

21st Century Skills -Beginner

The 21st Century Learner –What is it?

Given the understanding that-

- The process of learning is innate and lifelong. Experiences in childhood and youth lay the foundation for lifelong learning.
- For people of all ages, young and old, learning is an integral part of playing and working.
- People of all ages have a capacity to learn and this capacity is affected by various social, economic and physical conditions and situations.
- People have a variety of learning needs related to their personal interests, their families, their communities and their work. These needs include personal development, social and civic responsibility, cultural enjoyment, and continuing learning related to work and careers.
- People learn at different rates and in different styles, in different situations and at different times.

The 21st Century Learner embraces this model and the culture of information seeking – they are taught to be literate in a variety of areas and possesses the skills necessary to frame a question understanding that there is something unknown to them and the ability to filter information and sources so they only gather quality information which they can in turn apply as knowledge.

Part I Information Literacy

Please visit ALA's site for full text

<http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm#f1>

Information literacy is a set of abilities requiring individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information."

- Determine the extent of information needed
- Access the needed information effectively and efficiently
- Evaluate information and its sources critically
- Incorporate selected information into one's knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally

Part II Information Literacy and Information Technology

Please visit ALA's site for full text

Information literacy is related to information technology skills, but has broader implications for the individual, the educational system, and for society. **Information technology skills enable an individual to use computers, software applications, databases, and other technologies to achieve a wide variety of academic, work-related, and personal goals.**

"Computer literacy" is concerned with rote learning of specific hardware and software applications, while "fluency with technology" focuses on understanding the underlying concepts of technology and applying problem-solving and critical thinking to using technology.

Information literacy's focuses on content, communication, analysis, information searching, and evaluation; whereas information technology "fluency" focuses on a deep understanding of technology and increasingly skilled use of it.

"Fluency" with information technology may require more intellectual abilities than the rote learning of software and hardware associated with "computer literacy", but the focus is still on the technology itself. Information literacy, on the other hand, is an intellectual framework for understanding, finding, evaluating, and using information--activities which may be accomplished in part by fluency with information technology, in part by sound investigative methods, but most important, through critical discernment and reasoning. **Information literacy initiates, sustains, and extends lifelong learning through abilities which may use technologies but are ultimately independent of them.**

Part III Integration of Information and Technology Skills

Please refer to IMPACT for full Text

<http://www.ncwiseowl.org/Impact/TandL.htm#integration>

Impact says, "To integrate these skills seamlessly across the curriculum, the media coordinator and technology facilitator need to 'provide strong and creative leadership in building and nurturing the culture of learning, both as a teacher and as an instructional partner' (AASL and AECT, 1998). As teachers, the school library media coordinator and technology facilitator will need to 'use both traditional materials and innovative resources'" (AASL and AECT, 1998) to provide meaningful instruction. This can be achieved through instruction in a full range of information concepts and strategies, so that students will have the skills needed to interact effectively with all information resources."

ENSURING EQUITABLE ACCESS TO INFORMATION MEANS:

- Providing accurate, up-to-date, and developmentally appropriate print, non-print, and technology resources that meet the curriculum-related and data-driven needs of students and teachers;
- Providing meaningful instruction in the full range of information concepts and strategies that students need to interact effectively with all information resources;
- Supporting intellectual freedom and students' right to read.
- Providing flexible access to media and technology resources, staff, and facilities throughout the day;
- Providing adequate staffing for the media center and computer labs before, during, and after school for use by students, teachers, and members of the community;
- Providing technologies (such as laptops, portable text devices, and digital cameras) for individual, small group, classroom, and offsite use;

- Purchasing software and assistive/adaptive hardware (such as speech synthesis software, voice input technologies, and touch screens) that provide access to all media and technology for students and teachers with special needs;
- Providing large screen monitors or data/video projection devices for whole class instruction.

A Process for Bringing 21st Century Skills Into Your Schools

1. Learn

Investigate the rationale and history behind the 21st century skills. Research, reflect, discuss, debate, and argue. Why are these skills important? Who says so? What would happen if we did nothing? What's the fit with standards-based reform and high-stakes testing? How do I communicate this?

enGauge 21st Century Skills



2. Advocate

Set a goal worth striving for.

Engage the leadership team. Create a sense of urgency and understanding about key 21st century skills. Be unified and clear on what skills are worth going after and why. Identify and focus on skills that matter to your community—skills that will advance learning goals and your school district's vision.

3. Focus

Find the fit for your schools.

Engage your community, teachers, parents, and business leaders. Facilitate discussions and consider viewpoints, but only after everyone understands what the skills are and what it looks like when kids master them. Highlight the pioneering work already taking place, and link 21st century skills to that important work. Prototype new ideas.

Make the commitment.

Based on research, discussions, and feedback, make a formal decision to invest resources, time, and money into achieving the goal of getting students ready to thrive in the Digital Age. Identify and commit to a specific set of 21st century skills.

5. Impact

Implement with integrity.

Thoughtful staging should smooth the way for effective implementation! Establish a support system to ensure that schools have what they need to be successful. Continue the professional development, formative assessment, and continuous evolution of curriculum, instruction, and assessment necessary to help ensure that students will be ready to thrive in the Digital Age.

4. Activate

Try things!

Simultaneously seed classroom pilots and districtwide, content-specific research. Collect stories and artifacts of successful practices. Keep everyone informed. Publish findings, using them to drive change and develop "solutions that work."

Make necessary system changes.

At the district level, formally align curricula, instruction, and

assessment in content areas based on your findings. Make changes in policy and practice.

Get everyone ready.

Build ongoing professional development, resources acquisition, curriculum development, and leadership around research and best practices for each of the target skills. Identify the key characteristics of successful practice and keep it simple!

21st Century Skills –Advanced

WORLD INTERNET USAGE AND POPULATION STATISTICS						
World Regions	Population (2007 Est.)	Population % of World	Internet Usage, Latest Data	% Population (Penetration)	Usage % of World	Usage Growth 2000-2007
Africa	933,448,292	14.2 %	32,765,700	3.5 %	3.0 %	625.8 %
Asia	3,712,527,624	56.5 %	389,392,288	10.5 %	35.6 %	240.7 %
Europe	809,624,686	12.3 %	312,722,892	38.6 %	28.6 %	197.6 %
Middle East	193,452,727	2.9 %	19,382,400	10.0 %	1.8 %	490.1 %
North America	334,538,018	5.1 %	232,057,067	69.4 %	21.2 %	114.7 %
Latin America/Caribbean	556,606,627	8.5 %	88,778,986	16.0 %	8.1 %	391.3 %
Oceania / Australia	34,468,443	0.5 %	18,430,359	53.5 %	1.7 %	141.9 %
WORLD TOTAL	6,574,666,417	100.0 %	1,093,529,692	16.6 %	100.0 %	202.9 %

NOTES: (1) Internet Usage and World Population Statistics were updated on Jan. 11, 2007. (2) CLICK on each world region for detailed regional information. (3) Demographic (Population) numbers are based on data contained in the [world-gazetteer](#) website. (4) Internet usage information comes from data published by Nielsen//NetRatings, by the International Telecommunications Union, by local NICs, and other other reliable sources. (5) For definitions, disclaimer, and navigation help, see the [Site Surfing Guide](#). (6) Information from this site may be cited, giving due credit and establishing an active link back to [www.internetworldstats.com](#). Copyright © 2006, Miniwatts Marketing Group. All rights reserved worldwide.

**While only 5.1% of the total world population North America represents 21.2% of the world usage
69.4% of the NA population uses the internet –the highest penetration in the world
The United States represents 90.5% of NA users**

Digital-Age Literacy

To achieve success in the 21st century, students need to attain proficiency in science, technology, and culture, as well as gain a thorough understanding of information in all its forms. This represents a new benchmark in creating the 21st century learner –information and technological literacy are no longer thought to be enough for success in a global economy or society.

From enGauge

Digital-Age Literacy includes the following

- **Basic Literacy**: Language proficiency (in English) and numeracy at levels necessary to function on the job and in society to achieve one's goals and to develop one's knowledge and potential in this Digital Age.
- **Scientific Literacy**: Knowledge and understanding of the scientific concepts and processes required for personal decision making, participation in civic and cultural affairs, and economic productivity.
- **Economic Literacy**: The ability to identify economic problems, alternatives, costs, and benefits; analyze the incentives at work in economic situations; examine the

- consequences of changes in economic conditions and public policies; collect and organize economic evidence; and weigh costs against benefits.
- **Technological Literacy**: 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.
 - **Visual Literacy**: The ability to interpret, use, appreciate, and create images and video using both conventional and 21st century media in ways that advance thinking, decision making, communication, and learning.
 - **Information Literacy**: The ability to evaluate information across a range of media; recognize when information is needed; locate, synthesize, and use information effectively; and accomplish these functions using technology, communication networks, and electronic resources.
 - **Multicultural Literacy**: The ability to understand and appreciate the similarities and differences in the customs, values, and beliefs of one's own culture and the cultures of others.
 - **Global Awareness**: The recognition and understanding of interrelationships among international organizations, nation-states, public and private economic entities, sociocultural groups, and individuals across the globe

Inventive Thinking is comprised of the following "life skills":

- **Adaptability and Managing Complexity**: The ability to modify one's thinking, attitude, or behavior to be better suited to current or future environments; and the ability to handle multiple goals, tasks, and inputs, while understanding and adhering to constraints of time, resources, and systems (e.g., organizational, technological).
- **Self-Direction**: The ability to set goals related to learning, plan for the achievement of those goals, independently manage time and effort, and independently assess the quality of learning and any products that result from the learning experience.
- **Curiosity**: The desire to know or the spark of interest that leads to inquiry.
- **Creativity**: The act of bringing something into existence that is genuinely new and original, whether personally (original only to the individual) or culturally (where the work adds significantly to a domain of culture as recognized by experts).
- **Risk Taking**: The willingness to make mistakes, advocate unconventional or unpopular positions, or tackle extremely challenging problems without obvious solutions, such that one's personal growth, integrity, or accomplishments are enhanced.
- **Higher-Order Thinking and Sound Reasoning**: The cognitive processes of analysis, comparison, inference and interpretation, evaluation, and synthesis applied to a range of academic domains and problem-solving contexts.

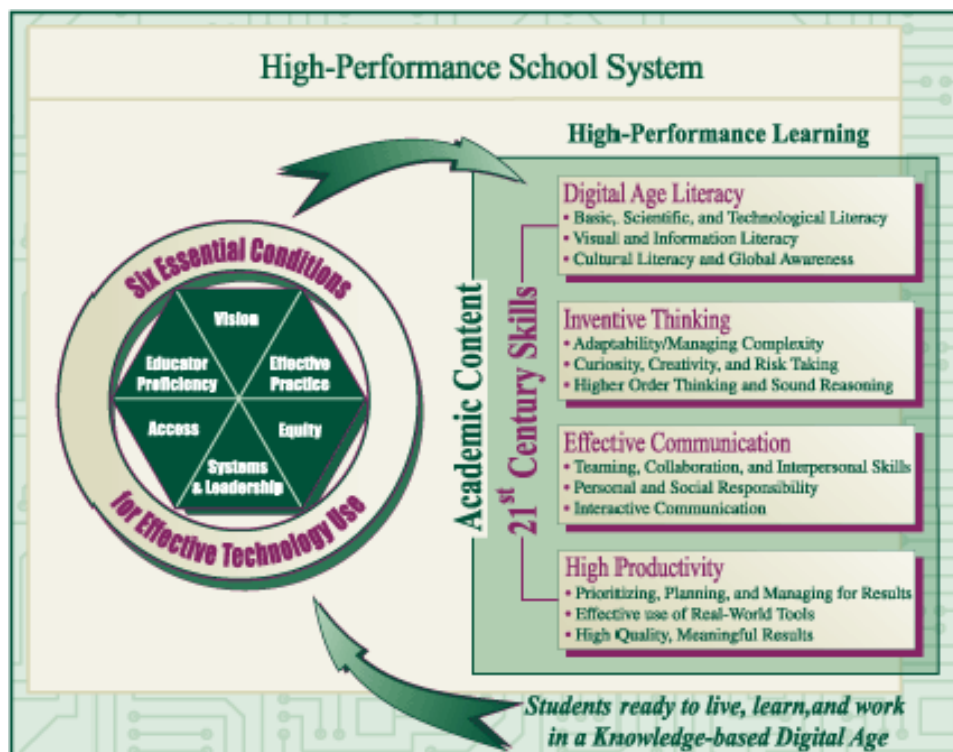
Effective Communication involves:

- **Teaming and Collaboration**: Cooperative interaction between two or more individuals working together to solve problems, create novel products, or learn and master content.
- **Interpersonal Skills**: The ability to read and manage the emotions, motivations, and behaviors of oneself and others during social interactions or in a social-interactive context.
- **Personal Responsibility**: Depth and currency of knowledge about legal and ethical issues related to technology, combined with one's ability to apply this knowledge to achieve balance, integrity, and quality of life as a citizen, a family and community member, a learner, and a worker.

- **Social and Civic Responsibility**: The ability to manage technology and govern its use in a way that promotes public good and protects society, the environment, and democratic ideals.
- **Interactive Communication**: The generation of meaning through exchanges using a range of contemporary tools, transmissions, and processes.

High productivity currently is not a high-stakes focus of schools, yet the skills involved in this cluster often determine whether a person succeeds or fails in the workforce:

- **Prioritizing, Planning, and Managing for Results**: The ability to organize to efficiently achieve the goals of a specific project or problem.
- **Effective Use of Real-World Tools**: The ability to use real-world tools—the hardware, software, networking, and peripheral devices used by information technology (IT) workers to accomplish 21st century work—to communicate, collaborate, solve problems, and accomplish tasks.
- **Ability to Produce Relevant, High-Quality Products**: The ability to produce intellectual, informational, or material products that serve authentic purposes and occur as a result of students using real-world tools to solve or communicate about real-world problems. These products include persuasive communications in any media (print, video, the Web, verbal presentation), synthesis of resources into more useable forms (databases, graphics, simulations), or refinement of questions that build upon what is known to advance one's own and others' understanding.



Web Sites

Explanation of various types of literacy in a digital age

<http://www.ncrel.org/engauge/skills/skills.htm>

enGauge 21st Century Skills

<http://www.ncrel.org/engauge/skills/skills.htm>

Impact

<http://www.ncwiseowl.org/Impact/DEFAULT.HTM>

Information Literacy Competency Standards for Higher Education ACRL Standards Committee and approved by the Board of Directors of the Association of College and Research Libraries (ACRL)

<http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm#f1>

World Internet Usage Stats

<http://www.internetworldstats.com/stats.htm>

Workforce Readiness Report card

http://www.21stcenturyskills.org/documents/ReportCardFINAL_updated.pdf

Research Model Resources

THE BIG SIX OR THE SUPER THREE

www.big6.com

FLIP-IT

www.aliceinfo.org/FLIPit.html

Articles

“Reaching 21st Century Learners” St. Lifer, Evan

<http://www.schoollibraryjournal.com/article/CA529709.html>

“How to bring our Schools out of the 20th Century” Wallis, Claudia and Sonja Steptoe
Time Magazine cover Story December 18, 2006

<http://www.time.com/time/nation/article/0,8599,1568429,00.html>