Insights from
‘Shaping Work of the Future’
and MIT OpenCourseWare

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Presentation Overview

I. The Growing Space of Online Education
   • Example: MOOCs - Benefits & Limitations
   • MIT’s Activities in the Online Learning space

II. Insights from ‘Shaping Work of the Future’ (edX)
   • MIT’s Approach to Studying the ‘Future of Work’
   • Taskforce on the Work of the Future

III. Reflections on the Future of Education & the Future of Work
I. The (Growing) Space of Online Education

• Not a new phenomenon
  • From ‘distance learning’ to MOOCs and small private online courses (SPOCS)

• Growing number of actors and providers -> dynamism continues
  • Differences in quality, costs, business models, content specializations and ‘promises’

• Trends towards stackable micro/nano degrees and transferable credits
  • e.g. for a Master’s program

• ‘Blended learning’ / ‘the flipped classroom’ as reality in most organization
  • physical presence of both teacher and student + some elements of student control over time, place, path, or pace.

→ Discourse shaped by praise and skepticism
Example: MOOCs - Benefits & Aspirations

• **Based on insights from the science of learning**
  • e.g. deconstructing the traditional hour-long lecture into thematic segments of ~10 – 15 minutes aids concentration

• **Self-pacing**
  • students can repeat online lectures until they have mastered a specific component of the course

• **Instant feedback**
  • e.g. computer-based grading can “turn teaching moments into learning outcomes” quickly

• **Peer to peer learning**
  • discussion forums allow students to provide insights/give feedback/support each other
MOOCs - Challenges & Room for Improvement

• **Diversity of student body**
  • Many students are still previously educated and from developed countries → lowers ‘democratization’ potential

• **Levels of personalization**
  • Many learning platforms have yet to find ways to tailor materials to differences in prior knowledge, ability and skills

• **Interaction among learning community**
  • Instructors can still find it challenging to create an immersive learning environment with real world applications

• **Extent of active and ‘adaptive learning’**
  • Students often do not know how to address ‘learning breakdowns’ through videos only → s. Niema Moshiri’s ‘Massive Adaptive Interactive Texts’ (MAIT) at UCSD
II. MIT’s activities in the online learning space

• MIT OpenCourseWare

  • Repository for >2300 courses with *free* materials (syllabi, readings, quizzes)
  • Resource for:
    • teachers looking for ideas on how to build/improve courses (see e.g. OCW Educator Portal, Highlights for Highschool, K12Videos)
    • MIT’s residential students studying at home
    • independent learners wishing to mirror MIT curriculum (but not receive degree) or looking for additional learning materials
  • Success: 96% of visitors would recommend the site
Overview of MIT’s activities (contd.)

MIT OpenCourseWare receives millions of visits each year. These visits come from all over the world, with over half coming from outside of North America:

Our audience is divided among students, educators, and self-learners:
Overview of MIT’s activities (contd.)

• **MITx (*2011):** “Share the best of MIT’s teaching and learning with the world”
  - Produces MIT’s MOOCs
  - Performance in 2018: 111 MOOCs launched
  - Cooperation with faculty from **29 MIT departments across all 5 schools of MIT**
  - Accessible via edX (see [https://www.edx.org/school/mitx](https://www.edx.org/school/mitx))

• **Edx (*2012):**
  - **Open source platform** which offers MOOCs and large variety of other learning tools and formats (incl. MITx courses, MicroMasters, Professional Certificates etc.)
  - Independent, self-sustaining **non-profit company**
  - Performance to date: >2,400 courses across large variety of subjects, >20 million learners worldwide, >70 million enrollments
  - Large number of partners (incl. academic institutions, national governments, NGOs, and multinational corporations)
  - Supported by numerous philanthropic organizations
III. Insights from ‘Shaping Work of the Future’

- Enrollment time: March-May 2019
- Materials: still accessible via edX
- Next iteration: coming up! 😊
‘Shaping Work of the Future’: Team & Approach

Meet the instructors

Thomas Kochan
George M. Bunker Professor, Co-Director of the MIT Institute for Work and Employment Research Massachusetts Institute of Technology

Barbara Dyer
Senior Lecturer in Work and Organization Studies and Executive Director of the Good Companies, Good Jobs Initiative at MIT Sloan Massachusetts Institute of Technology

Lee Dyer
Professor Emeritus of Human Resource Studies Cornell University

Elisabeth Reynolds
Director, MIT Taskforce on Work of the Future Massachusetts Institute of Technology

Inez von Weitershauen
Postdoctoral Associate, MIT Industrial Performance Center Massachusetts Institute of Technology

Meghan Perdue
Digital Learning Fellow Massachusetts Institute of Technology

1) Participants learn from a wide range of experts about technological change and how it impacts work and society
2) Participants discuss the material with each other, drawing on their personal experiences
3) Participants cooperate in building a new ‘social contract’
Driving Forces

MIT’s Taskforce on the Work of the Future
(Executive director Dr. Elizabeth Reynolds) and
Prof. Thomas Kochan

There’s no iron law of technology and no iron law of globalization. We can influence how these things play out and manage them better.”

(T. Kochan)
III. Insights from ‘Shaping Work of the Future’

- 8 weeks, instructor-paced
- costs: free or $49/EUR 43 (certificate option)
- Total users: ~5300; 420 verified learners; 202 certificate earners
- Median learner age: 38
- Education:
  - 34% with a bachelors degree
  - 45% with a masters degree
  - 8% with a doctorate
  - 8% with a high school diploma or less
- Participants’ profile: diverse, but many working professionals
- Total discussion posts: 7335
- Total discussion posts read: 511,714

- Collaborators:
**Expert insights featured in the course (examples)**

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<th>Contributor (Name, Title &amp; Affiliation)</th>
<th>Video Topic</th>
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<td>Dr. Martin Krzywdzinski, Head of Research Group Globalization, Work and Production, Weizenbaum Institute for the Networked Society</td>
<td>Industry 4.0: Germany's Strategy for Technology Change</td>
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<tr>
<td>Al Fuller, CEO Integrated Packaging Corporation</td>
<td>View from the Inside: Manufacturing Companies Navigating Technological Change</td>
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<td>William Bonvillian, Lecturer MIT</td>
<td>Developing an Advanced Manufacturing Ecosystem in the United States</td>
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<td>Lee Dyer, Professor of Management, Cornell University</td>
<td>Careers and Competencies</td>
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<td>Dr. Tony Wagner, Senior Research Fellow, Learning Institute</td>
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<td>Professor John Gabrieli, Director of the McGovern Institute for Brain Research, MIT</td>
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<td>Professor Sanjay Sarma, President of Open Learning, MIT</td>
<td>Digital Learning: Bringing Learning Science into Education</td>
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<td>Dr. Inez von Weitershausen, Research Associate, MIT</td>
<td>Smart Models for Education Systems</td>
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<td>Paul Osterman, Professor of Management, MIT</td>
<td>Community Colleges: More Important than Ever</td>
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<td>Professor Joseph Aoun, President of Northeastern University</td>
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<td>Liz Shuler, Secretary-Treasurer of the AFL-CIO</td>
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<td>Duanyi Yang, PhD Candidate, MIT Sloan School of Management</td>
<td>Rebuilding Worker Voice: What do Workers Want Today?</td>
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<td>Jenny Weissboud and Megan Lar- com, PhD Candidates, MIT Sloan School of Management</td>
<td>Emerging Models of Worker Advocacy</td>
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<td>Brian Lang, President of Unite Here Local 26</td>
<td>Growth in Worker Advocacy</td>
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<td>David Rolf, President of Local 775</td>
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More than 40 contributions (interviews, videos, panel discussions) from experts within and outside MIT, incl. ILO, Worldbank, WZB, AFL-CIO, companies and universities
Special features

• Regular inputs by instructors to discussion forum and weekly findings
• Case studies by Oliver Wyman / Mercer and Deloitte
• Live event (>80 participants)
• Social Contract Exercise
• Final (live) session

→ High degree of community-building and interaction among course participants and instruction team
The Social Contract Exercise: 2 phases – 3 steps – 5 key insights

1.) Participants **identified priority issues** and **offered proposals** for solving those issues

2.) All **proposals were synthesized** into summaries that captured the essence of participants’ input

3.) The consolidated proposals were presented to students who got to **vote on them online**
5 key findings from MIT’s Social Contract Exercise for the ‘Work of the Future’

• Make “High Road” businesses the norm, not the exception.

• Rebuild worker voice and bargaining power in new/varied ways.

• Improve the education system by making it more affordable, accessible, and able to convey key workplace competencies and skills.

• Integrate technology, work systems, and adjustment strategies.

• Encourage cooperation among business, labor, government, and education leaders to build an economy that works for all.

“It was indeed hard to select 5 answers, as there were so many good suggestions. But I wonder how many of them are implementable.”
Feedback for ‘Shaping Work of the Future’

How will this course or its materials impact you in the future?

Opened my eyes to the current challenges of the workforce, particularly technology, and potential solutions.

Personally, it has been an eye-opener to the changing landscape of the future of work. Professionally, it will enable me to make informed hiring decisions and help me plan strategically for my consulting & training business.

Provide additional context for books I’m authoring on AI.

provided solid background information of the history of work force and thoughts to the future.

reframe my visioning & implementation of any new business I wish to start in the future

Support me in crafting pragmatic, but bold strategies

The course and its materials is very important in shaping how our organization designs our AseanReady bootcamps in Southeast Asia. It is very impactful because we can diffuse this knowledge and way of thinking to more people in our region.

The course contributes a valuable perspective to a broader engagement that I have regarding work and governance.

The course gave me a broader perspective of my role as a business owner. My goal should go beyond my self but the to bigger society of which I am a member. While Government is necessary to maintain law and order, education empowers us to face the technological challenges of the future.

The course had opened to myself a transformation that are in course, which I was not seeing that it is running.

Source: Course Feedback MIT 15.662x
Reflections on the Future of Education & the Future of Work

• Internet-based education can be a useful way to engage society in thinking about the Future of Work and the implications of technological change

• It has huge potential for peer-to-peer learning and community building, when crafted carefully

• A number of key questions remain to be addressed, however, incl.
  • How can we widen participation and increase diversity?
  • How can we ensure sustainable funding and organize ownership of contents?
  • How can we increase transparency about course quality and added value?
  • How can we best use online education for professional training and development?
  • How can we provide appropriate certifications?
  • How can we effectively form and enhance international collaborations?
  • How can we involve (which) corporate partners and organizations?
Thank you for your attention, questions and comments.

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