

## Research Question 1: Technologies to Watch

topic	total voters		1 yr	2-3 yrs	4-5 yrs
<b>Adoption Horizon: 12 Months</b>					
Mobiles	52	26	<b>23</b>	3	--
Cloud Computing	42	25	<b>16</b>	9	--
Social Media	34	22	<b>19</b>	3	--
Geolocation	30	19	<b>10</b>	6	3
<b>Adoption Horizon: 2-3 Years</b>					
Augmented Reality	56	30	9	<b>10</b>	11
Open Content	33	21	5	<b>10</b>	6
Gamed-Based Learning	32	21	6	<b>12</b>	3
Location-Based Services	31	21	6	<b>6</b>	9
<b>Adoption Horizon: 4-5 Years</b>					
Gesture-Based Computing	35	17	1	6	<b>10</b>
Semantic Web	33	16	1	7	<b>8</b>
Online Translation	24	15	--	7	<b>8</b>
Visual Data Analysis	24	18	2	4	<b>12</b>

3D Video	30	18	2	<b>8</b>	8
Online Learning & Distance Learning	30	17	<b>8</b>	2	7
Alternative Licensing	29	20	8	<b>10</b>	2
Social Networking	27	20	<b>18</b>	2	--
Electronic Books	27	19	7	<b>6</b>	6
Collaborative Environments	25	17	<b>8</b>	7	2
Personal Learning Environments *	28/24	13	--	<b>5</b>	<b>8</b>
Wireless Power	24	13	3	3	<b>7</b>
Tagging	23	18	<b>11</b>	5	2
Context Awareness	23	16	4	<b>6</b>	6
Digital Identity	22	15	3	<b>6</b>	6
Smart Objects	20	14	3	2	<b>9</b>
Learning Objects	18	12	4	<b>5</b>	3
New Scholarship	18	10	--	<b>7</b>	3
Web Aggregation Tools	17	13	5	<b>5</b>	3
Virtual Worlds	16	12	2	<b>6</b>	4
Cellular Networks	15	11	<b>8</b>	--	3
Collective Intelligence	13	13	4	<b>6</b>	3
Alternative search	11	8	--	3	<b>5</b>
Thin Film Displays	11	6	1	<b>2</b>	3
Smart Classrooms	9	7	1	2	<b>4</b>
Print on Demand	8	7	4	<b>1</b>	2
Telepresence	8	6	--	--	<b>6</b>
Digital Portfolios	8	6	1	<b>3</b>	2
Online Communication	7	7	3	<b>4</b>	--
3D Printing	7	6	--	--	<b>6</b>

The top four in each horizon are selected as semifinalists. Ties between horizons (shown in gray) are defined as votes within 10% of the total number of voters (eg, 3.6). A tie can be placed in either horizon. Three-way ties are placed in the middle horizon.

\* A single voter placed 10 votes on Personal Learning Environments. When weightings have very strong outliers, an adjustment is made to bring the total into line with the average weighting across all topics and voters of 1.57. The judgment was to reduce average weighting for this topic from 2.15 to 1.85 (essentially splitting the difference), which reduced total votes from 28 to 24.

### Research Question 3: Challenges

<b>topic</b>	<b>total voters</b>	
Creating a digital strategy for your institution is critical.	<b>25</b>	20
In many cases, museums may not have the necessary technical infrastructure in place to realize their vision for digital learning.	<b>20</b>	14
Greater understanding of relationships/synergies between on-site technology, off-site technology use, and on-line access to museum resources is needed	<b>16</b>	13
Content production has failed to keep up with technology	<b>16</b>	12
Embracing change as a constant remains a challenge.	<b>15</b>	12
Museum educators, particularly the older ones do not have the training, resources or or support to address the technological opportunities and challenges they face.	<b>14</b>	10
Operationalizing funding for technology projects is a critical challenge.	<b>14</b>	10
We should be doing more evaluation, and better, both qualitative and quantitative.	<b>14</b>	9
Improving our ability to measure impact using new digital technologies is a critical need.	<b>13</b>	10
We need to find ways to integrate visitor knowledge into exhibits and objects.	<b>13</b>	10
The public perception of the value of copyright is diminishing.	<b>13</b>	9

Communications strategies will continue to change rapidly and it will take diligence to keep with up with the competition for people's attention span.	12	10
Changing the historical model is hard.	12	10
There is too much duplication of effort and too little sharing of ideas and resources.	12	9
Integrating technology as part of core museum mission and 'making the case' for enhanced technology resources has proven difficult.	11	9
Securing the real support of top management is a critical challenge.	11	8
Institutions need to be purposeful about matching learning/experience objectives with the appropriate technologies	11	9
Museums will have to incorporate the emerging discipline of content strategy into their overall approach.	10	7
We need to re-conceive museums as part of a global cultural treasury whilst maintaining institutional identity.	9	7
Museum educators and particularly funders, need to begin to make project development decisions based on commitment rather than opportunity.	8	7
Internal cross-departmental communication around technology implementation is harder than it should be.	7	6
We need to tie online and offline — things, places and activities — but also the identities of users and museums.	6	5
Taking advantage of the opportunities of new technologies is happening all too rarely.	5	3
Finding a balance between school needs and rich museum content is an elusive goal.	5	4
Re-imagining and re-configuring organization charts to respond flexibly and strategically to		
Increasingly, museums are being expected to fill in the gaps in cultural education as schools drop the arts, music, and more from their curricula.	4	3
Resolving distributed identity is a challenge.	4	3
A big challenge is recognizing the diversity of our institutions, collections, and budgets.	4	3
We must keep up with still-diversifying delivery channels for digital conten	4	2
We need more efforts to encourage the field to encourage museums to be active and engaged with their visitors in sharing their efforts to digitize collections and create learning communities.	3	3
We need to create knowledge beyond just information through facilitating community and means of using that information.	3	2
Professional development is too often not a priority.	3	3
Valuing resources is as important as costing them in deciding whether to invest in building/sustaining them.	2	1
Keeping up with new research and practice is hard.	1	1

## Research Question 4: Trends

topic	totalvoters	
Increasingly, we expect to be connected wherever we go.	30	20
More and more, people expect to be able to work, learn, study, and connect with their social networks wherever and whenever they want to.	27	15
Collection related rich media are becoming increasingly valuable assets in digital interpretation.	26	19
Increasingly, the expectation is for a seamless experience across devices.	24	15
Digitization and cataloguing projects continue to require a significant share of museum resources.	22	13
Cross-institution collaboration is growing as another way to share resources.	20	13
Momentum is building for inked data/semantic web and open data.	18	11
The abundance of resources and relationships induced by open resources and social networks is increasingly challenging us to revisit our roles as educators in sense-making, coaching and credentialing.	17	12
On demand everything — and everywhere — is coming.	15	12
Digital expertise is flourishing in more parts of the organisation, with digital departments as facilitators and commissioners.	14	11
Schools will increasingly look to digital learning technologies as a way to quickly improve student achievement.	13	11
Engaged citizenship is increasingly enabled by technology, political awareness, engagement and just-in-time learning.	13	10
Visitors are increasingly the educators, the curators, and shape their learning experience.	12	10
The concept of a digital identity is increasingly taking root.	11	9
Translation tools are getting pretty good, and we will be increasingly using them to address educational audiences across the globe.	11	8
Networked learning – collaborations across counties, countries, continents — is growing.	10	7
Increasingly sophisticated tools for data analysis and visualization	8	6
Many museum educational programs are beginning to rely on technology services maintained outside of the museum walls.	6	3
Increasingly we expect to have access to online gaming.	6	3
Increasingly, I care more about what you say than what the expert says.	4	3
The diversified work portfolio is becoming the norm.	4	3
Cultural heritage content is increasingly channeled into virtual learning environments either directly or through third parties like CHIN, Collections Australia, Europeana or Magic Studio.	4	4
Cross-organisational collaboration is creating LAM Convergence.	3	3
Cross-curricular learning has long been important in primary education but seems to be increasingly so.	2	2

## Raw Data for RQ 1

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