Symposium on Excellence in Higher Education

The 2020 challenges of Brazilian Higher Education

José Roberto Cardoso

Escola Politécnica da USP

FAPESP - Jan 2014

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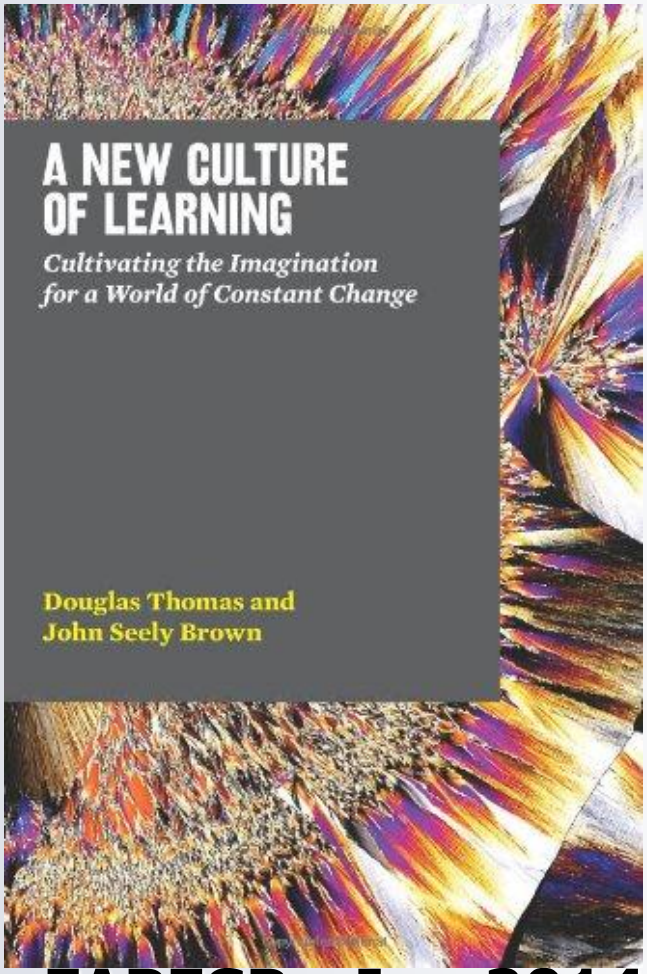

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Introduction

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Introduction

Teacher centered

Student centered

Flexibility, mobility, specialization

Citizenship development

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Online learning will make college cheaper. It will also make it better

By L. Rafael Reif
President of MIT

Everyone would like a solution to the problem of rising college costs. While students worry that they cannot afford a college education, U.S. colleges and universities know they cannot really afford to educate them either. At a technology-intensive research university like the Massachusetts Institute of Technology, it now costs three times as much to educate an undergraduate as we receive in net tuition—that is, the tuition MIT receives after providing for financial aid. To push the research frontier and educate innovators in science and engineering demands costly instrumentation and unique facilities. Even for institutions with substantial endowments, subsidizing a deficit driven by these and other costs is, in the long run, unsustainable.

Some wonder whether today's online technologies—specifically, massive open online courses, or MOOCs, which can reach many thousands of students at a comparatively low cost—could be an answer. I am convinced that digital learning is the most important innovation in education since the printing press. Yet if we want to know whether these technologies will make college degrees less expensive, we may be asking the wrong question. I believe they will; we are assessing this possibility at MIT even now. But first, we should use these tools to make higher education better. In fact, to reinvent it. When the full force of 2012 arrives on campus, these technologies will have reshaped the entire concept of college in ways we cannot yet predict. Those transformations may change the whole equation, from access to effectiveness to cost.

To understand the potential, it's important to focus on what digital learning is good for. At least at the moment, it is surely not very good at replacing a close personal connection with an inspiring teacher and mentor. However, it is fundamentally good at opening possibilities for billions of human beings who have little or no other access to higher learning. The global appetite for advanced learning is enormous: MIT OpenCourseWare—the initiative we started in 2001 to put virtually all our course materials for free online—has attracted 150 million learners worldwide. Today learners from every state in America and every nation on earth are actually taking MIT online classes; the edX platform we launched with Harvard 17 months ago has enrolled 1.25 million unique learners—10 times the number of living MIT graduates. With our edX partner institutions, we see an immense opportunity to help people transform their lives.

Yet digital learning also offers surprising advantages even for students with access to the best educational resources. First, digital technologies are remarkably good at teaching content: the basic concepts of circuits and electronics, the principles of chemistry, the evolution of architectural styles. At an online learning summit at MIT, one eminent professor of physics from a peer university explained that although he loves lecturing and receives top ratings in student reviews, he recently came to rethink his entire approach. Why? Because testing indicated that many students did not arrive away from his lectures ready to apply the concepts he aimed to teach. By contrast, comparable students taught through online exercises—including immediate practice, feedback and reinforcement—retained the concepts better and were better prepared to put them into practice. With so much introductory material moving online, instructors can take time that was previously reserved for lectures and use it to exploit the power of innovative teaching techniques. A 2011 study co-authored by physics Nobel laureate Carl Wieman at the University of British Columbia showed the benefits: when tested on identical material, students taught through a highly interactive "flipped classroom" approach did nearly twice as well as peers taught via traditional lectures.

Digital learning technologies offer a second advantage, which is harder to quantify but is deeply appealing to both students and faculty: flexibility. Just as college traditionally requires four years at the same academic address, traditional courses require large groups of students to regularly gather at the same time and place. By making it possible to break the course content into dozens of small conceptual modules of instruction and testing, digital learning allows students to engage the material anytime, any day, as often as they need to, anywhere in the world. A student can now spend a year immersed in remote field research on an important problem while staying in sync

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Academic Standard

The rankings

Challenges of public universities

Internationalization

Creatives spaces

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EPUSP Innovation Laboratory

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Curricular Activities

The Brazilian Curriculum

Digital learning

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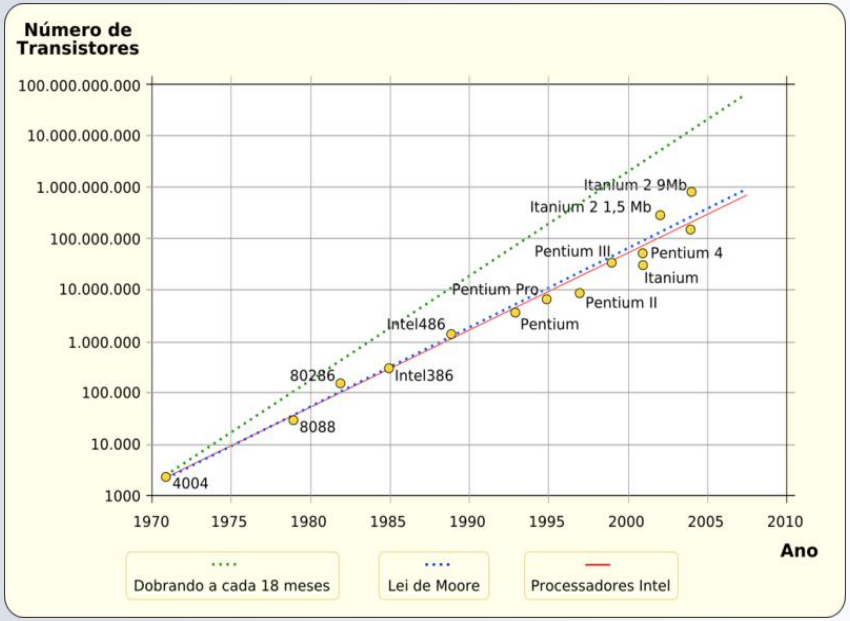
Curricular Activities

Moore's Law



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How a 574-year-old school is preparing for a world without classrooms

Leo Mirani

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1900-50	1980-90	2000	Now & Future
Women Enrollment Research at Universities	Mass Education Private Education Providers	Global Education Autonomy Global Rankings	MOOCs Online Digital Learning Creativity

~50% of degree holders are holding jobs that do not require a degree (*)

(*)Mackinsey

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Extracurricular activities

Two examples

Competences training

Social responsibility

Extracurricular internationalization

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Conclusion

Challenges of universities

Global citizens

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References

L. Rafael Reif – Online learning will make college cheaper. It will also make it better – Time, October 2013.

L. Mirani – http://qz.com/167108/how-a-574-year-old-school-is-preparing-for-a-world-without=classrooms/

Maringe, F.; Foskett, N (editors): Globalization and Internationalization in Higher Education: Theoretical Strategic na Management perspectives. Chapter 4. 2010.

Thomas, D.; Brown, J.S. – A New Culture of Learning: Cultivate the imagination for a world of constant change. e-book

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Thank you

José Roberto Cardoso

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jose.cardoso@poli.usp.br

Twitter: @profcardoso

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