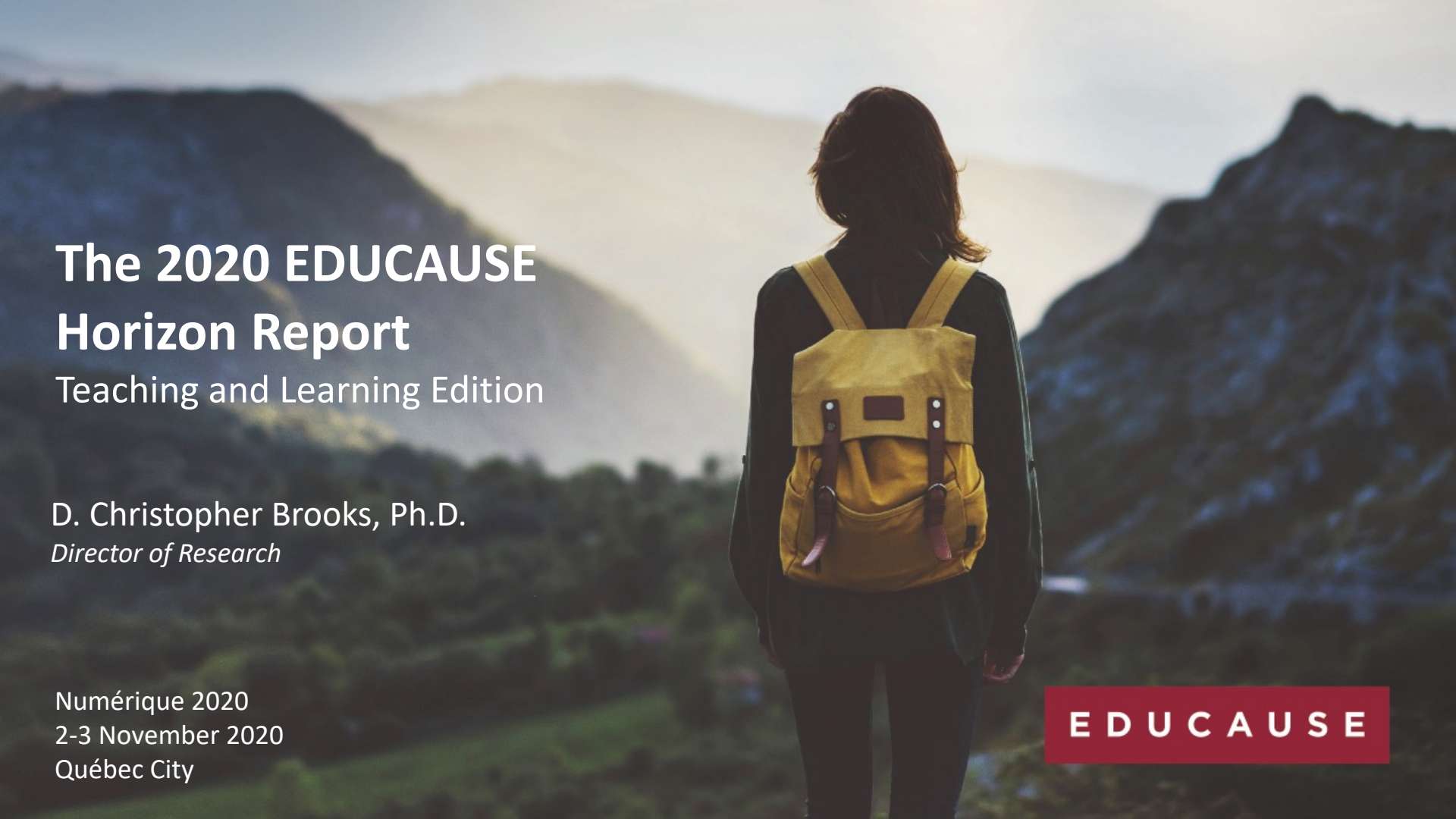


A person with long brown hair, seen from behind, stands on a path looking out over a vast mountain landscape. They are wearing a dark jacket and a bright yellow backpack with brown straps. The background features rolling green hills and dark, rugged mountains under a soft, hazy sky. The overall mood is contemplative and forward-looking.

# The 2020 EDUCAUSE Horizon Report

Teaching and Learning Edition

D. Christopher Brooks, Ph.D.  
*Director of Research*

Numérique 2020  
2-3 November 2020  
Québec City

EDUCAUSE

A person with long brown hair, seen from behind, stands on a path looking out over a vast mountain landscape. They are wearing a dark long-sleeved shirt and a bright yellow backpack with brown straps. The landscape features rolling green hills in the foreground and dark, rugged mountains in the background under a hazy, golden sky.

# The 2020 EDUCAUSE Horizon Report

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<https://tinyurl.com/ehr2020>

EDUCAUSE

# The HR2020 team

D. Christopher Brooks, Director of Research

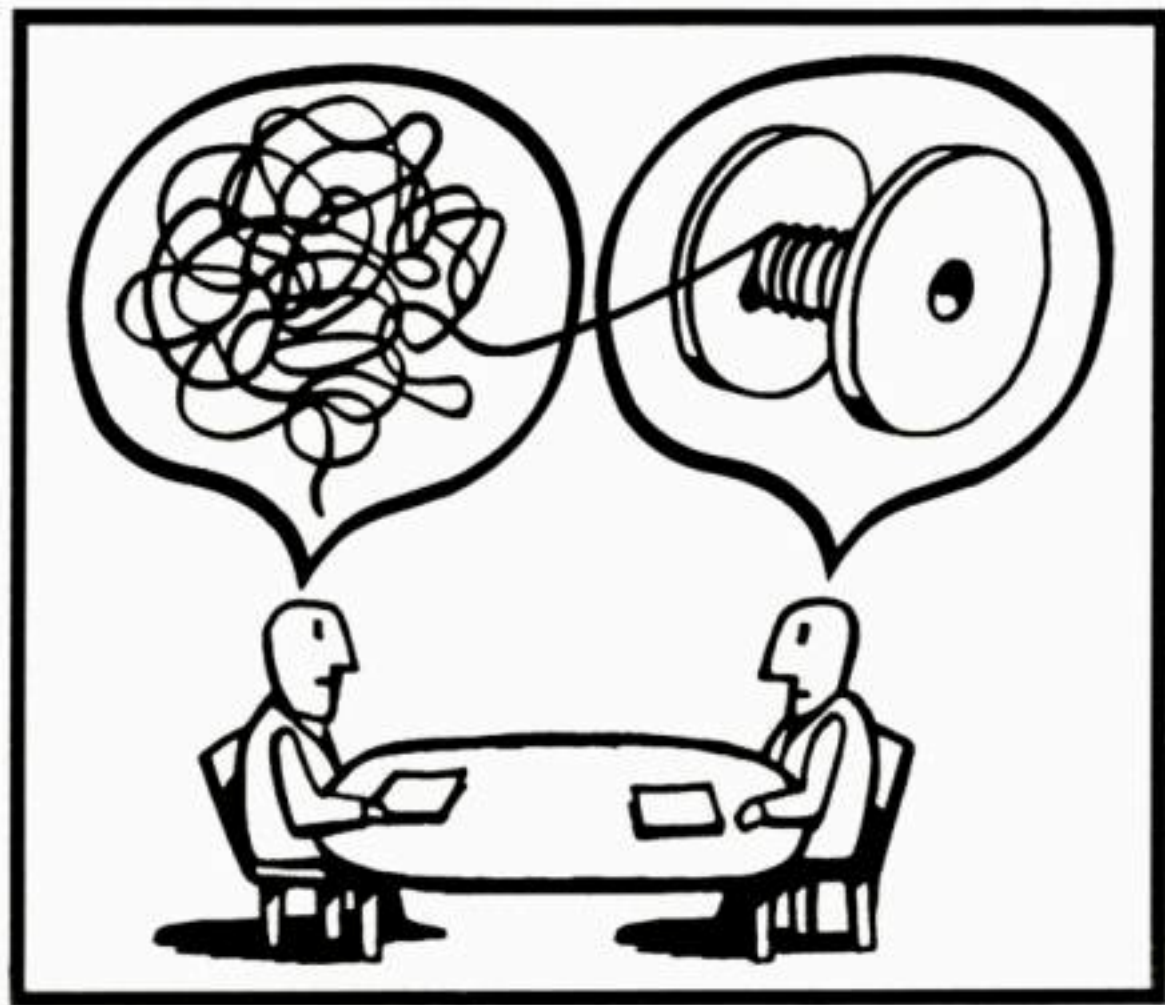
Malcolm Brown, Director of Learning Initiatives

Greg Dobbin, Senior Editor

Susan Grajek, VP Communities and Research

Mark McCormack, Senior Director, Analytics and Research

Jamie Reeves, Portfolio Manager





“The future cannot be predicted,  
but futures can be invented.”

Dennis Gabor, *Inventing the Future*, 1971

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Prediction vs. forecast

The future vs. many possible futures

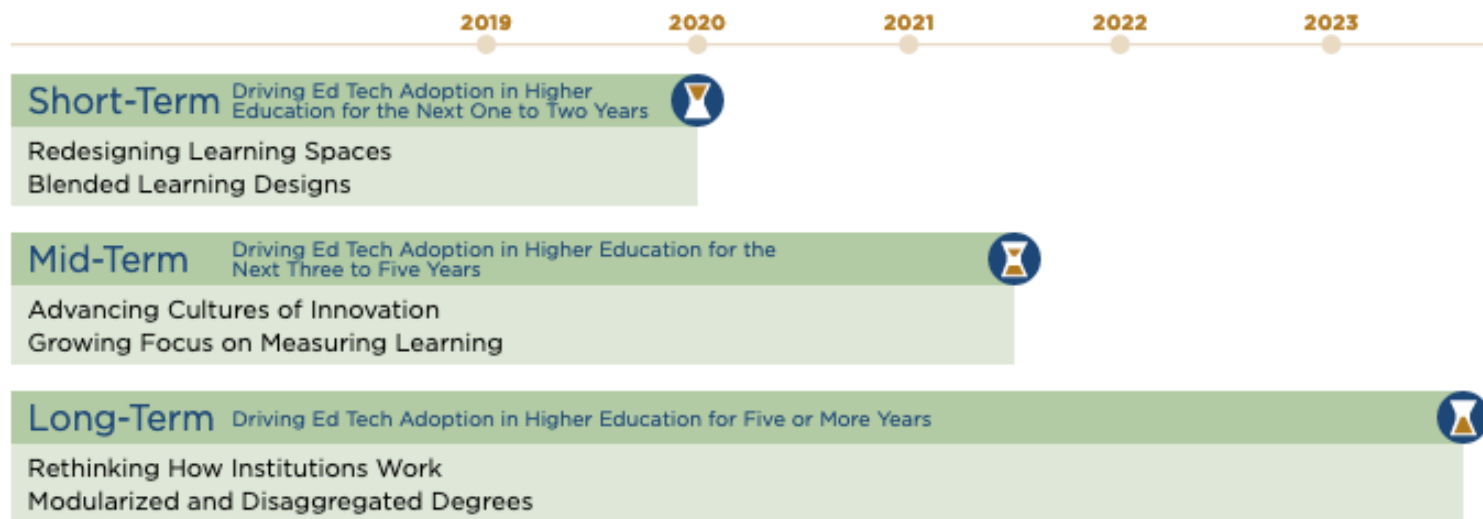
A photograph of students in a classroom using VR headsets. A woman in the foreground is smiling while wearing a VR headset and typing on a laptop. Other students in the background are also wearing VR headsets. The scene is brightly lit with indoor plants visible in the background.

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**EDUCAUSE Horizon Report** | 2019 Higher Education Edition

# EDUCAUSE Horizon Report | 2019 Higher Education Edition at a Glance

## Key Trends Accelerating Higher Education Technology Adoption





# EDUCAUSE Horizon Report | 2019 Higher Education Edition at a Glance

## Significant Challenges Impeding Higher Education Technology Adoption



**Solvable** Those That We Understand and Know How to Solve

Improving Digital Fluency

Increasing Demand for Digital Learning Experience and Instructional Design Expertise



**Difficult** Those That We Understand but for Which Solutions Are Elusive

The Evolving Roles of Faculty with Ed Tech Strategies

Achievement Gap



**Wicked** Those That Are Complex to Even Define, Much Less Address

Advancing Digital Equity

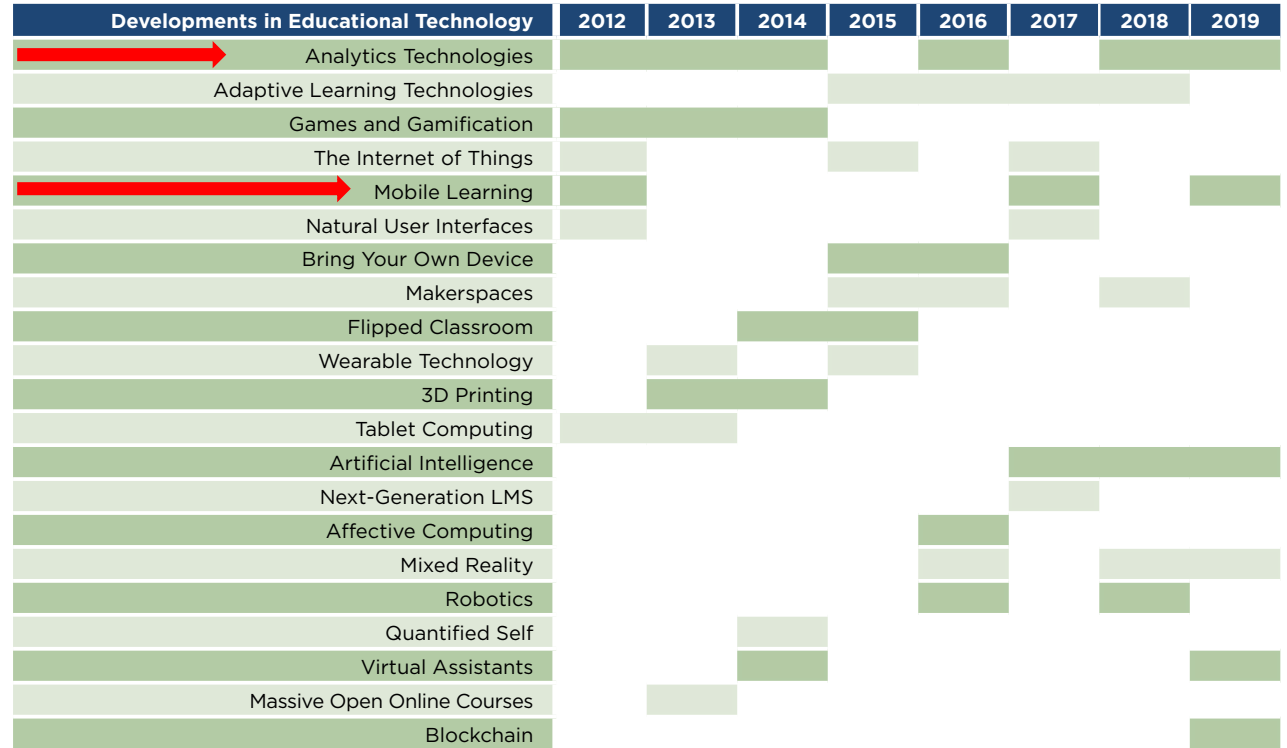
Rethinking the Practice of Teaching

## EDUCAUSE Horizon Report | 2019 Higher Education Edition at a Glance

### Important Developments in Technology for Higher Education



“...three time horizons over which the developments are expected to achieve widespread adoption.”



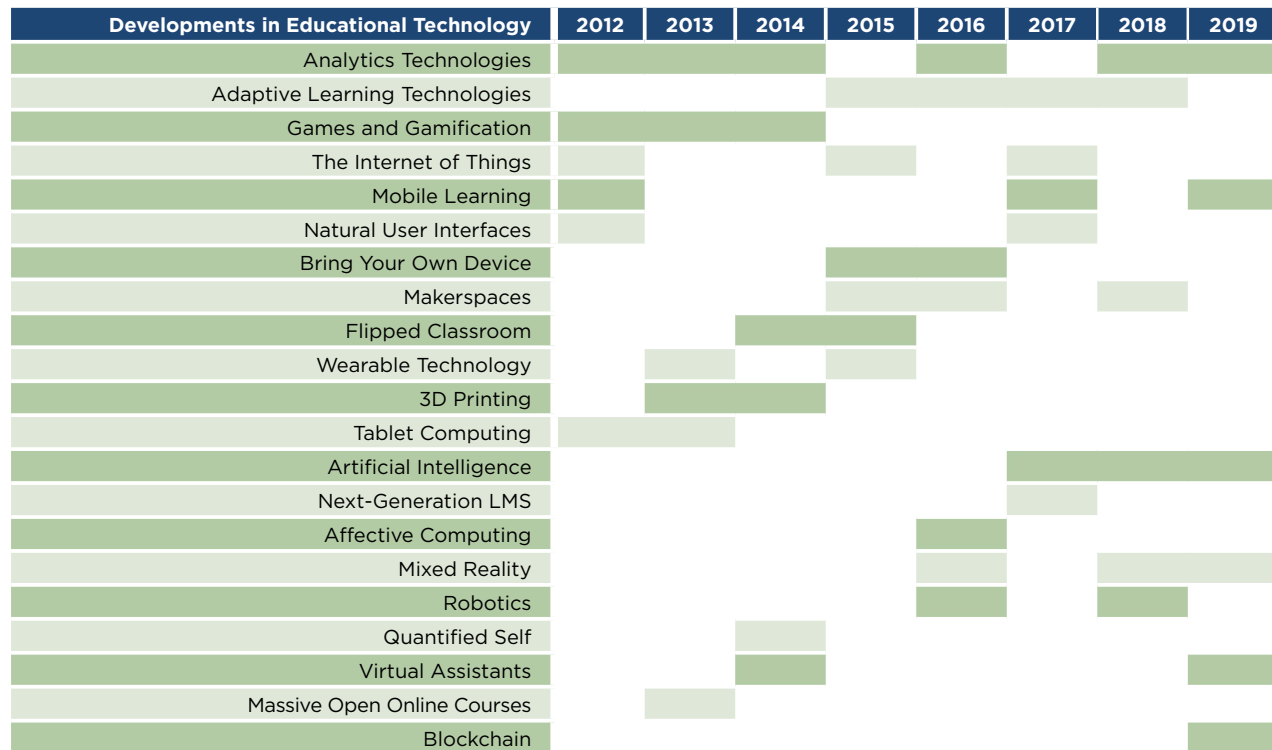
What is the learning impact likely to be?

Will the faculty be receptive?

How much will it cost?

What are the risks?

Will it promote or hinder equity and inclusion?



# Five Principles for Thinking Like a Futurist

by Marina Gorbis ⌚ Monday, March 11, 2019 🖨 In Print 📄 PDF

Thinking about the future allows us to imagine what kind of future we want to live in and how we can get there.

<http://tinyurl.com/gorbis5>



# 5 principes à la Gorbis

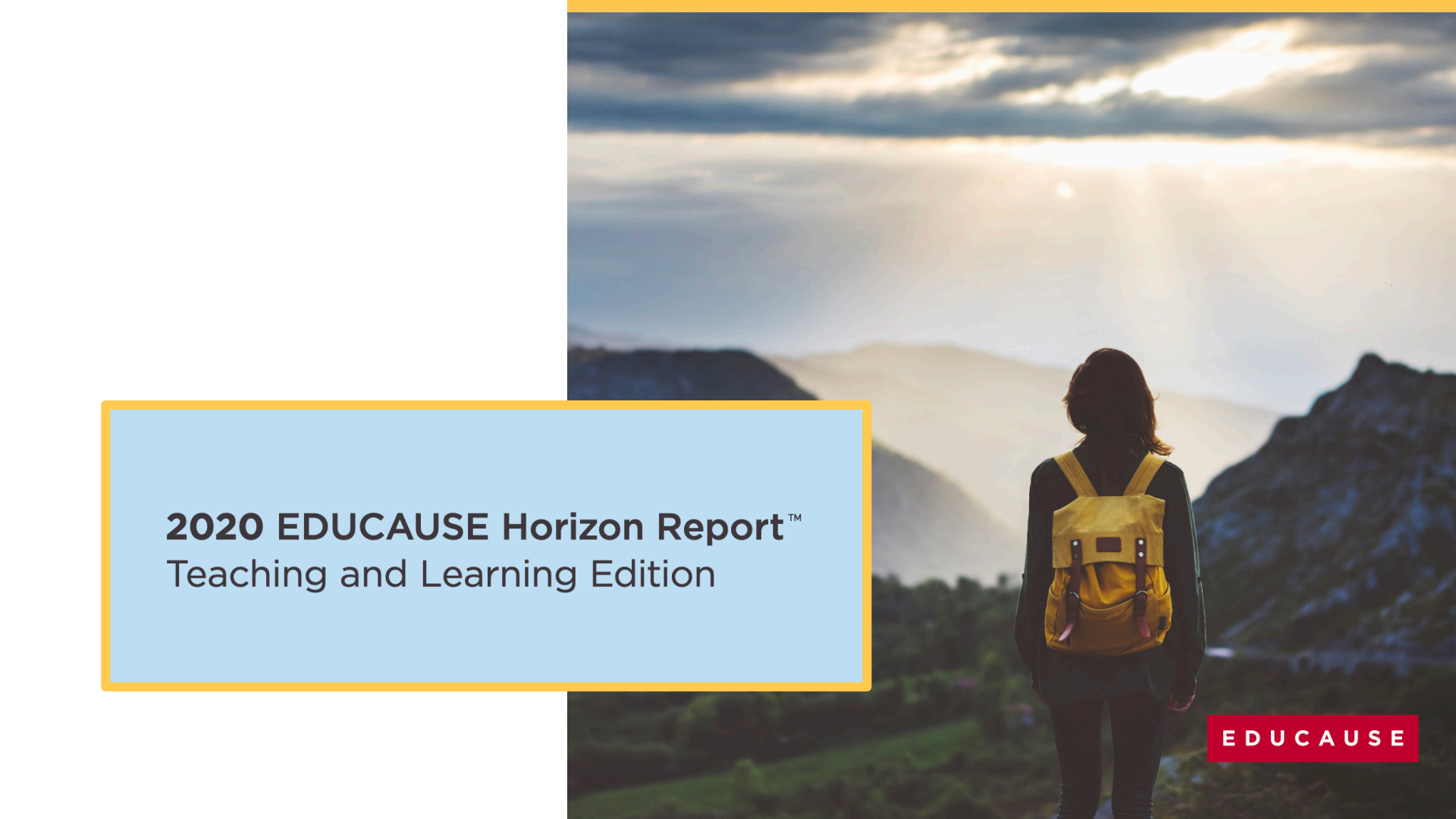
1. Forget about predictions
2. Focus on signals
3. Look backward to look forward
4. Uncover patterns
5. Create a community

## Most Popular Articles and Blog Posts

1

Five Principles for Thinking Like a Futurist

Marina Gorbis

A person with a yellow backpack is seen from behind, standing on a grassy hill and looking out over a vast mountain landscape. The sun is setting or rising, creating a dramatic sky with clouds and rays of light. The person is wearing a dark jacket and dark pants. The backpack is bright yellow with black straps and buckles. The landscape features rolling hills and mountains in the distance, with a river or stream visible in the lower right. The overall mood is contemplative and hopeful.

## **2020 EDUCAUSE Horizon Report™**

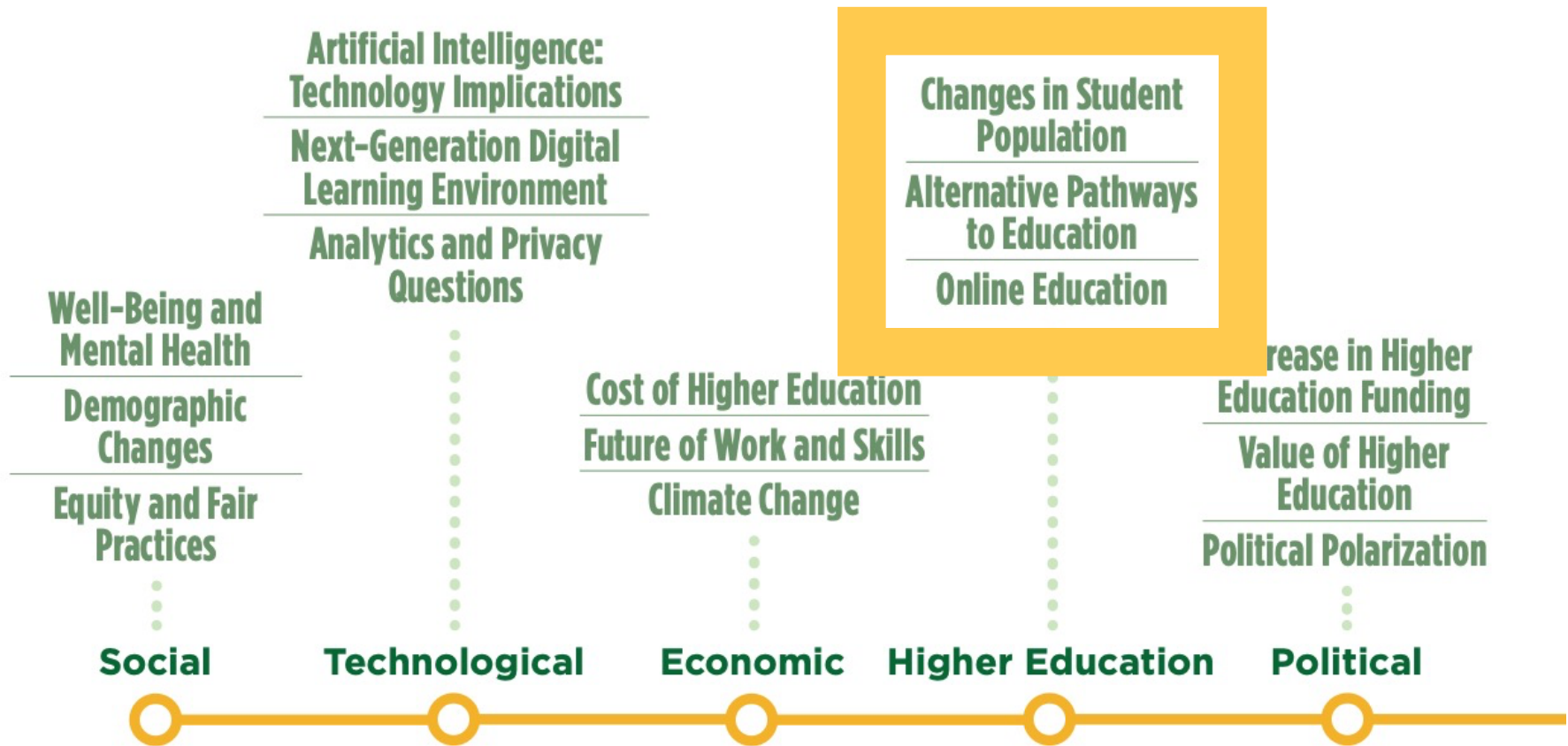
### Teaching and Learning Edition

**EDUCAUSE**



# Trends

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## HIGHER EDUCATION TRENDS

**N**otions of what higher education should be, of what its ultimate purpose or goals should be, and of whom it is intended to serve seem to be constantly in flux in response to larger trends and shifts in human thinking and social, political, and economic relationships. Future models of higher education, as well as future practices in teaching and learning, will need to adapt to these trends and fundamentally rethink what higher education *is*.

### Changes in Student Population

**Impacts:** Global fertility rates have decreased 50 percent since 1960, potentially leading to fewer students and presenting fiscal challenges, especially for smaller and tuition-dependent institutions. Increased student diversity (in age, ethnicity, and other factors) requires institutional leaders to rethink how to achieve their teaching and learning missions and will demand a new emphasis on holistic student success.

**Evidence:** It has been predicted that US college enrollments will drop by as much as 10 percent by the late 2020s. Minority students today account for roughly half of all high school graduates in the United States.

### Alternative Pathways to Education

**Impacts:** Institutions must rethink their degree pathways to accommodate a changing student demographic and employment landscape. Alternatives include nano- and micro-degrees, competency-based programs, expanded online options, and portable and standards-based credentials, as well as increased collaboration and partnerships with other institutions. Advising programs will utilize integrated platforms and data.

Global fertility rates have decreased 50% since 1960, potentially leading to fewer students and presenting fiscal challenges...

**Evidence:** Southern New Hampshire University (SNHU) now awards college credit for Salesforce skills. Through aggregators such as EdX, institutions are offering an increasing number of low-cost master's degree programs.

### Online Education

**Impacts:** Online education is increasingly seen as a scalable means to provide courses to an increasingly nontraditional student population. Faculty must be prepared to teach in online, blended, and face-to-face modes. Higher education institutions are moving to new models for online programs, such as assessment (competency) and crediting (microcredentials and digital badging). Institutions will increasingly engage with online program managers (OPMs) to jumpstart online programs.

**Evidence:** California's Online Community College initiative gives students access to courses across its community college system. In Canada, fully online student enrollments have been increasing by roughly 10 percent annually over the past five years.

### Further Reading

#### EconoFact

"Demographic Changes Pose Challenges for Higher Education"

#### EDUCAUSE

ECAR Study of Undergraduate Students and Information Technology, 2019: Learning Environment Preferences

#### University World News

"A New Era of Microcredentials and Experiential Learning"

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# Emerging Technologies & Practices

EDUCAUSE



This section, titled “Developments in Educational Technology” in previous Horizon Reports, is a long-standing tradition in the Horizon research. The 2020 teaching and learning edition continues this convention, albeit with some changes.

For 2020 we have changed the title to “Emerging Technologies and Practices.” The traditional title focused too narrowly on the technology. As any close observer of postsecondary teaching and learning knows, technology by itself does not yield the greatest impact on learning; it does so when it is embedded in a scaffolding of support for learners and instructors. For the 2020 report, the panel began with a roster of over 130 candidates and reduced this number through successive rounds of voting to the six presented here.

This shift is not entirely new to the 2020 report. It was visible in the findings of recent editions, which included developments not based solely on new technologies. Examples include MOOCs (2013), flipped classrooms (2014 and 2015), mobile learning (2017 and 2019), and makerspaces (2015 and 2016). Certainly all of these rely on technology to enable the practice, but each is more a practice than a technology. Enlarging the scope of this section to include practices makes it possible to bring into relief a more accurate picture of what is influencing postsecondary teaching and learning. For 2020, for example, this approach enabled us to document the fast-emerging importance of instructional and learning design.

Most conspicuous may be the absence of the traditional adoption framework—the three time horizons over which the developments were predicted to achieve widespread adoption. The reception of past issues of the Horizon Report, particularly in recent years, clearly indicated that the predictions concerning the pace of adoption were no longer a highly valued aspect of the report. Our feedback indicated that the

*what* was more important than the *when*. Past findings were in fact inconsistent, with certain developments appearing and reappearing. Some even remained locked in place for some years, such as game-based learning and gamification, which remained in the 2–3 year adoption horizon from 2011 to 2014.

Perhaps also more important than the arrival date is the nature and extent of the impact. What kinds of challenges might institutions encounter if they go forward with any of these? And what kinds of benefits might they expect? To gain a sense of possible consequences of adoption, we asked our panelists to evaluate each technology or practice across several dimensions, using a five-point scale:

- How useful will it be in addressing issues of equity and inclusion?
- What is its potential to have a significant and positive impact on learning outcomes?
- What is its risk of failure?
- How receptive will faculty be to adopting it?
- What level of institutional funding will be needed to adopt it?

In this way, we asked the panelists not simply to identify what might be impactful but to anticipate just what that impact might be. These results are presented in the charts that accompany the discussions of the technologies and practices.

Finally, it is important to note that these results come from a panel with international participation. More than one-third (37 percent) of the 2020 panelists are from institutions outside the United States. This fact, together with the range of voices contained in the implication essays, provides a global perspective on higher education teaching and learning, identifying the issues we share and on which we can collaborate.

- Adaptive Learning
- AI/Machine Learning
- Analytics for Student Success
- Elevation of Instructional Design, Learning Engineering, and UX Design
- Open Educational Resources
- XR (AR, VR, MR, Haptic) Technologies

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# OPEN EDUCATIONAL RESOURCES

The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines open educational resources (OER) as a variety of materials designed for teaching and learning that are both openly available for use by teachers and students and that are devoid of purchasing, licensing, and/or royalty fees. Most scholars generally agree that the OER movement began in earnest around 2001, although the open movement emerged in the mid-1990s, thanks in large measure to an award from the NSF to Cal State University for the **Multimedia Educational Resources for Learning and Online Teaching** (MERLOT) repository. OER is now a global movement. At the October 2019 UNESCO General Conference meeting held in Paris, multiple governments unanimously agreed to the adoption of a set of standards regarding both legal and technical specifications, thereby clearing a path forward so that open materials can be shared across international boundaries.

## Overview

The global higher education community is actively developing and/or curating a wealth of OER materials and resources. Leading much of the international effort are Canada, Western Europe, and areas of South America and the Middle East where open resources are becoming increasingly commonplace. In the United States, OER momentum is building in nearly every type and size of institutional profile, from community colleges and public universities to elite privates. Multi-institutional consortia such as the **Community College Consortium for Open Educational Resources** (CCCOER) are driving OER adoption in part due to **faculty education, exposure, and quality-assurance efforts**.

The exemplar OER projects provide a unique glimpse into the efforts that are shaping the movement across the globe. George Mason University, for example, has developed an **OER meta-crawler** it dubbed “MOM” (Mason OER Metafinder) that allows faculty to search for open resources across a variety of disciplines and international indexes. The University of Minnesota has developed and curated the **Open Textbook Library**, which includes nearly 700 peer-reviewed titles. The **Runestone Academy** provides a variety of free textbooks thanks to the efforts of a cross-institutional faculty and student development team. Minnesota State University has launched the **Z-Degree** initiative that seeks to drive course material costs to zero. **EdTech Books** provides a catalog of open textbooks that can be easily edited directly within the distribution platform, greatly simplifying the adoption and revision process. And the **Open Textbook Network**, which includes 120 affiliate member campuses and organizations, promotes educational opportunities, certifications, and other benefits related to OER.

## OER in Practice

### Mason OER Metafinder

Unlike OER crawlers that search static content libraries, George Mason’s OER Metafinder (MOM) launches a real-time, **simultaneous** search across **21** sources of open educational materials, many more available sources than most other crawlers. This provides real-time search results that can update dynamically.

### Open Pedagogy Incubator

The Open Pedagogy Incubator is a semester-long program designed to incentivize faculty to go beyond the first step in open education. It brings together a cohort of faculty instructors to develop competencies in open pedagogy through a series of hands-on workshops, curated readings, and cohort discussions.

### Alquímétricos Eco-Technological Toys Lab

Alquímétricos is a collection of open-source didactic toys: building blocks to mount structures while learning about geometry, math, architecture, mechanics, physics, chemistry, and more. The initiative is focused on the design of DIY educational materials that are meant to be produced using a wide range of procedures.



## Open Educational Resources

**Dimensions of  
Adoption:**  
Open Educational  
Resources



### Further Reading

European Open Educational  
Resources Policy Project  
[Open Education Policy Network](#)

Community College Consortium for  
Open Educational Resources  
[Community of Practice for Open Education](#)

US Department of Education:  
Office of Educational Technology  
[Open Education](#)

# Scenarios

**T**oday planning for the future is probably as complex and as challenging as it has ever been. Given well-known challenges such as the pace of change and the rapid diffusion of artificial intelligence, planning needs imagination, flexibility, and a willingness to consider options from a variety of possible futures. Any action plan we formulate today is based on assumptions about what is likely to happen tomorrow. But if we lock our action plans too firmly to a specific set of assumptions, what happens if the future turns out differently, and those assumptions are not realized? Should that happen, then we may be pursuing a course of action that is out of sync with actual events and might even work against our interests.

Clearly plans that enable us to navigate diverse futures are more robust than plans that are cemented to a single version of the future. In this section we are using a tool from the Institute for the Future: envisioning alternative futures. By doing so, we can be more imaginative in our planning and equip ourselves with

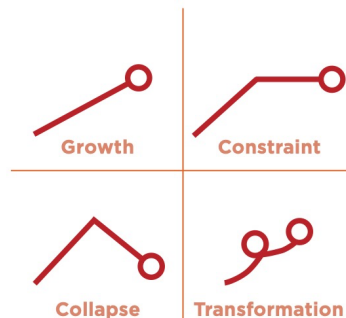
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the flexibility we need to encounter what does eventually occur. This section of the Horizon Report is an exercise in anticipating alternative futures for higher education.

We provide four such scenarios. We are using the Institute's four scenario archetypes or generic shapes of change. The first is growth, a scenario that takes current trajectories into a future in which higher education largely flourishes but leaves some of its issues inadequately addressed.

The second is constraint, in which higher education continues but with a diminished role. Third is collapse, a scenario in which higher education is beset by rapid breakdowns and forces of change outside its control. Finally, in the transformation scenario, higher education establishes a successful new paradigm for itself.

We have taken this "all four points of the compass" approach to provide distinct future alternatives. These archetypal scenarios will enable you to anticipate a variety of possible futures in your planning for what might come our way.



## SCENARIOS

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**Growth**



**Constraint**



**Collapse**



**Transformation**



**Collapse**



**Transformation**



# Implications

**A**s a first step in a strategic planning process, you collect and identify the trends, trajectories, and signals that shape the present and seem to have enough momentum to inform the future. Once you have constituted this picture, the next step is to step back and ask: What are the implications? How should they inform my plans for the future?

To take this next step and explore the implications of the report's findings, we introduce a new section to the Horizon Report. We asked some members of the expert panel to identify the most important two or three implications for their own higher education context and discuss how these implications might play out. One thing you discover very quickly when working with an international panel is that not all the findings are equally relevant across national boundaries. What for one context might be an acute issue (for example, student debt in the United States) might not be an issue elsewhere. Hence it is a valuable exercise to have panelists review the body of

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Taken together, these essays provide a nuanced snapshot of the key issues in global higher education.

.....

findings and identify the key implications for their situation. Taken together, these essays provide a nuanced snapshot of the key issues in global higher education.

Of the nine essays collected here, four are about non-US higher education segments: Australia (Gibson), Canada (Velestianos), Egypt (Bali), and France (Lundin). We have three by US authors, covering different segments in US higher education: community colleges (Bulger), baccalaureate institutions (Gannon), and master's institutions (Weber).

We have also included a corporate perspective (Engelbert) and global perspective (Alexander).

Obviously nine essays do not come close to covering all the facets of global higher education. Although incomplete, their value lies in part in the global perspective on higher education that it affords. The reader can have a better sense of which issues are unique to a specific segment and which are shared across national and institutional boundaries.

• Australia • Canada • Egypt • France • Global  
Community Colleges • Baccalaureate Institutions • Master's Institutions • Corporate

## IMPLICATIONS: WHAT DO WE DO NOW?

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• Australia • Canada • Egypt • France • Global  
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# On the Horizon for 2021

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**Merci beaucoup!**  
**Thank you!**

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Twitter: @DCBPhDV2

<https://tinyurl.com/ehr2020>

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