Aalto University
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Future visions of educational technology and online learning

- based on New Media Consortium Horizon 2017 report

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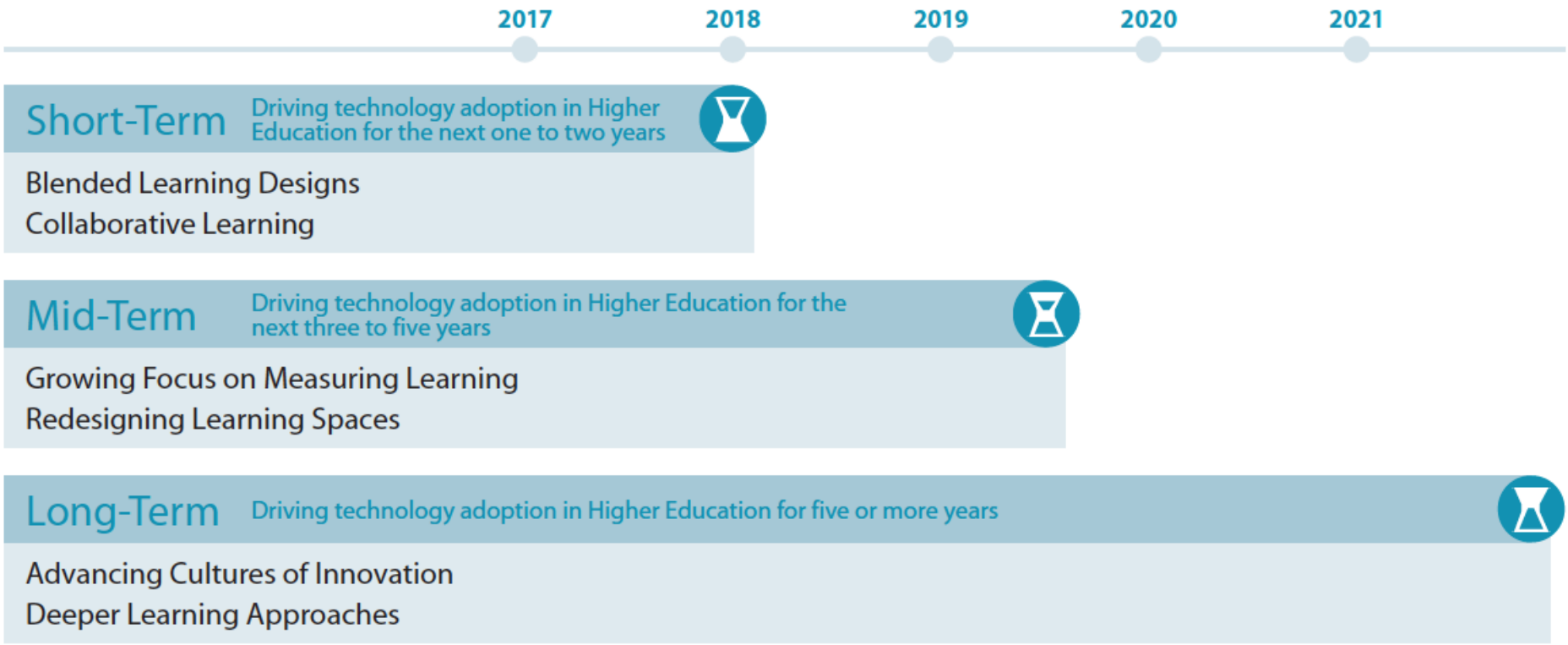
NMC Horizon Report > 2017 Higher Education Edition at a Glance

Key Trends Accelerating Higher Education Technology Adoption



Source· http://www.nmc.org/publication/nmc-horizon-report-2017-higher-education-edition/

Significant Challenges Impeding Higher Education Technology Adoption

Solvable *Those that we understand and know how to solve*

Improving Digital Literacy
Integrating Formal and Informal Learning

Difficult *Those that we understand but for which solutions are elusive*

Achievement Gap
Advancing Digital Equity

Wicked *Those that are complex to even define, much less address*

Managing Knowledge Obsolescence
Rethinking the Roles of Educators

Important Developments in Technology for Higher Education

2017 2018 2019 2020 2021

Time-to-Adoption Horizon: One Year or Less

Adaptive Learning Technologies
Mobile Learning

Time-to-Adoption Horizon: Two to Three Years

The Internet of Things
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Meta categories reflecting movement in higher education (HE)

Expanding Access and Convenience

- "People expect to be *able to learn and work anywhere, with constant access to learning materials*, as well as each other."

How to engage students online?

Where should classroom education focus on?

Meta categories reflecting movement in higher education (HE)

Spurring Innovation

- ”… the most important product of all: graduates who not only fulfill evolving job market needs but *redefine and improve the workforce they enter*. “
- *“Advancing cultures of entrepreneurial thinking* and designing new forms of artificial intelligence are just two of many areas of higher education that are spreading innovation.”

Educating game changers!

Meta categories...

Fostering Authentic Learning

- "Rather than being regarded as mere participants and consumers of knowledge, the embedding of maker culture in higher education has *made students active contributors to the knowledge ecosystem*. "
- "They learn by *experiencing, doing, and creating, demonstrating newly acquired skills in more concrete and creative ways*."
- "Institutions continue to be *challenged to generate these opportunities* in spaces and with paradigms that still lean on traditional practices."

How can we enhance these?

Meta categories...

Tracking and Evaluating Evidence

- "What good is a new approach of technology deployment *if the results are not carefully measured and analyzed, with the program adjusted based on the results*? "

  How do pilots do this?

- "… more *personalized learning experiences* through adaptive learning tools that analyze areas for improvement and deliver tailored content to each student accordingly."
- "Leaders must consider how to scale the data in a way that presents *a more holistic picture of student success* and makes it useful across all disciplines."

  What should be done at the university level?

Meta categories...

Improving the Teaching Profession

- "As such, *educators are not always sufficiently motivated to improve their teaching craft — or rewarded when they do so successfully.*"
- *"Programs that recognize and scale positive teaching practices are a necessity*."

What could this mean in practice?

Meta categories...

Spreading Digital Fluency

- "A major element of fostering this fluency is recognizing that simply *understanding how to use a device or certain software is not enough*;"
- "Faculty, staff, and students must be able to make connections between the tools and the intended outcomes, *leveraging technology in creative ways* that allow them to more intuitively adapt from one context to another."
- How do we implement these in courses and programs?

Long Term Trend: Advancing Cultures of Innovation

"how institutions can *nurture the types of culture that promotes experimentation*"

"...call for higher education to alter its status quo to *accept failure as an important part of the learning process*."

How do we implement these?

three factors for promoting strategic innovation: 1) diversity of people, 2) dedicated resources to support individuals' *intrinsic* motivations, rather than using extrinsic incentives, 3) autonomy

Long term trend: Deeper Learning Approaches

"To remain motivated, students need to be able to *make clear connections between their coursework and the real world, and how the new knowledge and skills will impact them*.

Working life competences -initiative

"...leveraging student learning communities to *connect humanities with STEM disciplines* to improve intercultural competencies and understanding of human rights issues."

Mid term trend: Growing Focus on Measuring Learning

"...universities must rethink how to define, measure, and ***demonstrate subject mastery*** *and soft skills* such as creativity and collaboration."

Where should we aim at here?

"...Multimodal data and social network analysis represent a *holistic focus that prioritizes the social, cognitive, and affective components of learning ... gathering data on the biological and mental processes* of learning in real-world learning environments"

"Students use the dashboard *to benchmark their progress against those of their peers and modify their behaviors accordingly*, while tutors are able to initiate immediate dialogues to ensure the students' continued engagement."

Threats and how to mitigate them?

Mid term trend: Redesigning Learning Spaces

"Educational settings are increasingly designed to support *project-based interactions with attention to greater mobility, flexibility, and multiple device usage*."

"…installing large displays that allow for *more natural collaboration on digital projects*."

"...Classrooms are starting to *resemble real-world work and social environments* that foster organic interactions and cross-disciplinary problem-solving."

Short term trend: Blended Learning Designs

“The current focus of this trend has shifted to *understanding how applications of digital modes of teaching are impacting students*. Many findings showcase an increase in creative thinking, independent study, and the ability for the student to tailor learning experiences to meet their individual needs.”

”...three elements fundamental to its success:

- best practices in implementation methods;
- ways to promote a culture in which key stakeholders understand and support the need for transition to blended models;
- communication strategies to strengthen relationships between educators and technical staff.”
- A!OLE pilots, workshops and theme groups support this.

Short term trend: Collaborative Learning

"In addition to improving student engagement and achievement, a key benefit of collaborative learning is *bolstering openness to diversity, exposing students to people from different demographics*."

How could we better employ are foreign students in this?

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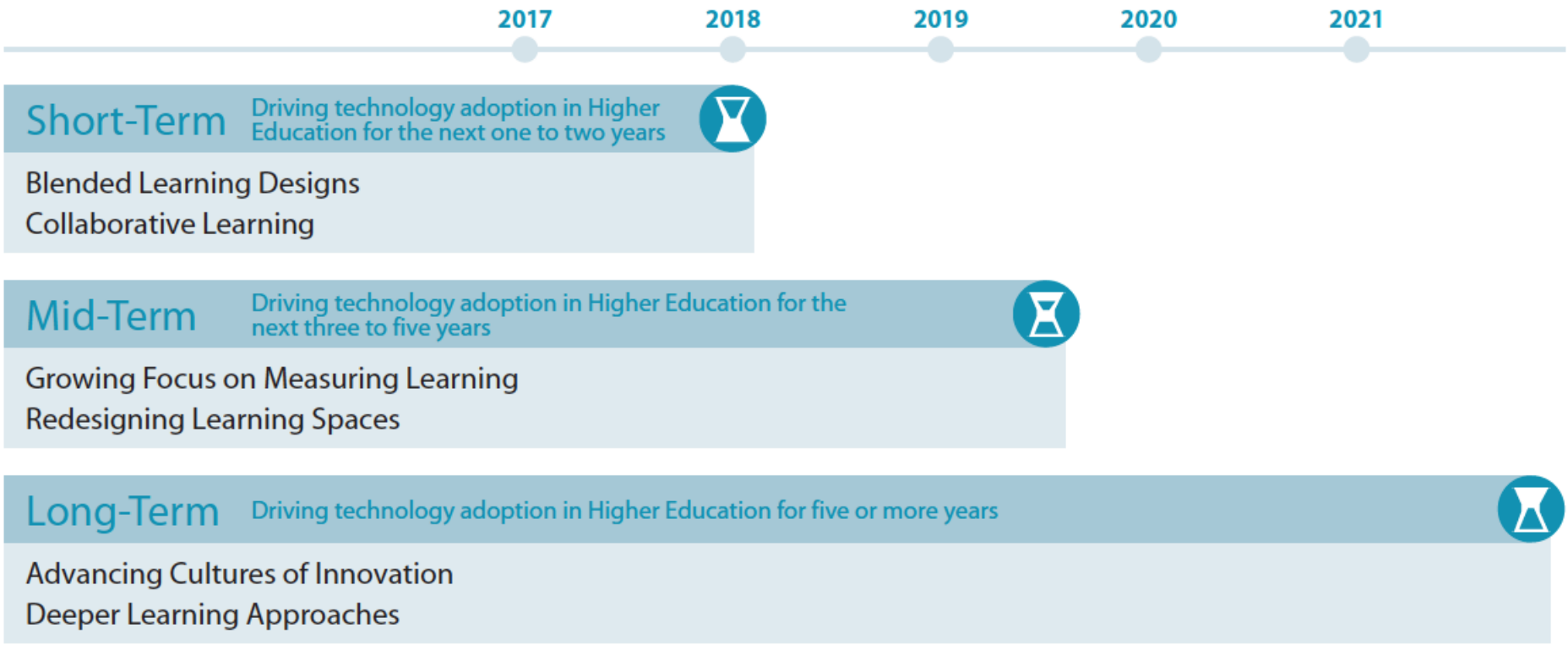

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Solvable Challenge: Improving Digital Literacy.

“Digital literacy transcends gaining isolated technological skills to generating a deeper understanding of the digital environment, *enabling intuitive adaptation to new contexts and co-creation of content with others.*“

“Institutions are charged with developing students’ digital citizenship, ensuring mastery of responsible and appropriate technology use, including online communication etiquette and digital rights and responsibilities... “

How can we do this better?

Solvable Challenge:Integrating Formal and Informal Learning

"...increasing interest in *self-directed, curiosity-based learning*."

"...enhance student engagement by encouraging them to *follow their interests*."

"...blending formal and informal methods of learning can create an environment that fosters experimentation, curiosity, and creativity."

What concrete actions are needed here?

Wicked Challenge: Managing Knowledge Obsolescence

"*Staying organized and current presents a challenge to academics* in a world where educational needs, software, and devices advance at a strenuous rate."

"...just as faculty and staff are able to master one technology, it seems a new version launches."

"Institutions must grapple with the longevity of technologies and *devise back-up plans before making large investments*."

What are the risks that A!OLE has no long term impact after funding period is over?

How to mitigate the risks?

Wicked Challenge: Rethinking the Roles of Educators

"...shift to student-centered learning requires them to *act as guides and facilitators*."

"...rise of competency-based education, which further *customizes the academic experience to students' needs*."

"...many institutions across the world are *rethinking the primary responsibilities of educators*."

Implications for pedagogical training and educational leadership?

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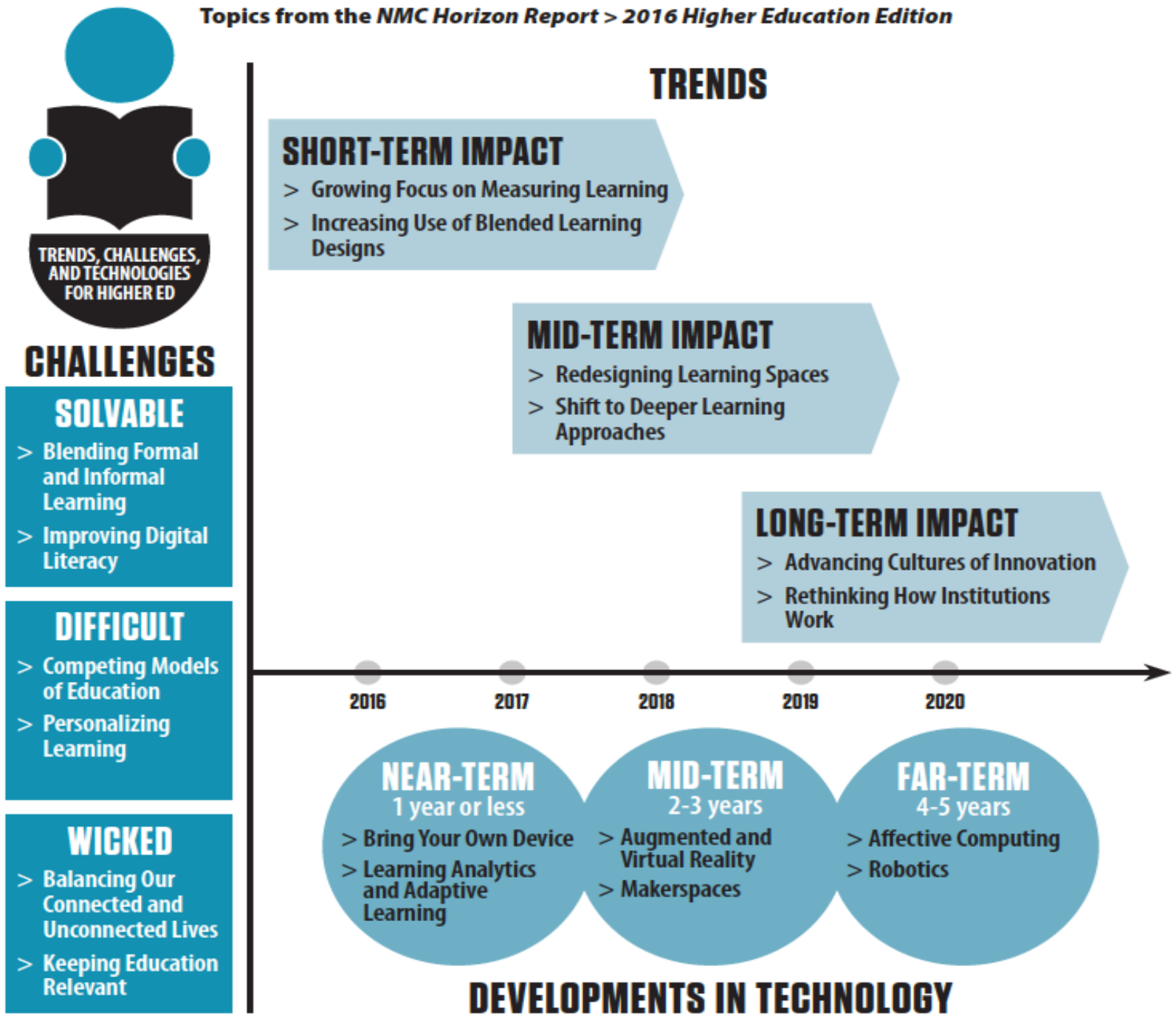
Comparison with 2016 report



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One conclusion...

”... technology alone cannot cultivate education transformation; better pedagogies and more inclusive education models are vital solutions, while digital tools and platforms are enablers and accelerators.”

=> **Fits the goals of A!OLE**

Thank you!