9. TOOL LITERACY

ALSO KNOWN AS
TECHNOLOGY
LITERACY

©Literacies for the Digital Age to Teach in the K-12 Classroom
By Leah G. Stambler, Ph.D.
Developed for the Pier Institute: Global Youth in the Digital Age
Yale University,
July 8-12, 2013

DEFINITION OF TECHNOLOGY [TOOL] LITERACY

- ***"Technological literacy** is knowledge about*
  - *what technology is,*
  - *how it works,*
  - *what purposes it can serve, and*
  - *how it can be used efficiently and effectively to achieve specific goals."*

- http://pict.sdsu.edu/engauge21st.pdf P. 24

SAMPLE DEFINITION OF TECHNOLOGY [TOOL] LITERACY ACCORDING TO A STATE DEPARTMENT OF EDUCATION

- The availability of a plethora of information has resulted in making contemporary Technology [tool] Literacy more complex than in previous years.
- Technology [tool] Literacy is defined by the Colorado Department of Education as “the ability to responsibly use appropriate technology to:
  - Communicate
  - Solve problems
  - Access, manage, integrate, evaluate, design, and create information to improve learning in all subject areas
  - Acquire lifelong knowledge and skills in the 21st century
- http://www.coloradotechliteracy.org/org/documentation/module1/definition.htm

QUALITIES OF TECHNOLOGICALLY LITERATE STUDENTS

http://pict.sdsu.edu/engauge21st.pd

- Demonstrate a sound conceptual understanding of the nature of technology systems…...
- Understand and model positive, ethical use of technology in both social and personal contexts.
- Increase creative productivity effectively using a variety of technology tools
- Use communication tools to share ideas in powerful ways and to reach out beyond the classroom to the world.
- Effectively use technology to access, evaluate, process and synthesize various sources of information.
- Identify and solve complex real-world problems, using technology.

New Study: Many American Teens Addicted and Tired Of Their Digital Lives

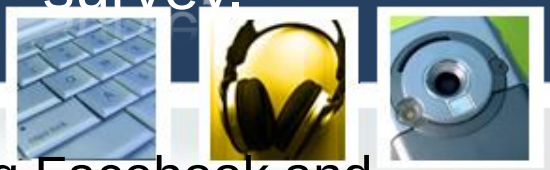
- Over 1,000 13- to 17-year-olds nationally were surveyed to understand how they perceive social media (like Facebook and Twitter) and how it affects their relationships and feelings about themselves. [*June 26, 2012]*

http://www.edudemic.com/2013/06/new-study-many-teens-addicted-and-tired-of-their-digital-lives/ Added by Jeff Dunn on 2013-06-14

- Read highlights from the study in the infographic and visit the research page to download the full report.

http://www.commonsensemedia.org/teen-social-media-infographic

The thought-provoking questions asked 13-17 year-old Americans in the Common Sense Media** survey.



- How often are teens texting and using Facebook and Twitter?
- What are teenagers' favorite ways to communicate with their friends and family?
- How do teens think these new communications tools are affecting their friendships and family relations, if at all?
- How does social networking make most teens feel about themselves and their relationships with their peers? Does it make them feel more connected or more isolated? Better about themselves, or more depressed and lonely?
- How do the heaviest social media users compare to other teens in terms of their social and emotional well-being?

** the study was conducted by Common Sense Media
http://www.commonsensemedia.org/teen-social-media-infographic

4 FINDINGS FROM THE COMMON SENSE MEDIA SURVEY OF 13-17 YEAR OLDS

- **Teens are avid, daily users of social media.**
- http://www.commonsensemedia.org/research/social-media-social-life/key-finding-1%3A-teens-are-avid%2C-daily-users-of-social-media

- **Teens are much more likely to report that using social media has a positive impact on their social and emotional lives than a negative one.**
- http://www.commonsensemedia.org/research/social-media-social-life/key-finding-2%3A-teens-more-likely-to-report-positive-impact--

4 FINDINGS FROM THE COMMON SENSE MEDIA SURVEY OF 13-17 YEAR OLDS

- **Most teens prefer face-to-face communication, and many of them think using social media can interfere with that.**
- http://www.commonsensemedia.org/research/social-media-social-life/key-finding-3%3A-most-teens-prefer-face-to-face-communication

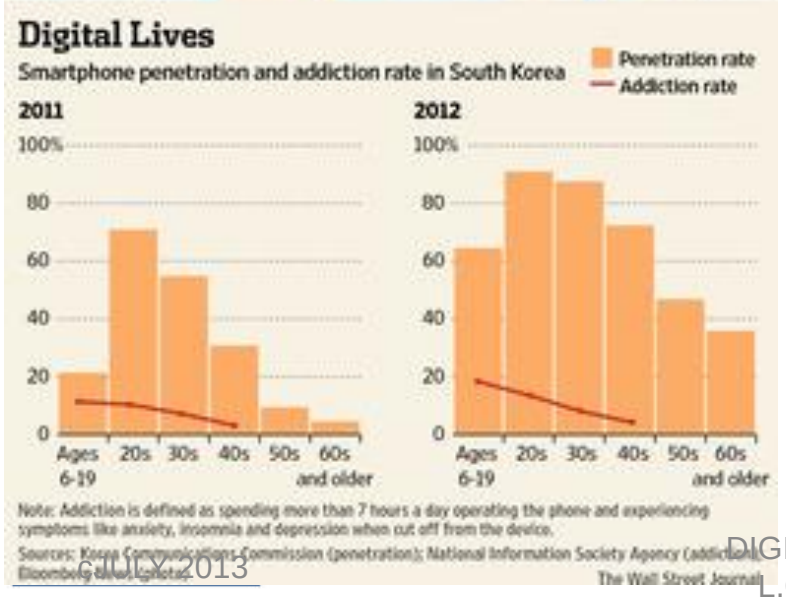
- **Some teens wish they could disconnect more often—and that the people around them would, too.**
- http://www.commonsensemedia.org/research/social-media-social-life/key-finding-4%3A-teens-wish-they-could-disconnect-more-often

Teen Addiction to Technology: The Example of South Korea

- “South Koreans are among the world's biggest tech users.”
- Roughly 1 in 5 students in South Korea is addicted to smartphone use.
- “This addiction is defined as
  - spending more than seven hours a day using the phone and
  - experiencing symptoms such as anxiety, insomnia and depression when cut off from the device.

http://online.wsj.com/article/SB10001424127887324263404578615162292157222.html See article

Teen Addiction to Technology: The Example of South Korea



Associated Press

In many South Korean schools, teachers routinely collect mobile devices from their students during school hours. The government said it plans to train teachers how to deal with students who suffer smartphone addiction.

http://online.wsj.com/article/SB10001424127887324263404578615162292157222.html

Teen Addiction to Technology: Other Asian Examples

"The problem is surfacing in other tech-savvy places such as **Japan and Taiwan**.

"A survey in Japan found that smartphone use among high school girls tripled last year."

"A survey by the Taiwan Network Information Center showed that the number of people accessing the Internet via laptops, tablets or smartphones in the past six months has doubled to a record 5.35 million from a year earlier."

http://online.wsj.com/article/SB10001424127887324263404578615162292157222.html

Negative Impact of Teens' Technology Addiction

- Distracts students from their studies
- Damages interpersonal skills
- Mitigates reading peoples' facial expressions
- Limits learning how to read nonverbal language.
- Constantly checking email or social media has led to students' label as "heads-down tribes" in Taiwan
- Incidents of bullying in Korean schools
- Losing sleep by staying up all night using Facebook and tweeting

- http://online.wsj.com/article/SB10001424127887324634045786151622921572 22.html See article

“Technology has forever changed not only what we need to learn, but the way we learn.”

- “The National Educational Technology Standards (NETS) are the standards for learning, teaching, and leading in the digital age and are widely recognized and adopted worldwide.”

- The family of NETS—
  - NETS for Students (NETS•S),
  - NETS for Teachers(NETS•T),
  - NETS for Administrators (NETS•A),
  - NETS for Coaches (NETS•C), and
  - NETS for Computer Science Teachers(NETS•CSE)– work together to transform education.

- http://www.iste.org/standards

Critical Issue: Using Technology to Enhance Literacy Instruction

- **"ISSUE:** Educational technology is nudging literacy instruction beyond its oral and print-based tradition to embrace online and electronic texts as well as multimedia. Computers are creating new opportunities for writing and collaborating. The Internet is constructing global bridges for students to communicate, underscoring the need for rock-solid reading and writing skills. By changing the way that information is absorbed, processed, and used, technology is influencing how people read, write, listen, and communicate."
- "This Critical Issue offers research, best practices, and resources that support integration of new technologies into literacy instruction."
- **http://www.ncrel.org/sdrs/areas/issues/content/cntareas/reading/li300.htm**

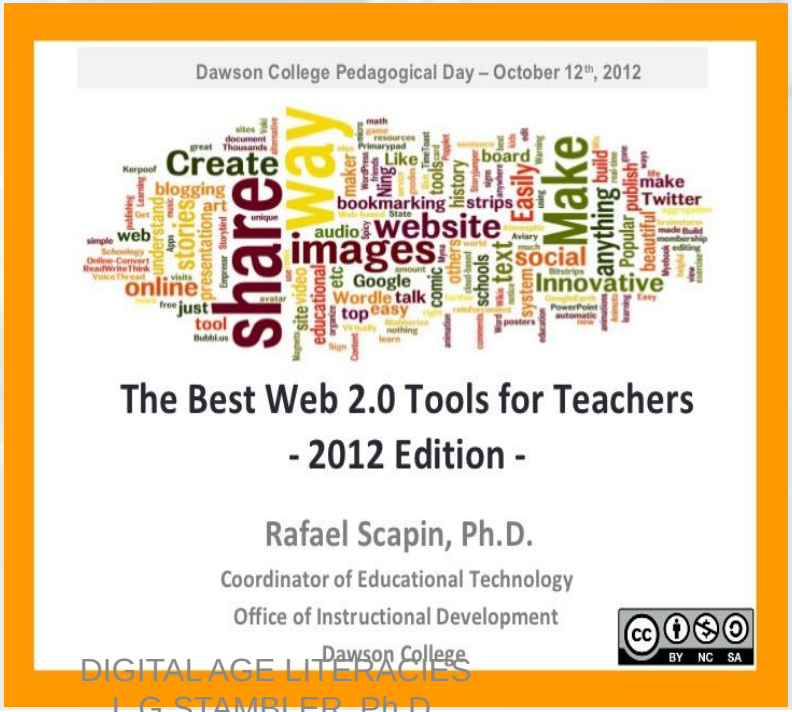
BEST Web 2.0 TOOLS FOR TEACHERS TO INSTRUCT FOR TECHNOLOGY LITERACY

- The 35 Best Web 2.0 Classroom Tools http://techtalk4us.blogspot.com/2013/04/the-35-best-web-20-classroom-tools.html Posted **April 11, 2013** by chinmay garg

- The 100 Best *Web 2.0* Classroom *Tools* Chosen By You | Edudemic http://www.edudemic.com/2011/11/best-web-tools/ **Nov 2, 2011** The following list is in no particular order so be sure to examine it closely. Think of it as a Where's Waldo but for awesome resources. Each resource is written in big bold letters, followed by the description offered by the person who submitted the resource.

BEST Web 2.0 TOOLS FOR TEACHERS TO INSTRUCT FOR TECHNOLOGY LITERACY

- The Best *Web 2.0 Tools* for Teachers - 2012 Edition - SlideShare http://www.slideshare.net/rscapin/the-best-web-20-tools-for-teachers-2012-edition **Oct 12, 2012** - The Best *Web 2.0 Tools* for Teachers - 2012 Edition. by Rafael Scapin



BEST Web 2.0 TOOLS FOR TEACHERS TO INSTRUCT FOR TECHNOLOGY LITERACY

- http://www.edudemic.com/2010/07/the-35-best-web-2-0-classroom-tools-chosen-by-you/ The 35 Best Web 2.0 Classroom Tools Chosen By You; The List **2010**

- http://onceateacher.wordpress.com/2010/01/14/ten-free-web-2-0-tools-for-the-classroom/ **January 14, 2010** · 2:35 pm guest post by Karen Schweitzer Ten Free Web 2.0 Tools for the Classroom

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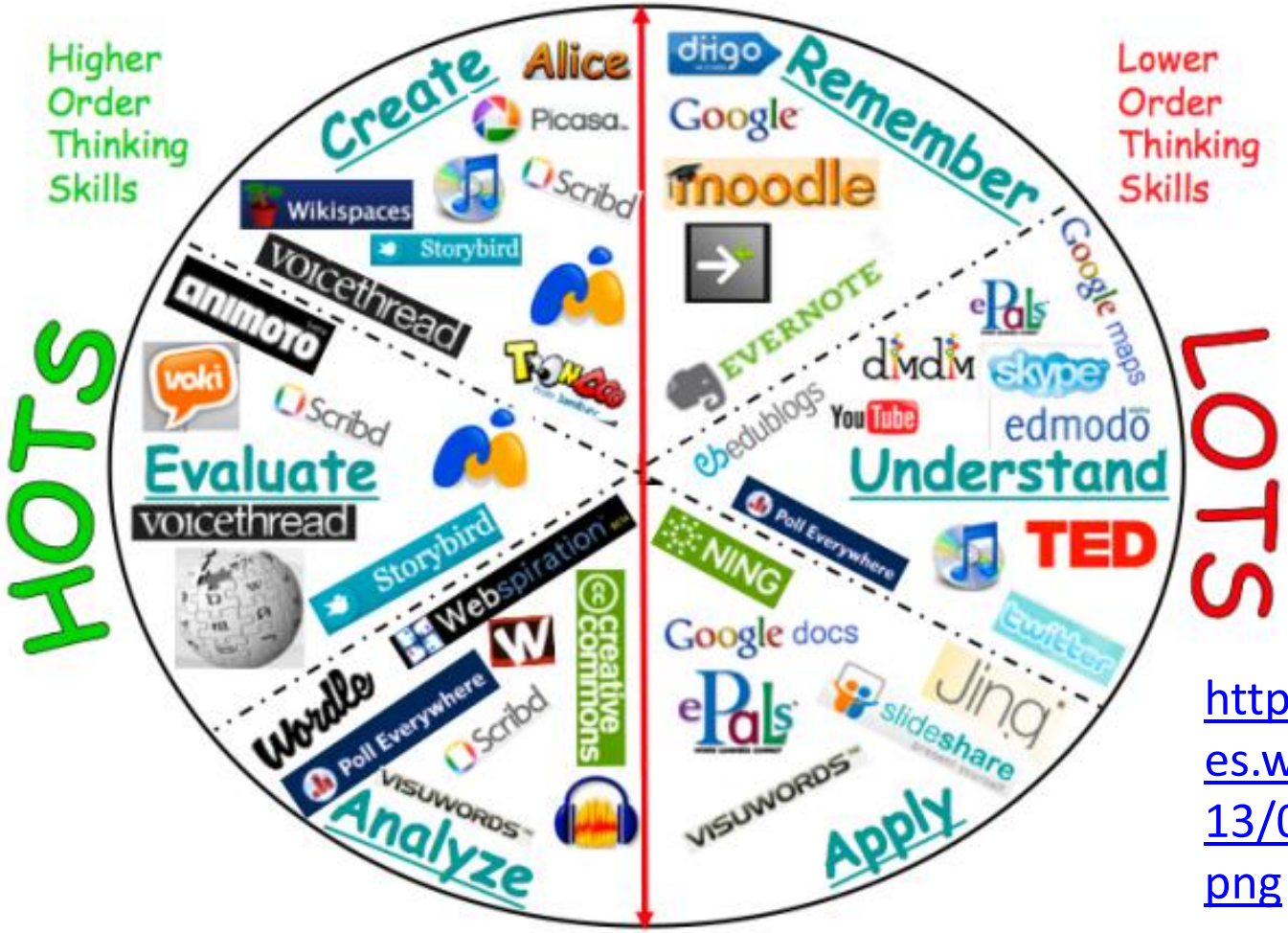
A Snapshot Of How Technology Is Used In Education

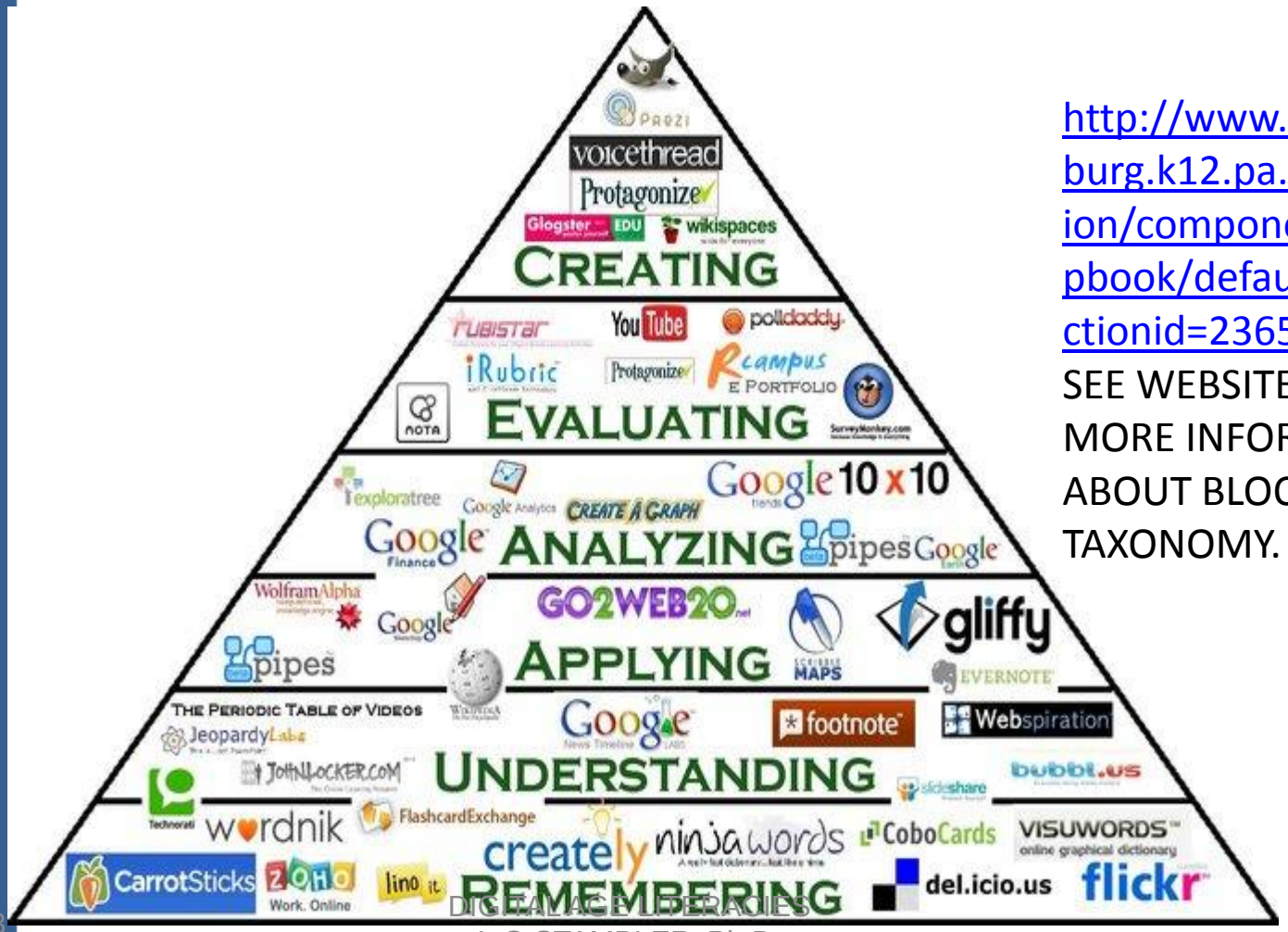
- Technology has made a lasting change to the world of education.
- The infographic link on this slide provides detailed information about how technology is used in education by teachers and students:
  - http://www.edudemic.com/2013/06/how-technology-is-impacting-education/ Added by Jeff Dunn on 2013-06-13

BLOOM'S TAXONOMY AND TECHNOLOGY INTEGRATION



http://jonsaints916.files.wordpress.com/2013/07/blooms_circle.png

Web 2.0 Tools Based on Bloom's Digital Taxonomy



http://www.chambersburg.k12.pa.us/education/components/scrapbook/default.php?sectionid=2365

SEE WEBSITE FOR MORE INFORMATION ABOUT BLOOM'S TAXONOMY.

The Common Core Standards and Technology

- “The Common Core Standards, the national academic standards for K-12 schools in the United States, now have been adopted by 45 of the states.
- This makes them the pre-eminent source of what is being taught in the vast majority of public schools in America.
- So how do all of the newer, innovative teaching methods and ideas mesh with having to meet certain standards?”
- http://www.edudemic.com/2012/09/common-core-edtech/

Decoding the Common Core Standards

- *The first letter represents the strand or "area",*
  - **W= Writing**
  - **RI= Reading: Informational**
  - **SL= Speaking and Listening**
- *The next number is the grade level,*
- *The last number is the standard number.*

http://www.edudemic.com/2012/09/common-core-edtech/

Common Core Standards Focus on the Intersection of Education and Technology as a Must-do Requirement

Samples of this education and technology intersection follow:

- W.4.6. With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.
- RI.8.7. Evaluate the advantages and disadvantages of using different mediums (e.g.,print or digital text, video, multimedia) to present a particular topic or idea.
- SL.11-12.5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

- http://www.edudemic.com/2012/09/common-core-edtech/

TECHNOLOGY [TOOL] LITERACY SOURCES

- http://pict.sdsu.edu/engauge21st.pdf enGauge® 21st Century Skills Literacy in the Digital Age FOR 21ST CENTURY LEARNERS www.ncrel.org/engauge
- http://www.coloradotechliteracy.org/org/documentation/module1/definition.htm *Technology Literacy Assessment Project*
- *http://online.wsj.com/article/SB10001424127887324263404578615162292157222.html A Rising Addiction Among Youths: Smartphones* in THE WALL STREET JOURNAL HEALTH & WELLNESS Updated July 23, 2013, 5:50 a.m. ET By IN-SOO NAM

TECHNOLOGY [TOOL] LITERACY SOURCES

- http://www.edudemic.com/2013/06/how-technology-is-impacting-education/ *A Snapshot Of How Technology Is Used In Education* Added by Jeff Dunn on 2013-06-13
- http://www.in2edu.com/resources/thinking_resources/blooms_taxonomy_chart.pdf Bloom's Taxonomy Wheel/Circle-Wall/Poster Display