e-mail to a local public official.

OUTCOME: Interpret, organize and present information from American history in clear, complete and effective formats to other students/adults.

EXAMPLE: Research information on an issue relevant to an historical period (e.g., a determining factor in the outcome of the American Revolution or the inevitability of the Civil War) and organize it into a persuasive essay that is to be proof-read, peer edited, and finally written and summarized in a class blog and/or audio podcast.

12th Grade

OUTCOME: Analyze, synthesize, organize and present information from the social sciences in clear, complete and effective formats.

EXAMPLE: Research and use concept-mapping software to create a graphic display (i.e., Venn diagram) that compares and contrasts various major world religions in terms of foundations, beliefs, and relationship to historical and current issues.

OUTCOME: Access and evaluate information from various sources dealing with elected officials' effectiveness while in office.

EXAMPLE: Over an extended period of time, students efficiently access the voting records of different state and local officials on issues that impact their community (i.e., education and taxes) and create a digital report card of the selected official(s) using creative presentation methods such as a podcast, slideshow, Web site or district-approved blog.

21st Century Skills

LEARNING & INNOVATION SKILLS

SOCIAL STUDIES

Collaboration

- *Demonstrating ability to work effectively with diverse teams*
- *Exercising flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal*
- *Assuming shared responsibility for collaborative work*

4th Grade

OUTCOME: As a group, work together to reach a decision and to explain the reasons for it.

EXAMPLE: Working in small groups, encourage and engage other classmates to assist with a group service-learning project. Using digital media, students demonstrate the need to raise the awareness of their classmates on an issue within their community, (e.g., students create a digital poster that persuades classmates to participate in a school fundraising project).

OUTCOME: Work as a team to assess individual and/or group work.

EXAMPLE: Using a teacher-constructed online rubric, students work in teams to review their personal performance and contributions to their team, as well as overall group performance.

8th Grade

OUTCOME: As a group, work together to reach a decision and to explain the reasons for it.

EXAMPLE: Using an open source asynchronous discussion forum such as Moodle, students discuss how to respond to a proposed state law requiring bicycle helmets and develop consensus about what the team will do. Using a word processing program, students work in pairs to author a persuasive letter either for or against the proposed law, providing sound reasons to support their position. Send the letter to the appropriate legislative official.

OUTCOME: Recognize and communicate diverse perspectives on an historical issue and demonstrate how diverse perspectives might lead to different interpretations of an issue. (Articulating thoughts and ideas clearly and effectively through speaking and writing.)

EXAMPLE: After watching videos of an historical event, students read online first-hand accounts (e.g., WWII, Korean War, Vietnam War). Students then use a collaboration listserv such as Videoconferencing for Learning to find students in other parts of the country with whom they can discuss and compare interpretations of the events. Students then summarize and reflect on their experiences in small group discussions.

12th Grade

OUTCOME: Working in small groups, students will research a current issue and analyze it in terms of historical, political and economic components, various viewpoints, and potential solutions, and create a digital presentation that clearly describes all sides of the issue.

Financial Literacy

EXAMPLE: Working in small groups, students will survey favorite forms of recreation among local teens and research the local history of recreational youth facilities for teens and the potential sources of political and economic support. The information will be graphed and analyzed, and each group will create a business plan for developing a local recreation center/club for teens. The survey results, need and plan will be presented to a community group or civic association using technology tools.

OUTCOME: Working online with groups of students from other districts and/or states, students develop plans to enhance high school students' ability to use emerging technologies.

EXAMPLE: Using online surveys, virtual conferences or videoconferences, students gather information from peers who participate in virtual schooling. Students then present the results and make recommendations about how virtual schooling might be used in their own setting.

21st Century Skills

Creativity and Innovation

Think Creatively

- Use a wide range of idea creation techniques (such as brainstorming)
- Create new and worthwhile ideas (both incremental and radical concepts)
- Elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize creative efforts

Work Creatively with Others

- Develop, implement and communicate new ideas to others effectively
- Be open and responsive to new and diverse perspectives; incorporate group input and feedback into the work
- Demonstrate originality and inventiveness in work and understand the real world limits to adopting new ideas
- View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

Implement Innovations

- Act on creative ideas to make a tangible and useful contribution to the field in which the innovation will occur

21st Century Skills

LEARNING & INNOVATION SKILLS

Creativity and Innovation

- *Demonstrating originality and inventiveness in work*
- *Developing, implementing and communicating new ideas to others*
- *Being open and responsive to new and diverse perspectives*
- *Acting on creative ideas to make a tangible and useful contribution to the domain in which the innovation occurs*

4th Grade

OUTCOME: Students develop creative solutions to a class or school problem.

EXAMPLE: Students interview students and/or teachers to identify a problem (e.g., bullying on the playground) and as a group brainstorm creative ways to address the problem (producing a play that examines the issue, hosting a contest for best ideas).

8th Grade

OUTCOME: Students evidence original thought and inventiveness in response to an assignment, issue or problem.

EXAMPLE: Students choose an historical figure (e.g., Abraham Lincoln, Sojourner Truth) and create an original story, play, poem or piece of art that captures/conveys a key aspect of that person's life history.

12th Grade

OUTCOME: Students invent an original piece of work that can be published or presented online.

EXAMPLE: Working in teams, students create a simulation, role play, or webquest that covers a current social or political issue being covered in the news (e.g., global warming, poverty, global economy) or an historic event (American Revolution, Civil War, WWII). The finished products can be packaged, presented and/or donated to a local school, with an accompanying group analysis and reflection on the most innovative and creative elements in each of the products.

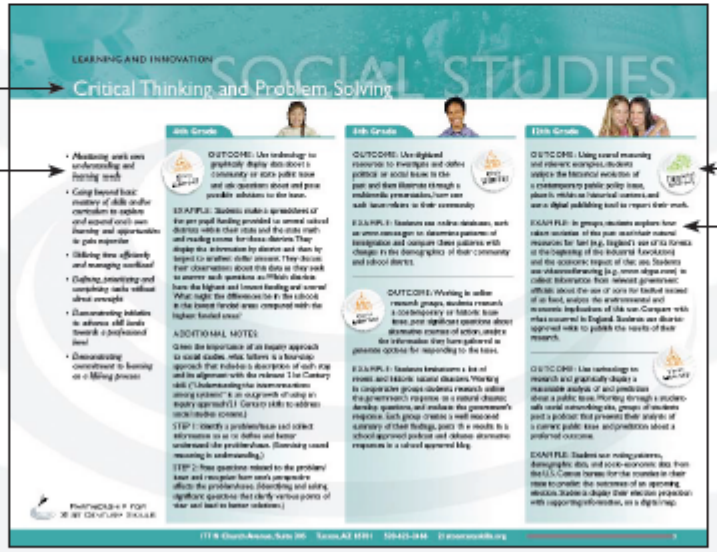
21st Century Skills Map

CREATED IN COOPERATION WITH THE NATIONAL COUNCIL FOR THE SOCIAL STUDIES

This 21st Century Skills Map is the result of hundreds of hours of research, development and feedback from educators and business leaders across the nation. The Partnership has issued this map for the core subject of Social Studies. This tool is available at www.21stcenturyskills.org.

The Partnership advocates for the integration of 21st Century Skills into K-12 education so that students can advance their learning in core academic subjects.

The Partnership has forged alliances with key national organizations that represent the core academic subjects, including Social Studies, English, Math, Science and Geography. As a result of these collaborations, the Partnership has developed this map to illustrate the intersection between 21st Century Skills and Social Studies. The maps will enable educators, administrators and policymakers to gain concrete examples of how 21st Century Skills can be integrated into core subjects.



A **21st Century Skills**

B **Skill Definition**

C **Interdisciplinary Theme**

D **Sample Student Outcome/Examples**

An example from the Social Studies 21st Century Skills Map illustrates sample outcomes for teaching Critical Thinking and Problem Solving.

PARTNERSHIP FOR 21ST CENTURY SKILLS

21st Century Skills Maps

These 21st Century Skills Maps are each the result of hundreds of hours of research, development and feedback from educators and business leaders across the nation.

- 21st Century Skills World Languages Map
  Designed in cooperation with the American Council on the Teaching of Foreign Languages (ACTFL)
- 21st Century Skills Arts Map
  Designed in cooperation with the nation's arts educators
- 21st Century Skills Geography Map
  Designed in cooperation with the National Council for Geographic Education (NCGE).
- 21st Century Skills Science Map
  Designed in cooperation with the National Science Teachers Association (NSTA).
- 21st Century Skills Social Studies Map
  Created in cooperation with the National Council for the Social Studies (NCSS).
- 21st Century Skills English Map
  Designed in cooperation with the National Teachers of English (NCTE).

Instead of thinking about the tools…

Think about what you want to do…

Communicate?

Think critically?

Reflect?

Design something?

Collaborate?

Solve a problem?

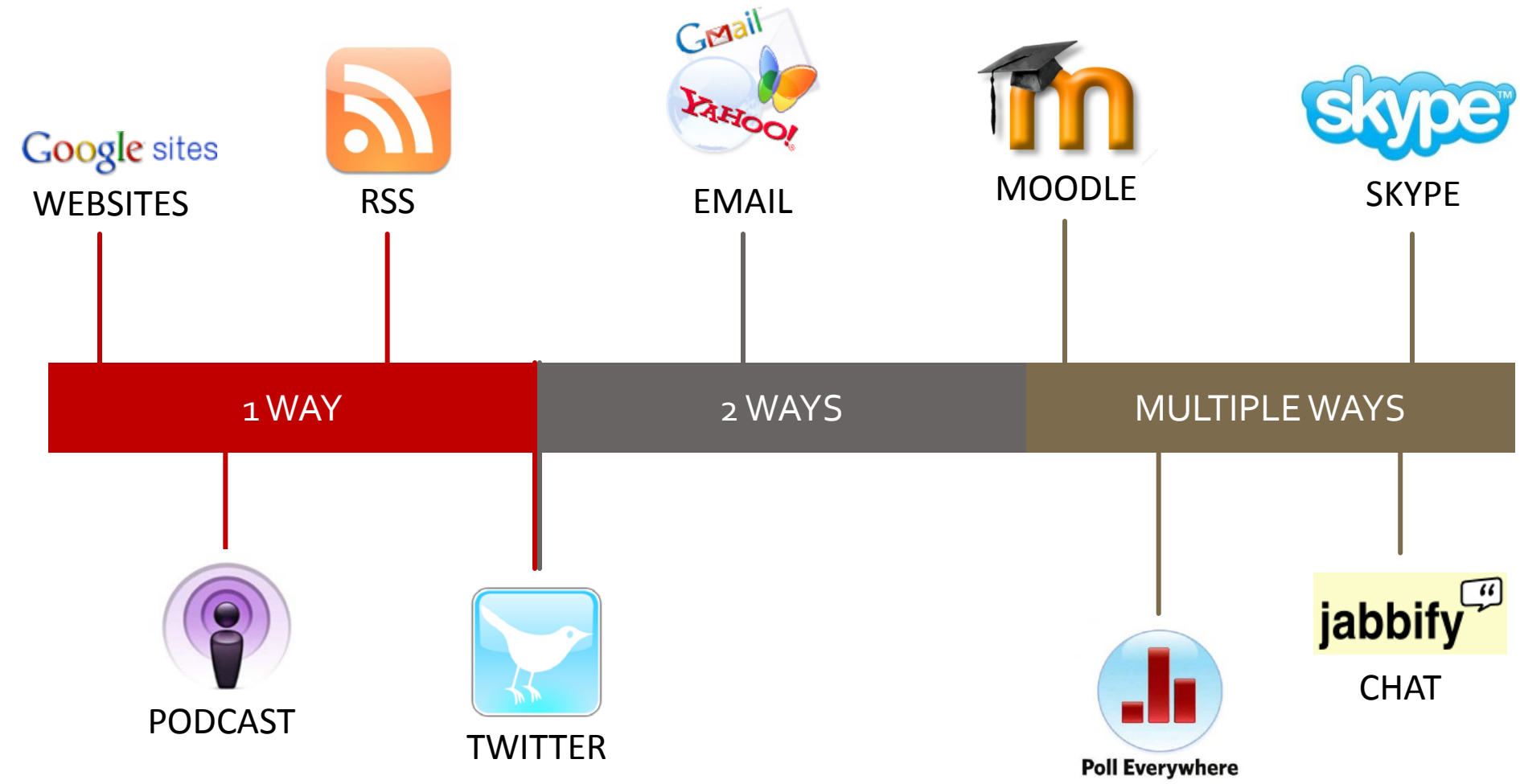
Present?

Our Model for 21st Century Learning and Innovation Tools

- Critical Thinking and Problem Solving
- Communication
- Collaboration
- Creativity and Innovation
- Presentation
- Reflection and Feedback

Communication Tools

Communication Tools

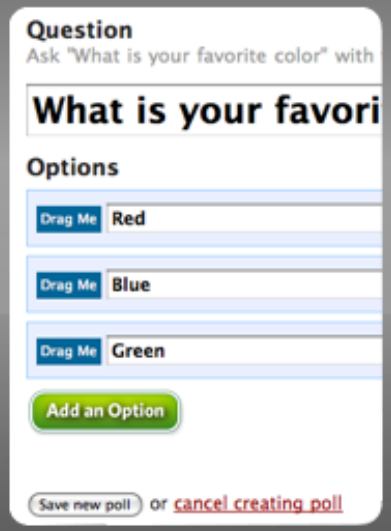


Poll Everywhere

How Poll Everywhere Works

1. Ask a question

Create polls with our simple poll editor

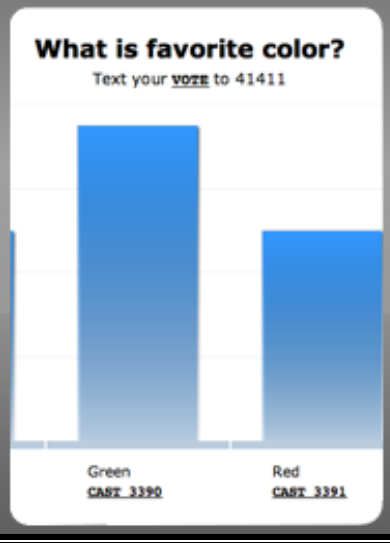


2. The audience votes

via mobile phone or on the web

3. Show results

Charts update live in PowerPoint or your browser as people vote



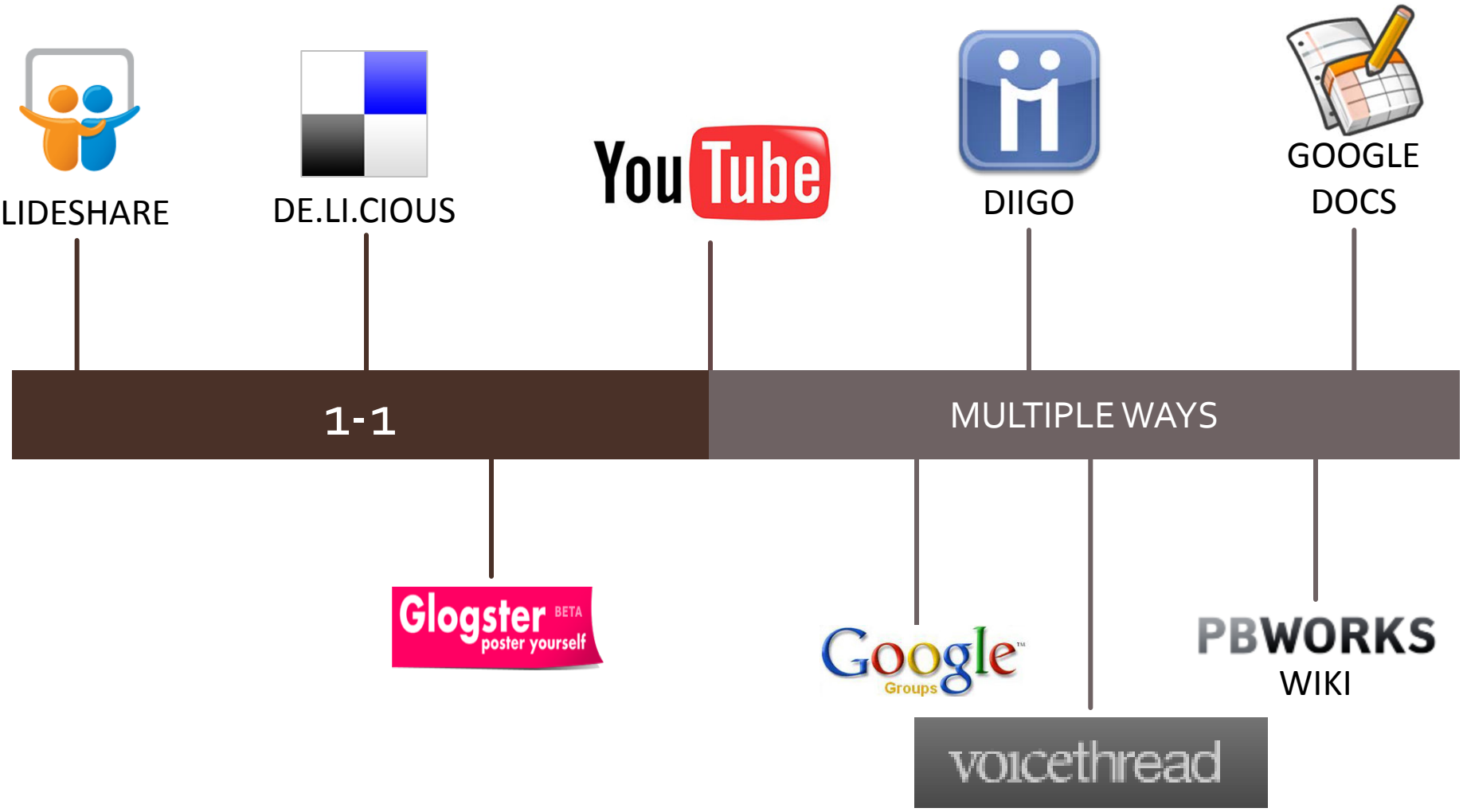
4. Generate reports

Analyze the results or publish to the web

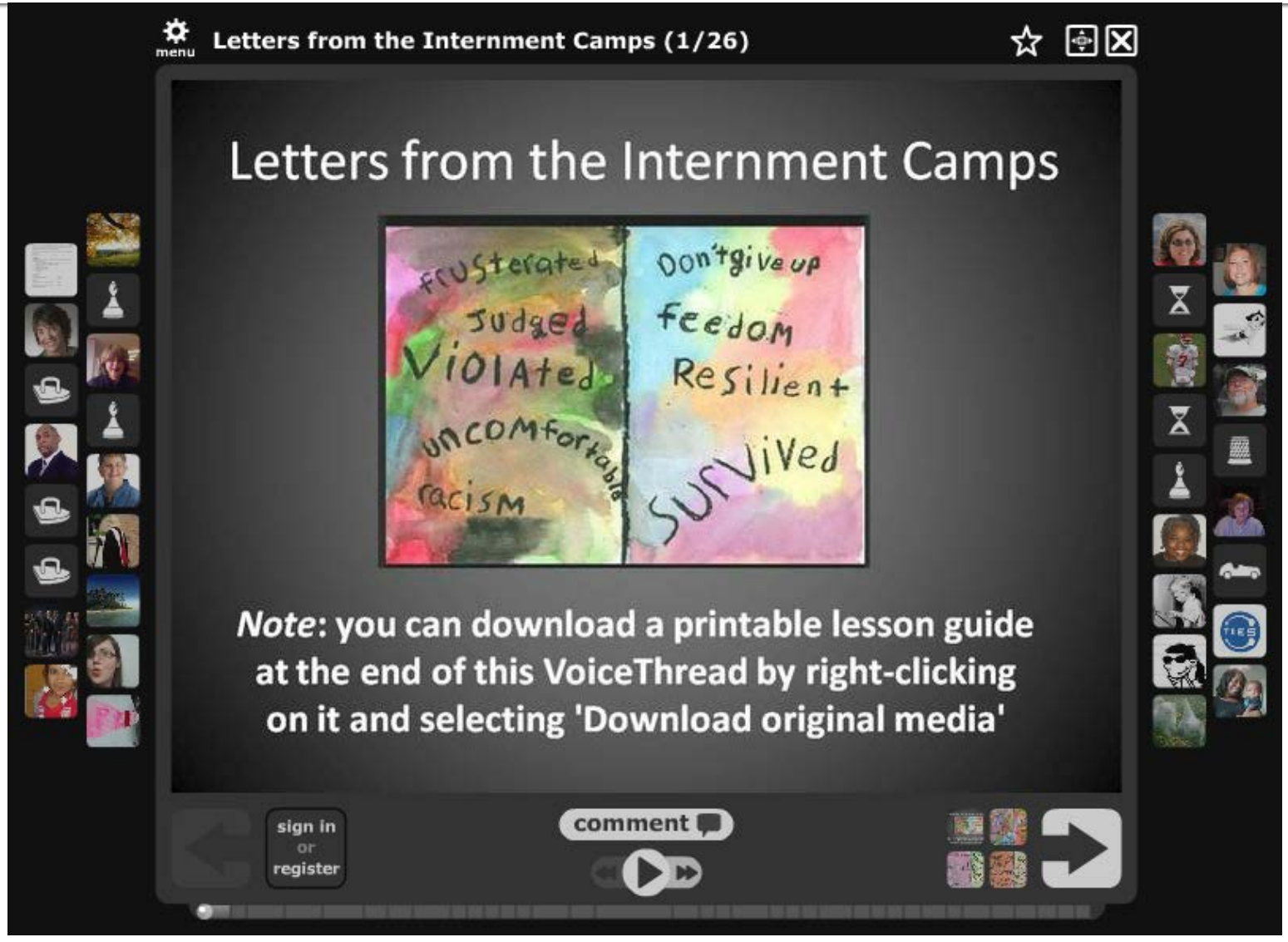
http://www.polleverywhere.com

Collaboration Tools

Collaboration Tools



Collaboration Tool: VoiceThread



Collab

Letters from the Internment Camps

Developed by Gail Desler (Technology Services) and Halerin Ferrier (Prairie Elementary School)

Elk Grove Unified School District

ISTE NETS Standards Addressed:

- Creativity and Innovation: Students demonstrate creative thinking, construct knowledge, and develop innovative products using technology.
- Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
- Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
- Digital Citizenship: Students understand human, cultural, societal issues related to technology and practice legal and ethical behavior.

Guiding Question: How can writing, art, and technology combine to help develop a culture of 'change writers' and to promote resiliency and tolerance within and beyond an elementary school site?

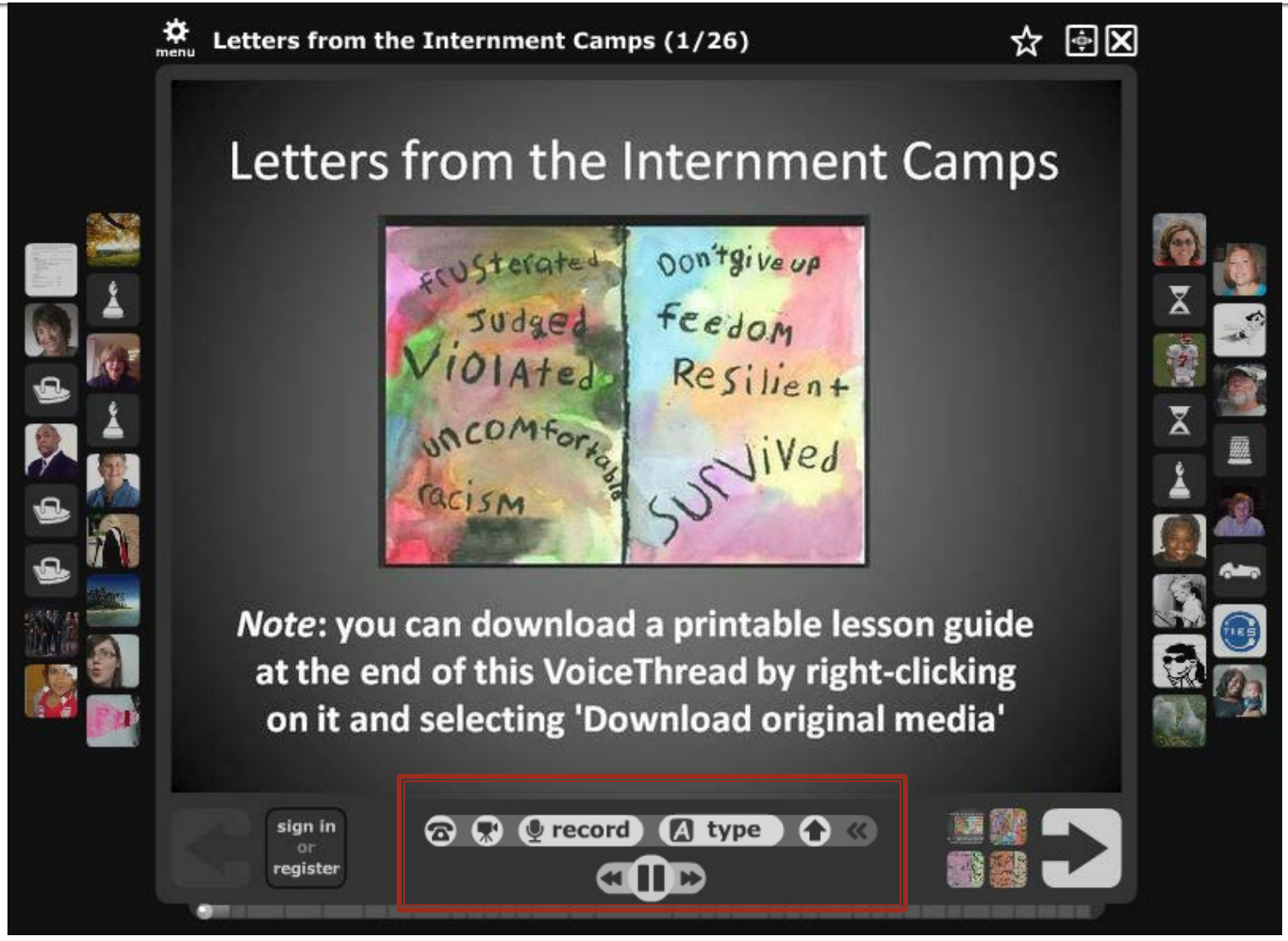
Background Information: Almost every state in the nation mandates teaching about issues of intolerance. Yet textbooks and other in-print materials are rarely effective in transforming the hearts and actions of student learners. Fortunately, interactive technologies such as VoiceThread offer potentially transforming opportunities for engaging students in shared conversations about discrimination, exclusion, and the forced removal of any group of people and for connecting students with the living voices of those who have experienced or witnessed intolerance and social injustice first hand. A major focus of the *Letters from the Internment Camps* lesson is to provide students with real-life models of how ordinary people find the strength to overcome and to learn from injustices.

Every community has a history. For this lesson, we are delving into a chapter from the local history of Elk Grove, California, a small town that prior to the bombing of Pearl Harbor was a thriving agricultural community, in large part due to the efforts of its Japanese-American farmers. They were the strawberry growers of California. With the passage of Executive Order 9066, all citizens of Japanese ancestry were ordered to evacuate the West Coast, over night and forever changing the history of Elk Grove.

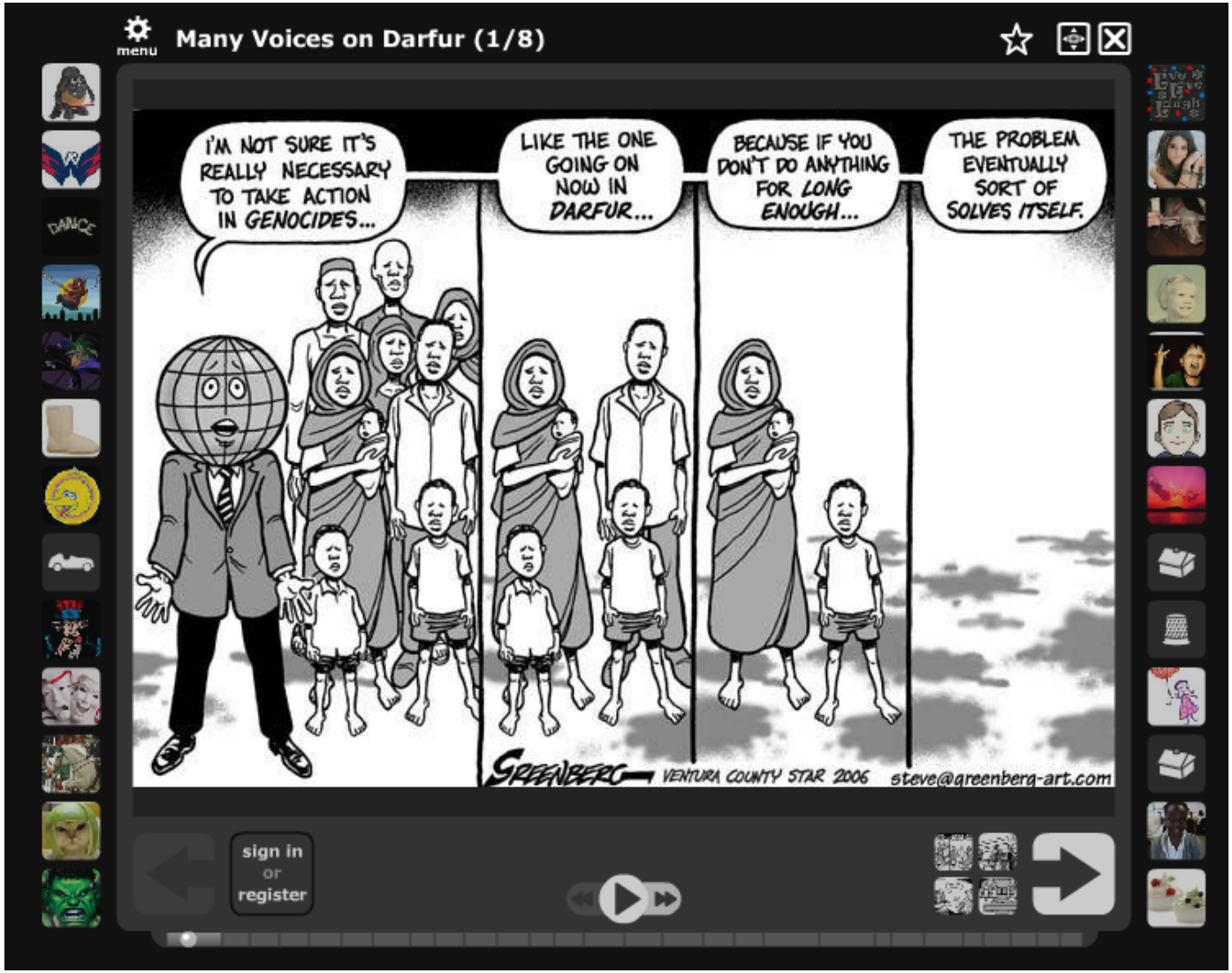
We invite teachers across the nation to replicate this project by exploring with their students the hidden histories of their own communities and to uncover those stories that might otherwise remain unknown or not immediately important to younger generations.

Grade Level: Grade 4* - Note: Lesson can easily be adapted to grades 4 -12 standards and curriculum.

Collaboration Tool: VoiceThread



Collaboration Tool: VoiceThread



Collaboration Tool: VoiceThread

VoiceThread for Education website:
http://ed.voicethread.com/

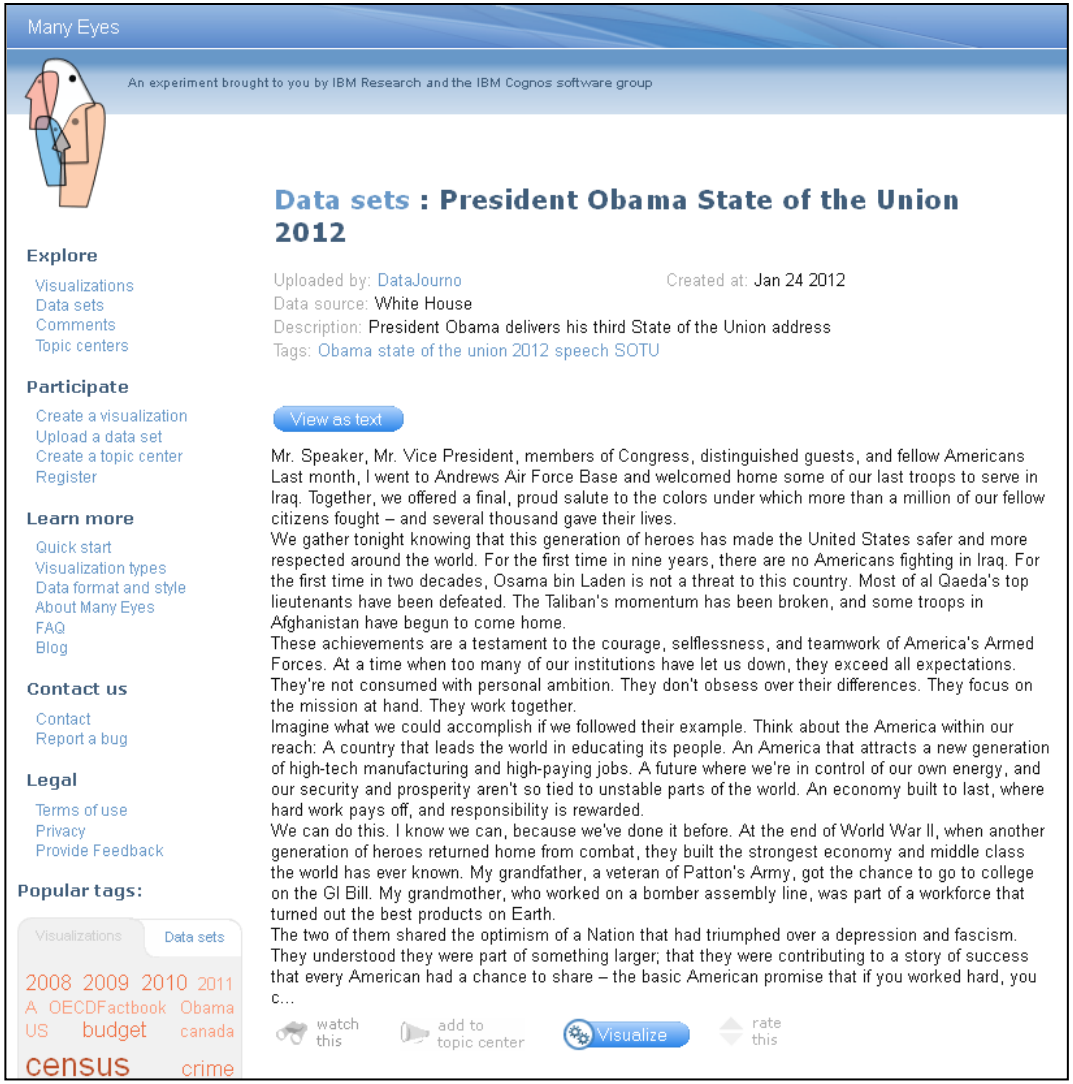
Letters from the Internment camps
http://ed.voicethread.com/?#q+internment.b334997.i2942065

Many Voices on Darfur VoiceThread Project:
http://ed.voicethread.com/?#q.b62276.i322457

Creativity and Innovation Tools

Creativity and Innovation Tools

Creativity and Innovation Tool: Many Eyes



Creativity and Innovation Tool: Many Eyes

Analyze a text

Word Tree

See a branching view of how a word or phrase is used in a text. Navigate the text by zooming and clicking.

Learn more

Tag Cloud

How are you using your words? This enhanced tag cloud will show you the words popularity in the given set of text.

Learn more

Phrase Net

Display networks of related words and ideas.

Learn more

Word Cloud Generator

Word Cloud Generator is a toy for generating "word clouds" from text that you provide. The clouds give greater prominence to words that appear more frequently in the source text.

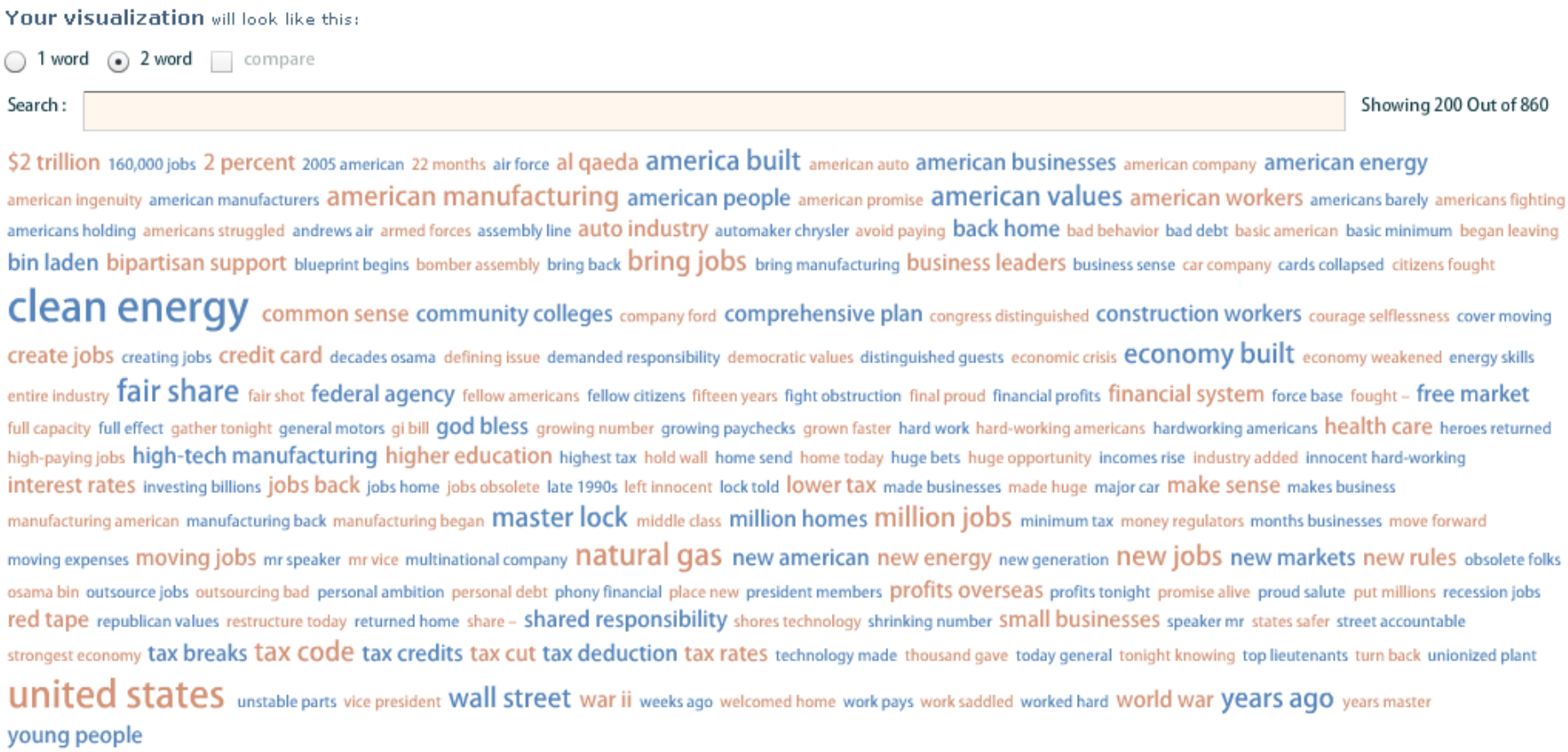
Learn more

Creativity and Innovation Tool: Many Eyes

President Obama's State of the Union Speech

Creativity and Innovation Tool: Many Eyes

President Obama's State of the Union Speech



Creativity and Innovation Tool: Many Eyes

President Obama's State of the Union Speech

Creativity and Innovation Tool: Many Eyes

Many Eyes website:
http://www-958.ibm.com/software/data/cognos/manyeyes/

Presentation Tools

Presentation Tools

SLIDESHARE

YouTube

GOOGLE SITES

Present

Present and Receive Comments

Collaborate on a Presentation

Glogster BETA poster yourself

PREZI

VOICETHREAD conversations in the cloud

Presentation Tool: Glogster

EDUCATIONAL USES OF
GlogsterEDU
create. learn present.

http://shaunnafsmith.edu.glogster.com/glogsteredu-tutorial/

Glogster = Multimedia Poster

GlogsterEDU Basics

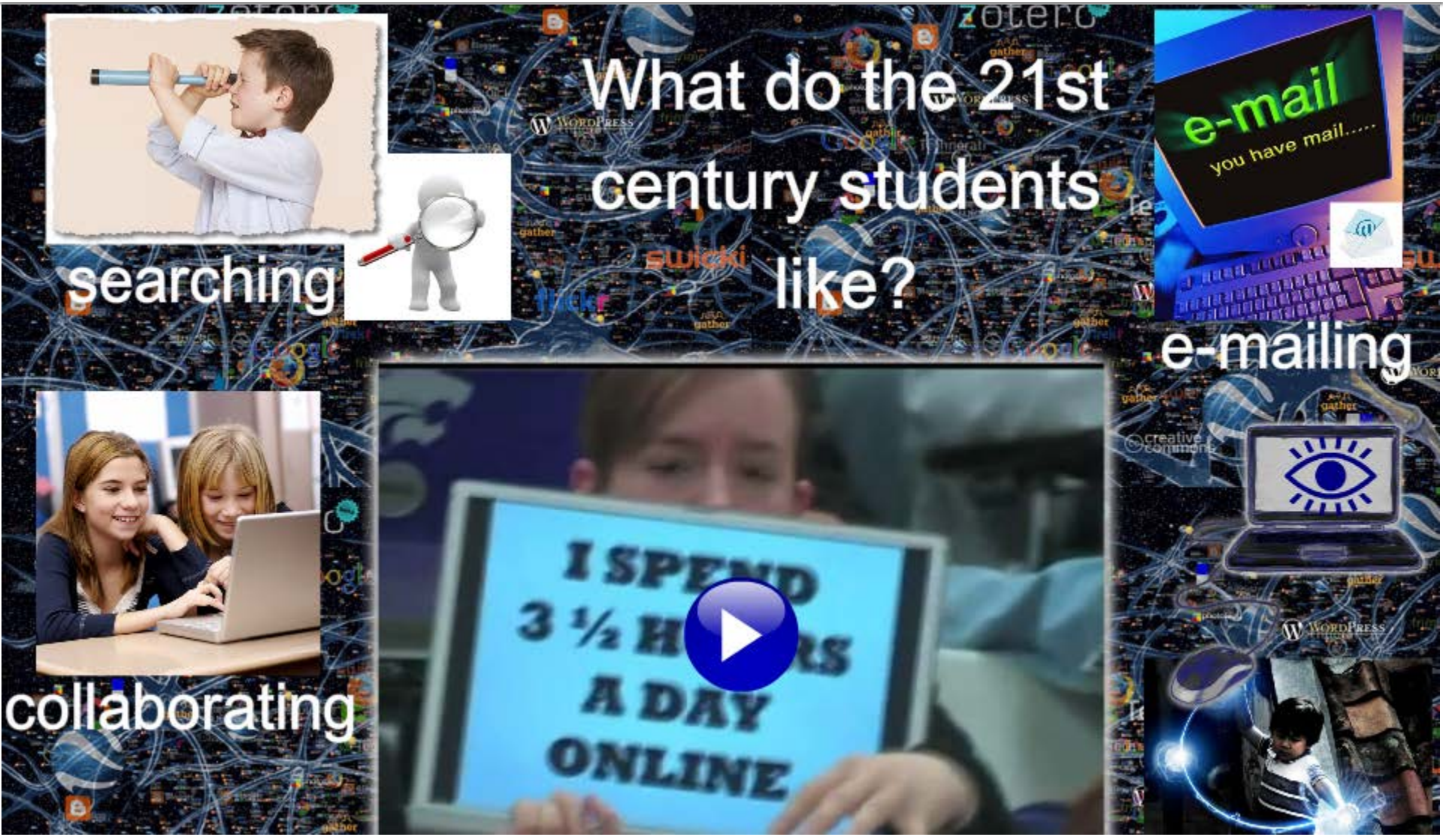
What do you get when you cross a digital poster with a blog? You get a Glog! GlogsterEDU is a free web-based application for students and teachers to create multimedia posters to present projects and other course work.

What is Glogster?

learn.

"Glogster in 90 seconds"

Presentation Tool: Glogster



Presentation Tool: Glogster

Glogster for Education website:
http://edu.glogster.com/

Critical Thinking and Problem Solving Tools

Critical Thinking and Problem Solving Tools: Creaza Education

An engaging suite of creative tools where learners can create, publish and share digital stories

BETT AWARDS 2010 FINALIST

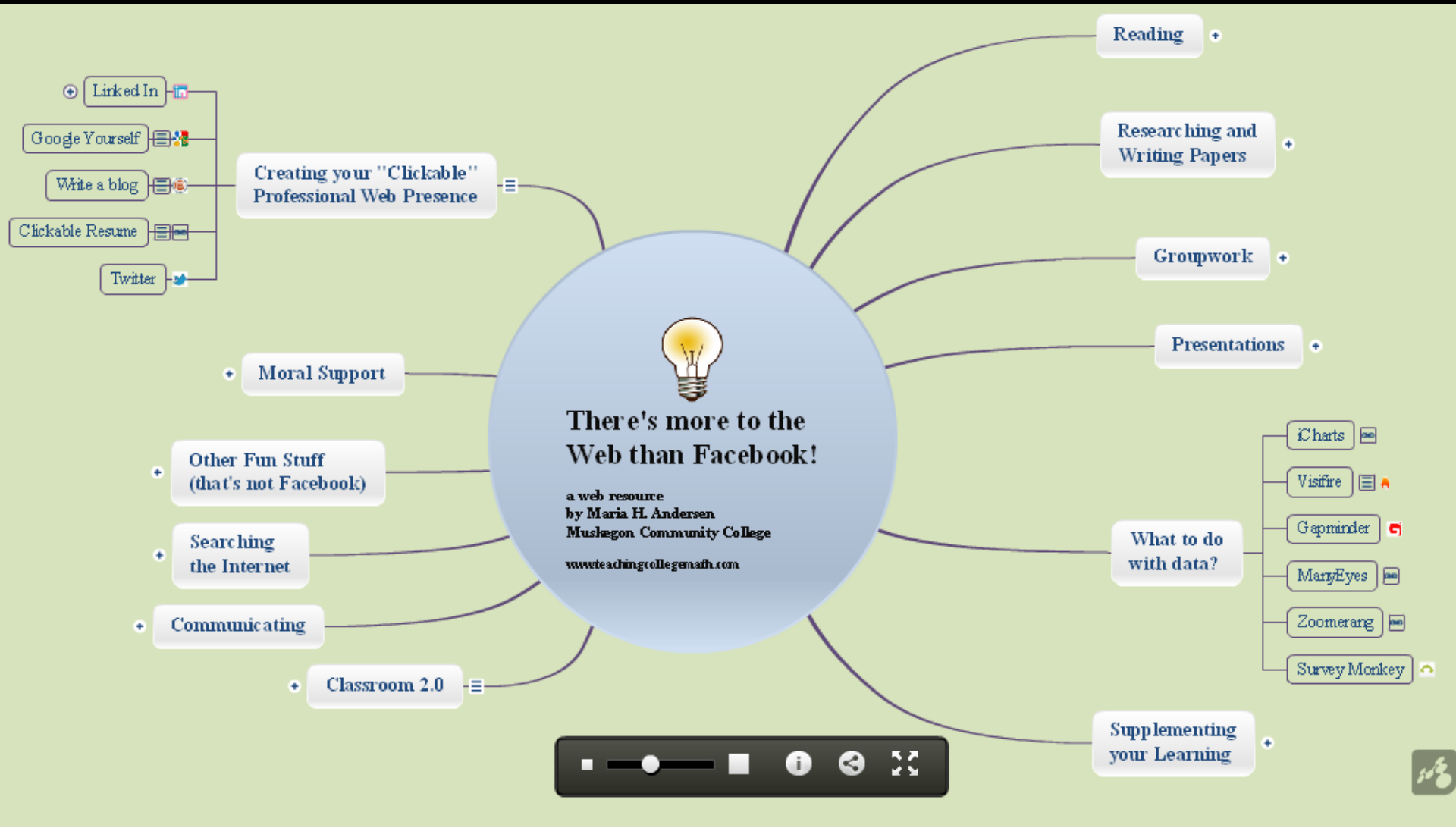
Mindomo

Cartoonist

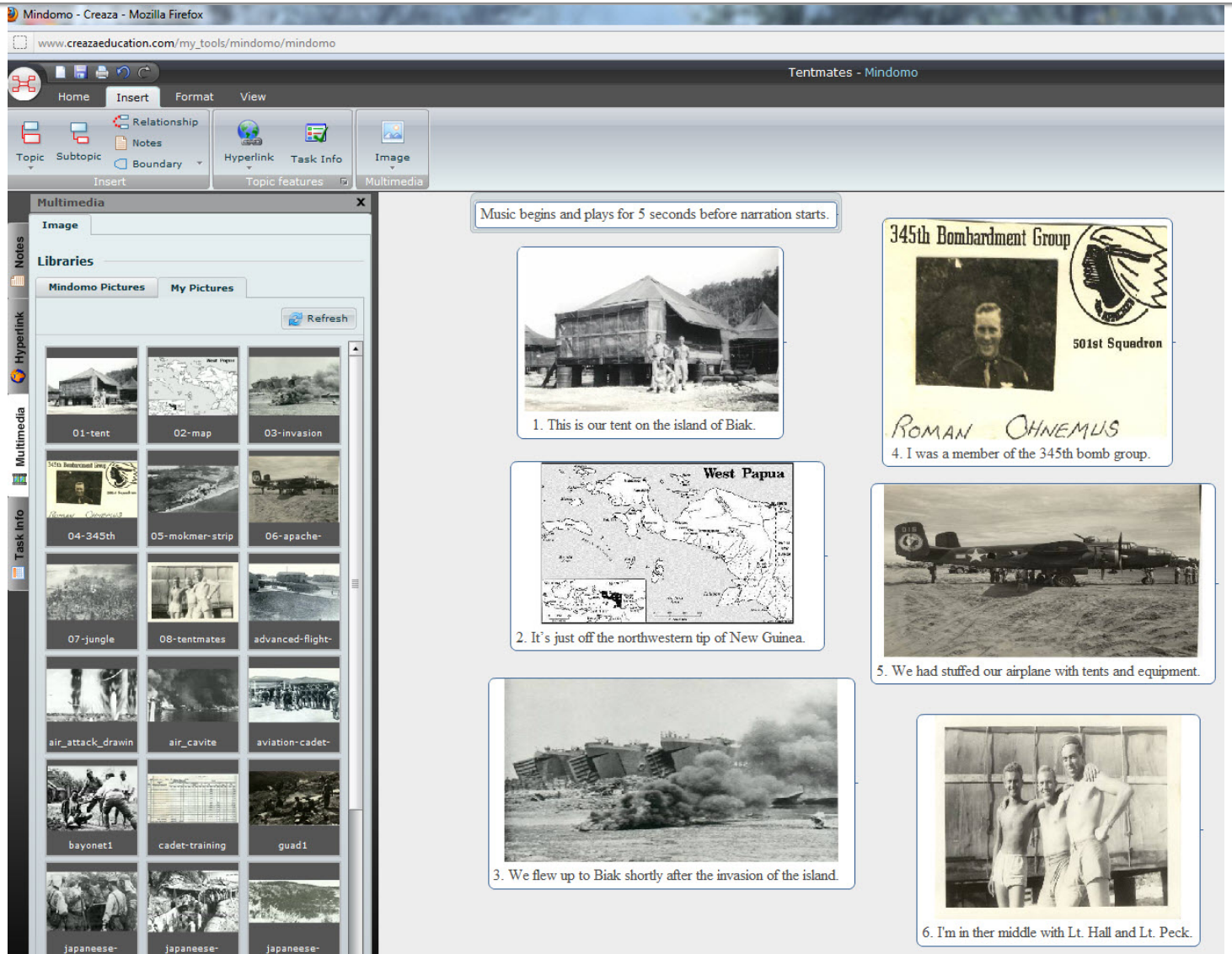
MovieEditor

AudioEditor

Critical Thinking and Problem Solving Tools: Creaza and Mindomo

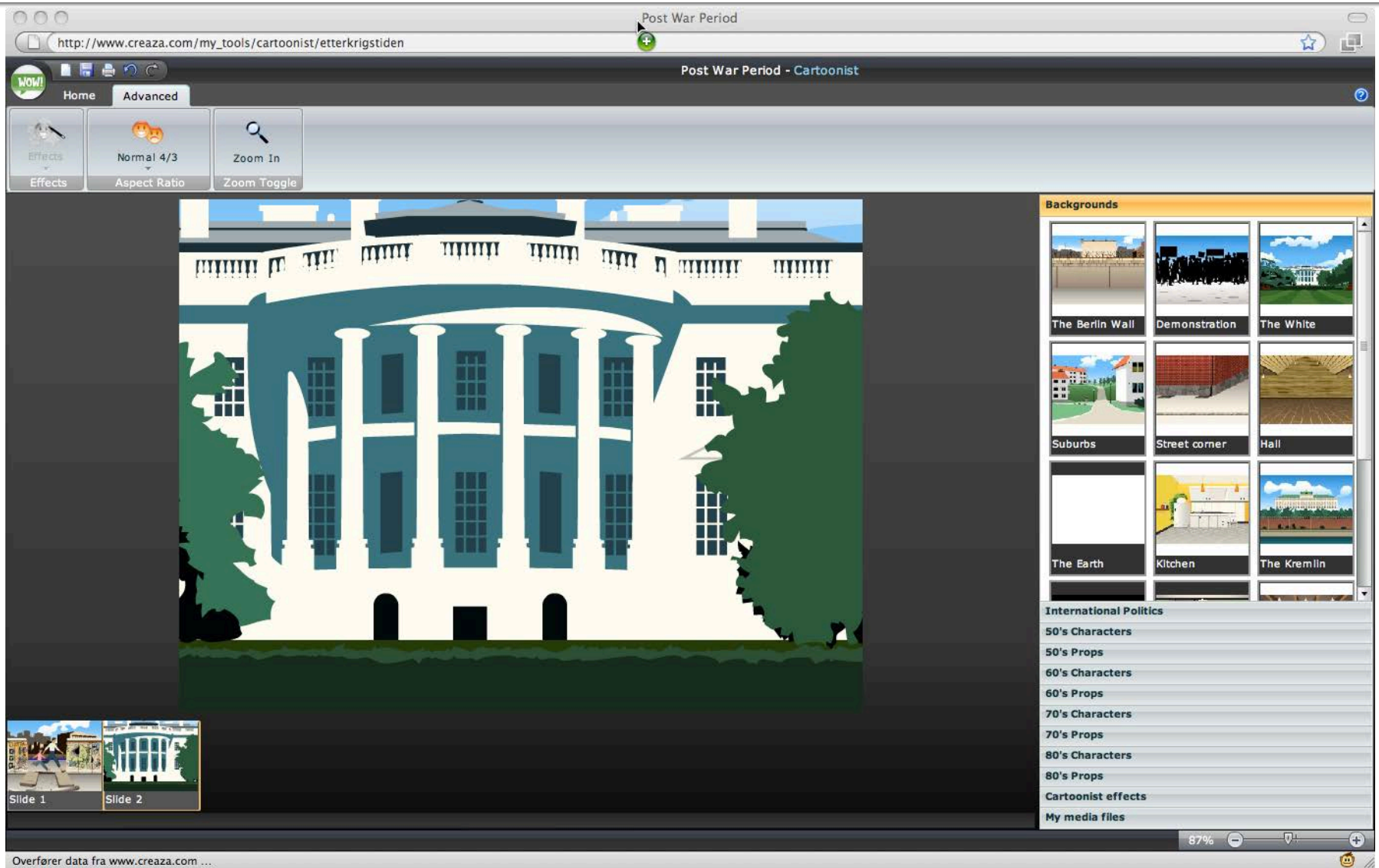


Critical Thinking and Problem Solving Tools: Creaza and Mindomo



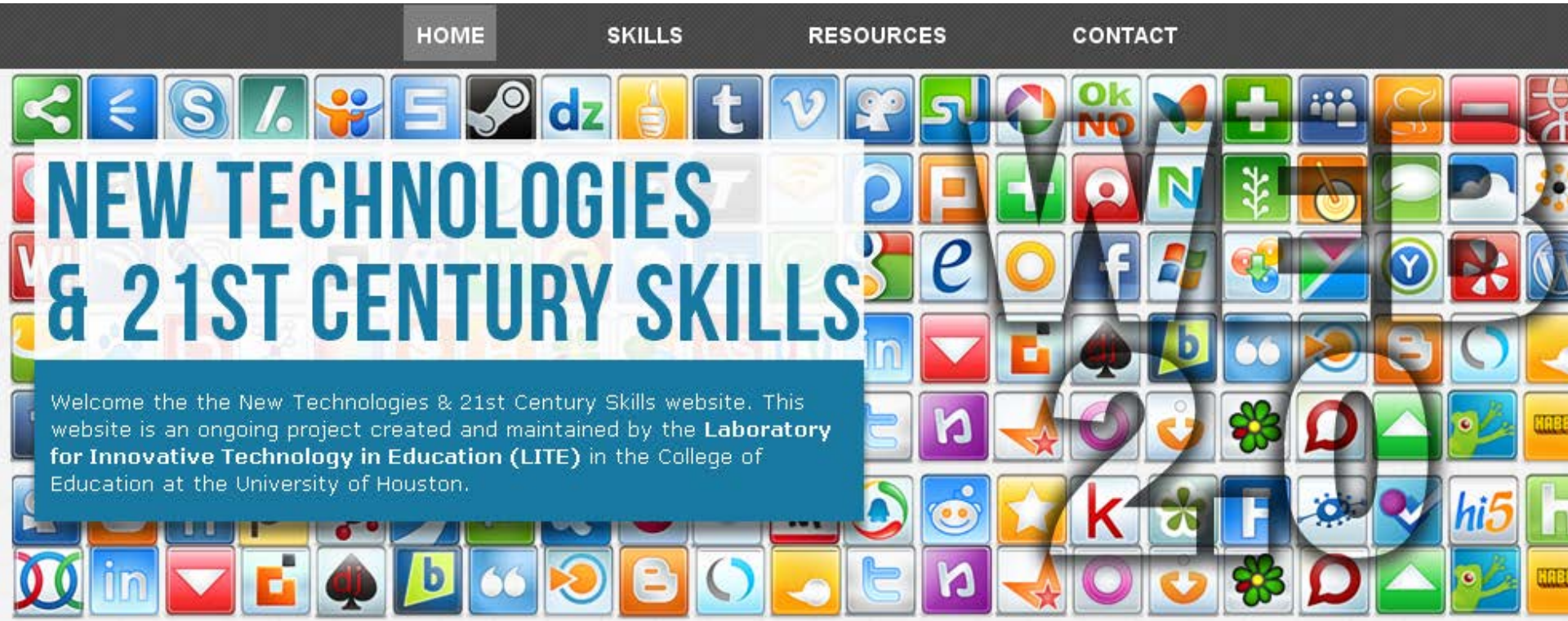
Critical Thinking and Problem Solving Tools: Creaza Movie Editor

Critical Thinking and Problem Solving Tools: Creaza Cartoonist



Critical Thinking and Problem Solving Tools: Creaza

Creaza for Education website:
http://www.creazaeducation.com/



http://newtech.coe.uh.edu/

Using Web 2.0 Applications as Educational Tools for 21st Century Teaching and Learning

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