Museums, Libraries, and 21st Century Skills: Definitions



The IMLS Project Team and Task Force considered the list of skills commonly referred to as "21st Century Skills" and modified it slightly to better align with library and museum priorities.1

The resulting list includes the following additions: Basic Literacy, Scientific & Numerical Literacy, Visual Literacy, Cross-Disciplinary Skills, and Environmental Literacy.

Not every skill on this list will be aligned with every institution’s vision and mission. Further, not every community will prioritize the same skills. Library and museum leaders should consider this list as a starting point beyond which it should be customized to fit the unique character, requirements, and priorities of the institution and its audiences.

**Learning and Innovation Skills**

**Critical Thinking and Problem Solving**

***Reason Effectively***

* Use various types of reasoning (e.g., 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

**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 ideas in order to improve and maximize creative efforts
* Demonstrate imagination and curiosity

***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

**Communication and 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) and in diverse environments (including multi-lingual)
* Utilize multiple media and technologies, and know how to judge their effectiveness a priori as well as assess their impact

***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

**Visual Literacy**

* Demonstrate the ability to interpret, recognize, appreciate, and understand information presented through visible actions, objects and symbols, natural or man-made2

**Scientific and Numerical Literacy**

* Demonstrate the ability to evaluate the quality of scientific and numerical information on the basis of its sources and the methods used to generate it
* Demonstrate the capacity to pose and evaluate scientific arguments based on evidence and to apply conclusions from such arguments appropriately
* Demonstrate ability to reason with numbers and other mathematical concepts

**Cross-Disciplinary Thinking**

* Apply knowledge, attitudes, behaviors, and skills across disciplines in appropriate and effective ways

**Basic Literacy**

* Demonstrate the ability to use language to read, write, listen, and speak

**Information, Media and Technology Skills**

**Information Literacy**

***Access and Evaluate Information***

* Access information efficiently (time) and effectively (sources)
* Evaluate information critically and competently

***Use and Manage Information***

* Use information accurately and creatively for the issue or problem at hand
* Manage the flow of information from a wide variety of sources
* Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information

**Media Literacy**

***Analyze Media***

* Understand both how and why media messages are constructed and for what purposes
* Examine how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors
* Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of media

***Create Media Products***

* Understand and utilize the most appropriate media creation tools, characteristics, and conventions
* Understand and effectively utilize the most appropriate expressions and interpretations in diverse, multi-cultural environments

**ICT (Information, Communications and Technology) Literacy**

***Apply Technology Effectively***

* Use technology as a tool to research, organize, evaluate, and communicate information
* Use digital technologies (e.g., computers, PDAs, media players, GPS, etc.), communication/networking tools, and social networks appropriately to access, manage, integrate, evaluate, and create information to successfully function in a knowledge economy
* Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies

**21st Century Themes**

**Global Awareness**

* Use 21st century skills to understand and address global issues
* Learn from and work collaboratively with individuals representing diverse cultures, religions, and lifestyles in a spirit of mutual respect and open dialogue in personal, work, and community contexts
* Understand other nations and cultures, including the use of non-English languages

**Financial, Economic, Business, and Entrepreneurial Literacy**

* Demonstrate the ability to make appropriate personal economic choices
* Understand the role of the economy in society
* Apply entrepreneurial skills to enhance workplace productivity and career options

**Civic Literacy**

* Participate effectively in civic life through knowing how to stay informed and understanding governmental processes
* Exercise the rights and obligations of citizenship at local, state, national, and global levels
* Understand the local and global implications of civic decisions

**Health Literacy**

* Obtain, interpret, and understand basic health information and services and use such information and services in ways that enhance health
* Understand preventive physical and mental health measures, including proper diet, nutrition, exercise, risk avoidance, and stress reduction
* Use available information to make appropriate health-related decisions
* Establish and monitor personal and family health goals
* Understand national and international public health and safety issues

**Environmental Literacy**

* Demonstrate ecological knowledge and understanding of how natural systems work, as well as knowledge and understanding of how natural systems interface with social systems  
  Demonstrate understanding of the relationship between beliefs, political systems, and environmental values of various cultures  
  Demonstrate understanding of environmental issues caused as the result of human interaction with the environment, and knowledge related to alternative solutions to issues  
  Demonstrate active and considered participation aimed at solving problems and resolving issues3

**Life and Career Skills**

**Flexibility and Adaptability**

***Adapt to Change***

* Adapt to varied roles, job responsibilities, schedules, and contexts
* Work effectively in a climate of ambiguity and changing priorities

***Be Flexible***

* Incorporate feedback effectively
* Deal positively with praise, setbacks, and criticism
* Understand, negotiate, and balance diverse views and beliefs to reach workable solutions, particularly in multi-cultural environments

**Initiative and Self-Direction**

***Manage Goals and Time***

* Set goals with tangible and intangible success criteria
* Balance tactical (short-term) and strategic (long-term) goals
* Utilize time and manage workload efficiently

***Work Independently***

* Monitor, define, prioritize, and complete tasks without direct oversight

***Be Self-directed Learners***

* Go beyond basic mastery of skills and/or curriculum to explore and expand one’s own learning and opportunities to gain expertise
* Demonstrate initiative to advance skill levels towards a professional level
* Demonstrate commitment to learning as a lifelong process
* Reflect critically on past experiences in order to inform future progress

**Social and Cross-Cultural Skills**

***Interact Effectively with Others***

* Know when it is appropriate to listen and when to speak
* Conduct oneself in a respectable, professional manner

***Work Effectively in Diverse Teams***

* Respect cultural differences and work effectively with people from a range of social and cultural backgrounds
* Respond open-mindedly to different ideas and values
* Leverage social and cultural differences to create new ideas and increase both innovation and quality of work

**Productivity and Accountability**

***Manage Projects***

* Set and meet goals, even in the face of obstacles and competing pressures
* Prioritize, plan, and manage work to achieve the intended result

***Produce Results***

* Demonstrate additional attributes associated with producing high quality products including the abilities to:
* Work positively and ethically
* Manage time and projects effectively
* Multi-task
* Participate actively, as well as be reliable and punctual
* Present oneself professionally and with proper etiquette
* Collaborate and cooperate effectively with teams
* Respect and appreciate team diversity
* Be accountable for results

**Leadership and Responsibility**

***Guide and Lead Others***

* Use interpersonal and problem-solving skills to influence and guide others toward a goal
* Leverage strengths of others to accomplish a common goal
* Inspire others to reach their very best via example and selflessness
* Demonstrate integrity and ethical behavior in using influence and power

***Be Responsible to Others***

* Act responsibly with the interests of the larger community in mind

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