

NMC Horizon Project Round 1 Tallies > 2014 Higher Ed Edition

ROUND 1 RESULTS SUMMARY

Technologies to Watch

Time-to-Adoption Horizon: One Year or Less

- * BYOD
- * Flipped Classroom
- * Learning Analytics
- * Massive Open Online Courses

Time-to-Adoption Horizon: Two to Three Years

- * 3D Printing
- * Games and Gamification
- * The Internet of Things
- * Wearable Technology

Time-to-Adoption Horizon: Four to Five Years

- * Affective Computing
- * Flexible Displays
- * Quantified Self
- * Virtual Assistants

Key Trends

Fast Trends

- * As the abundance of resources and relationships made easily accessible via the Internet grows, we are ever more challenged to revisit our roles as educators.
- * Education paradigms are shifting to include online learning, hybrid learning, and collaborative models.
- * Massive open online courses are being widely explored as alternatives and supplements to traditional university courses.
- * Social media is changing the way people interact, present ideas and information, and judge the quality of content and contributions.

Mid-Range Trends

- * Computers as we know them are in the process of a massive reinvention.
- * The shift continues towards becoming a creator-society.
- * Student recording and self-publishing of their academic experiences are gaining traction.
- * There is a growing interest in using new sources of data for personalizing the learning experience and for performance measurement.

Slow Trends

- * Asynchronous voice and video tools are humanizing online learning.
- * Digital delivery will one day be the norm, with resulting less face-to-face interaction.
- * Digital humanities and computational social science research approaches are opening up new pioneering areas of multidisciplinary research, innovative forms of scholarship and publication, and new kinds of courses and pedagogies.

* Entrepreneurship and innovation, coupled with technology, are providing a way forward for resolving many of higher education issues.

Significant Challenges

Near-Term Challenges

- * Critical campus infrastructures are under-resourced.
- * The demand for personalized learning is not adequately supported by current technology or practices.
- * Faculty training still does not acknowledge the fact that digital media literacy continues its rise in importance as a key skill in every discipline and profession.
- * Teaching is generally (or at least often) rated lower than research in academia.

Mid-Term Challenges

- * Many of our current structures and practices fail to teach creativity over conformity.
- * New models of education are bringing unprecedented competition to the traditional models of higher education.
- * New models of professional development are needed to align with emerging technology landscape.
- * Our organizations are not set up to promote innovation in teaching.

Far-Term Challenges

- * The global drive to increase the number of students participating in undergraduate education is placing pressure across the system.
- * If Higher Ed does not adapt to the times, it will be superseded.
- * Simply staying organized and current presents a challenge in a world where information, software tools, and devices proliferate at the rate they do today.
- * With the abundance of content, technologies and overall participatory options, learning institutions need to lead the way to facilitating finding a balance between connected/unconnected life.

RESEARCH QUESTION 1: Voting Tallies

topic	total	voters	1 yr	2-3 yrs	4-5 yrs
Wearable Technology (Consumer Technology)	58	29	6	14	9
Makerspaces (Digital Strategies)	44	25	11	9	5
3D Printing (Visualization Technologies)	43	25	9	12	4
Learning Analytics (Learning Technologies)	43	23	14	6	3
Games and Gamification (Digital Strategies)	42	21	8	11	2
Flexible Displays (Enabling Technologies)	40	21	--	7	14
Mobile Learning (Learning Technologies)	40	18	13	5	--
Badges / Microcredit (Learning Technologies)	36	17	6	7	4
Flipped Classroom (Digital Strategies)	35	16	14	1	1
The Internet of Things (Internet Technologies)	28	19	2	11	6
Virtual Assistants (Enabling Technologies)	28	16	2	2	12
BYOD (Digital Strategies)	27	18	15	2	1
Personal Learning Environments (Learning Technologies)	27	17	5	7	5

Mobile Apps (Consumer Technology)	27	15	9	5	1
Electronic Publishing (Consumer Technology)	26	14	8	4	2
Affective Computing (Enabling Technologies)	26	13	1	2	10
Massive Open Online Courses (Learning Technologies)	24	16	16	--	--
Mobile Video Communication Tools (RQ 2 New Additions)	24	16	10	4	2
Quantified Self (Consumer Technology)	22	13	--	3	10
Machine Learning (Enabling Technologies)	21	12	1	6	5
Semantic Applications (Internet Technologies)	21	10	--	3	7
Next Generation Batteries (Enabling Technologies)	19	14	3	5	6
Open Content (Learning Technologies)	19	14	6	6	2
Speech-to-Speech Translation (Enabling Technologies)	19	13	--	7	6
Natural User Interfaces (Enabling Technologies)	19	12	--	2	10
Collaborative Environments (Social Media Technologies)	18	13	5	6	2
Tablet Computing (Consumer Technology)	18	12	9	2	1
Telepresence (Consumer Technology)	18	11	--	3	8
Neural Feedback Devices (RQ 2 New Additions)	18	8	--	2	6
3D Video (Consumer Technology)	17	13	1	6	6
Cloud Computing (Internet Technologies)	17	12	9	3	--
Location Intelligence (Digital Strategies)	17	12	1	5	6
Mobile Broadband (Enabling Technologies)	17	11	4	5	2
Adaptive Learning (RQ 2 New Additions)	16	11	1	4	6
Real-Time Machine Translation (Internet Technologies)	16	10	1	5	4
Virtual and Remote Laboratories (Learning Technologies)	16	10	1	5	4
Volumetric and Holographic Displays (Visualization Technologies)	16	10	--	1	9
Open Hardware (Enabling Technologies)	16	8	1	2	5
Visual Data Analysis (Visualization Technologies)	15	13	2	4	7
Wireless Power (Enabling Technologies)	15	10	--	2	8
Information Visualization (Visualization Technologies)	15	10	3	6	1
Online Learning (Learning Technologies)	15	9	8	1	--
Open Licensing (Learning Technologies)	14	10	2	5	3
Online Learning LMS Platforms (RQ 2 New Additions)	14	8	5	3	--
Near Field Communication (Enabling Technologies)	13	10	--	7	3
Tacit Intelligence (Social Media Technologies)	12	8	1	1	6
Crowdfunding (Social Media Technologies)	9	8	4	3	1
"On the Fly" Group Experiences (RQ 2 New Additions)	9	7	--	4	3
Digital Identity (Social Media Technologies)	9	7	3	1	3
Peer-to-Peer Learning (RQ 2 New Additions)	9	7	1	3	3
Electrovibration (Enabling Technologies)	8	7	--	3	4
Collective Intelligence (Social Media Technologies)	8	7	2	--	5
Location-Based Services (Enabling Technologies)	8	7	3	2	2
Crowdsourcing (Social Media Technologies)	8	6	3	1	2

Geolocation (Enabling Technologies)	7	7	3	3	1
Single Sign-On (Internet Technologies)	7	7	4	3	--
Social Networks (Social Media Technologies)	6	5	4	1	--
Client Virtualization (RQ 2 New Additions)	5	4	1	1	2
Syndication Tools (Internet Technologies)	5	4	1	1	2
Preservation and Conservation Technologies (Digital Strategies)	5	3	1	1	1
Online Video Walls (RQ 2 New Additions)	3	2	--	1	1
Cellular Networks (Enabling Technologies)	1	1	--	--	1
Statistical Machine Translation (Enabling Technologies)	1	1	--	--	1

RESEARCH QUESTION 3: Trend Tallies

topic	total	voters	fast	mid-range	slow
Digital humanities and computational social science research approaches are opening up new pioneering areas of multidisciplinary research, innovative forms of scholarship and publication, and new kinds of courses and pedagogies.	87	33	7	12	14
The shift continues towards becoming a creator-society.	75	34	7	16	11
Openness — concepts like open content, open data, and open resources, along with notions of transparency and easy access to data and information — is becoming a value.	75	32	16	8	8
As the abundance of resources and relationships made easily accessible via the Internet grows, we are ever more challenged to revisit our roles as educators.	74	35	23	8	4
There is a growing interest in using new sources of data for personalizing the learning experience and for performance measurement.	75	34	7	14	13
Education paradigms are shifting to include online learning, hybrid learning, and collaborative models.	74	33	27	4	2
Entrepreneurship and innovation, coupled with technology, are providing a way forward for resolving many of higher education issues.	66	30	8	10	12
Communications are becoming more visual.	65	30	12	10	8
Asynchronous voice and video tools are humanizing online learning.	62	27	8	6	13
Computers as we know them are in the process of a massive reinvention.	61	28	6	14	8
Student recording and self-publishing of their academic experiences are gaining traction.	58	30	5	13	12
Social media is changing the way people interact, present ideas and information, and judge the quality of content and contributions.	57	31	20	9	2
Digital delivery will one day be the norm, with resulting less face-to-face interaction.	54	22	2	7	13
People expect to be able to work, learn, and study whenever	51	27	16	7	4

and wherever they want.					
The world of work is increasingly collaborative, driving changes in the way student projects are structured.	49	26	12	9	5
Massive open online courses are being widely explored as alternatives and supplements to traditional university courses.	48	26	18	6	2
Increasingly, students want to use their own technology for learning.	45	25	17	7	1
The immersion of job skill training will play a stronger role in curriculum, not the academic subject.	42	21	3	11	7
The technologies we use are more and more cloud-based, and our notions of IT support are decentralized.	39	25	12	11	2

RESEARCH QUESTION 4: Challenge Tallies

topic	total	voters	near	mid	far
New models of education are bringing unprecedented competition to the traditional models of higher education.	62	23	5	10	8
The demand for personalized learning is not adequately supported by current technology or practices.	60	30	16	10	4
Dividing learning into fixed units such as credit hours limits innovation across the board.	53	26	12	8	6
Faculty training still does not acknowledge the fact that digital media literacy continues its rise in importance as a key skill in every discipline and profession.	53	25	21	3	1
The global drive to increase the number of students participating in undergraduate education is placing pressure across the system.	46	23	5	8	10
Many of our current structures and practices fail to teach creativity over conformity.	44	23	8	11	4
Our organizations are not set up to promote innovation in teaching.	44	22	9	11	2
If Higher Ed does not adapt to the times, it will be superseded.	43	22	4	7	11
Higher education faces many economic and political pressures.	41	21	12	7	2
Most academics are not using new and compelling technologies for learning and teaching, nor for organizing their own research.	39	24	13	9	2
With the abundance of content, technologies and overall participatory options, learning institutions need to lead the way to facilitating finding a balance between connected/unconnected life.	39	22	2	6	14
Critical campus infrastructures are under-resourced.	39	22	14	3	5
Learning Management Systems and publishing companies provide prepackaged course materials/texts/online environments, that when coupled with MOOCs, automated assessment, etc. remove agency from academics.	38	17	9	6	2
The gulf between IT and ET continues to widen.	38	17	5	6	6

Appropriate metrics of evaluation lag the emergence of new scholarly forms of authoring, publishing, and researching.	37	20	4	9	7
New models of professional development are needed to align with emerging technology landscape.	37	19	3	12	4
More learning hubs, labs, and internships must become the norm — not just online or face-to-face classes.	35	19	3	10	6
With an increasing division between academics embracing new technologies and approaches such as MOOC's, Open Content, etc. and those who are not, there may increasingly be different categories of courses.	35	17	4	8	5
We need to rethink privacy in the age of surveillance.	34	18	10	2	6
There is a conflict between current notions of digital literacy and digital skills and applied fluency skills.	28	19	5	7	7
There is rift between accreditation and learning.	28	14	2	6	6
Simply staying organized and current presents a challenge in a world where information, software tools, and devices proliferate at the rate they do today.	27	18	5	5	8
Teaching is generally (or at least often) rated lower than research in academia.	27	18	14	2	2
There is an over-reliance on part-time faculty.	27	13	7	1	5
There is increasing administrative and marketing control of learning analytics.	24	14	3	4	7
Today's environment requires students to acquire skills on branding, marketing, strategic visioning, digital footprint, entrepreneurship, etc.	23	15	4	5	6
Too often it is education's own processes and practices that limit broader uptake of new technologies.	22	16	6	4	6
New platforms are needed for Teacher-Trainer-Learners to explore, try, and document Innovations in digital/blended learning.	22	13	2	5	6
Data mining is much more suited to courses run under business models that can scale.	22	10	2	4	4
Degree qualifications and accreditation needs to connect with K-12 and the Common Core.	18	11	3	6	2
With the yearly increase in processing power of computers, comes a corresponding increase in the ability of computers to understand the world around them.	17	11	1	2	8
There are disturbing signs of a faculty revolt against online learning.	17	10	4	1	5
Manufacturers are reducing owner control over their devices.	16	10	4	2	4
The traditional development model is broken.	14	9	1	4	4
Plagiarism is a growing problem.	8	6	2	2	2
There is a need for some sort of database where HE teachers re applications and give some 'description of contents' as to learning / teaching potential.	8	5	--	3	2
The fear of being vulnerable is a barrier to voice and video communication adoption.	7	6	1	4	1