The Digital Transformation of the University

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Components of **Digital** Transformation

Digital Conversions	Digital Communications
Digital Commerce	Ubiquitous Computing

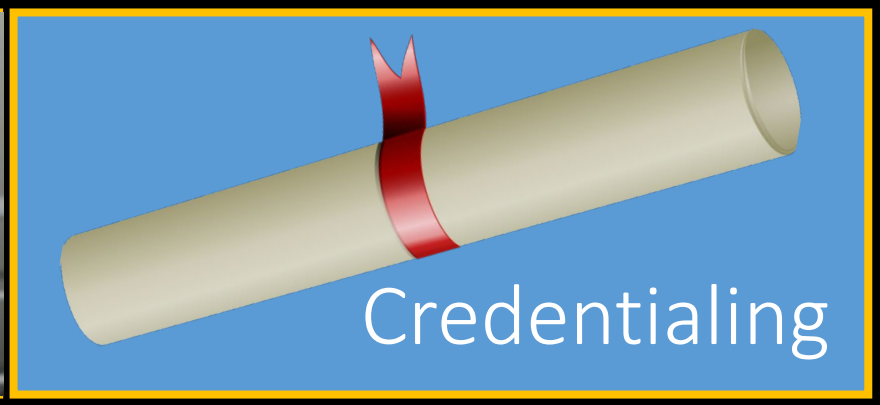
Distance Education and Massification

Trow's Conceptions of Elite, Mass and Universal Higher Education

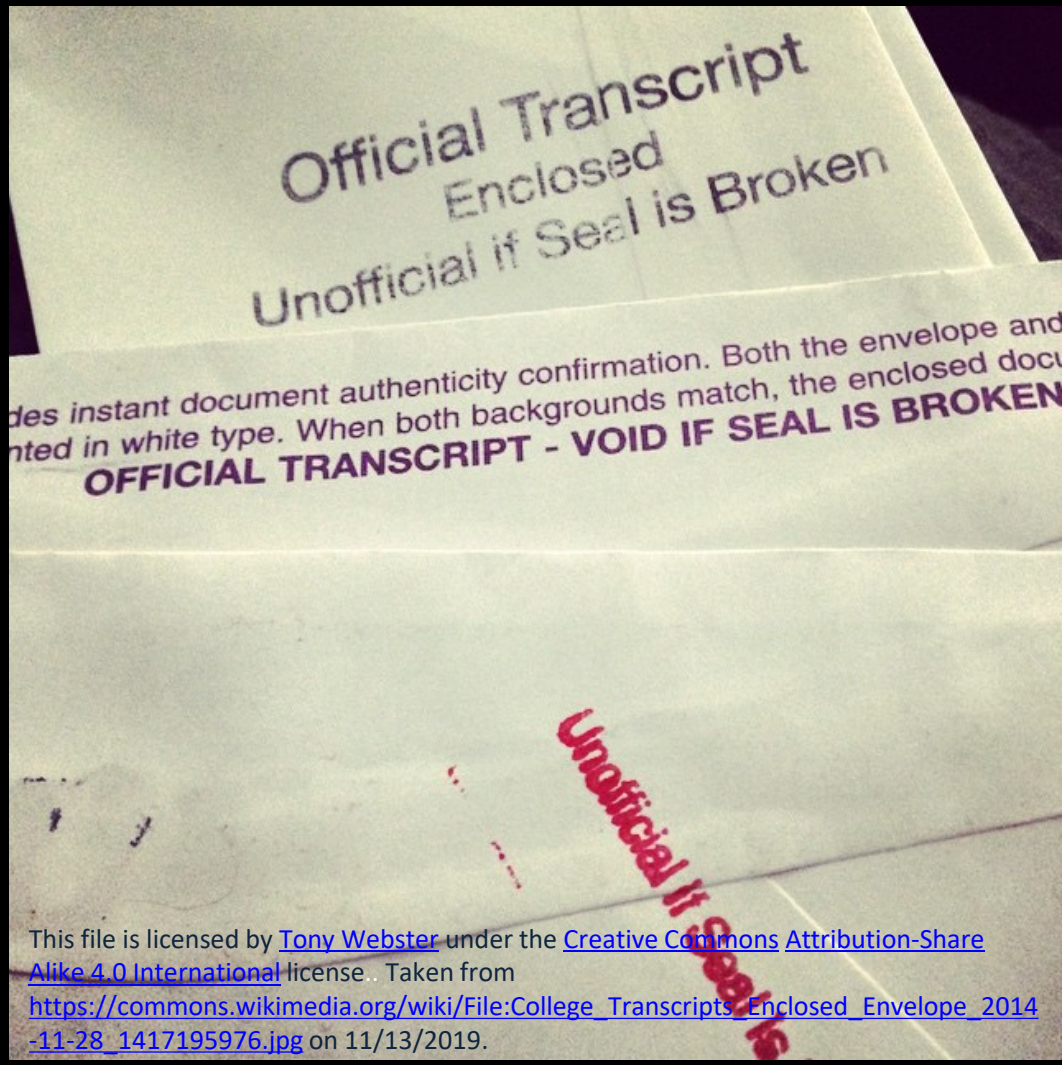
	Elite (0-15%)	Mass (16-50%)	Universal (over 50%)
i) Attitudes to access	A privilege of birth or talent or both	A right for those with certain qualifications	An obligation for the middle and upper classes
ii) Functions of higher education	Shaping mind and character of ruling class; preparation for elite roles	Transmission of skills; preparation for broader range of technical a economic e	**Adaptation of 'whole population' to rapid social and technological change**
iii) Curriculum and forms of instruction	Highly structured in terms of academic or professional conceptions of knowledge	Modula a	Boundaries and sequences break down; distinctions between learning and life break down
vii) Academic standards	Broadly shared and relatively high (in meritocratic phase)	Variable; system/institution 'become holding companies for quite different kinds of academic enterprises'	Criterion shifts from 'standards' to 'value added'

Source: Trow, Martin, "Reflections on the Transition from Elite to Mass to Universal Access: Forms and Phases of Higher Education in Modern Societies since WWII. International Handbook of Higher Education: Part One: Global Themes and Contemporary Challenges. 2007. Springer. Dordrecht, Netherlands.

D-Transform for What Purposes?

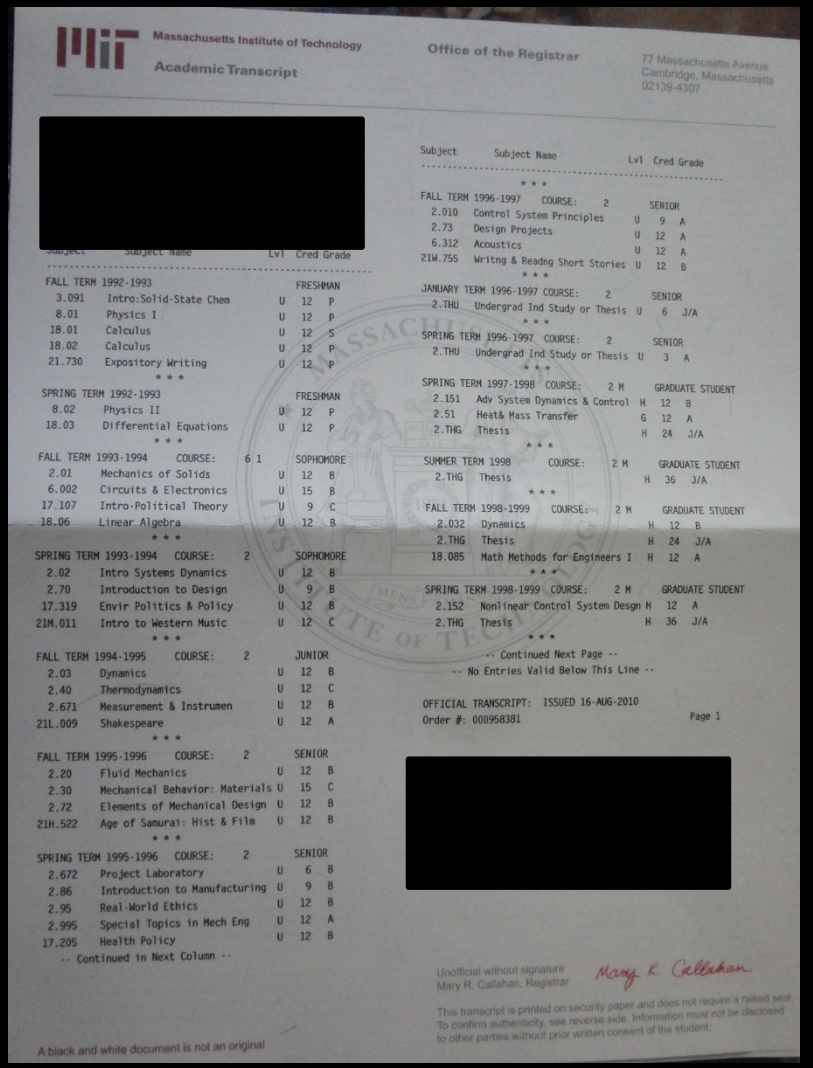


THE PROBLEM WITH STUDENT TRANSCRIPTS



Questions

- How is learning evaluated?
- What does the course consist of?
- What skills, knowledge and abilities does the student have?



Massachusetts Institute of Technology
Academic Transcript

Office of the Registrar
77 Massachusetts Avenue
Cambridge, Massachusetts
02139-4307

[redacted]

Subject	Subject Name	Lvl	Cred	Grade
FALL TERM 1992-1993			FRESHMAN	
3.091	Intro:Solid-State Chem	U	12	P
8.01	Physics I	U	12	P
18.01	Calculus	U	12	S
18.02	Calculus	U	12	P
21.730	Expository Writing	U	12	P
SPRING TERM 1992-1993			FRESHMAN	
8.02	Physics II	U	12	P
18.03	Differential Equations	U	12	P
FALL TERM 1993-1994	COURSE: 6 1		SOPHOMORE	
2.01	Mechanics of Solids	U	12	B
6.002	Circuits & Electronics	U	15	B
17.107	Intro-Political Theory	U	9	C
18.06	Linear Algebra	U	12	B
SPRING TERM 1993-1994	COURSE: 2		SOPHOMORE	
2.02	Intro Systems Dynamics	U	12	B
2.70	Introduction to Design	U	9	B
17.319	Envir Politics & Policy	U	12	B
21M.011	Intro to Western Music	U	12	C
FALL TERM 1994-1995	COURSE: 2		JUNIOR	
2.03	Dynamics	U	12	B
2.40	Thermodynamics	U	12	C
2.671	Measurement & Instrumen	U	12	B
21L.009	Shakespeare	U	12	A
FALL TERM 1995-1996	COURSE: 2		SENIOR	
2.20	Fluid Mechanics	U	12	B
2.30	Mechanical Behavior: Materials	U	15	C
2.72	Elements of Mechanical Design	U	12	B
21H.522	Age of Samurai: Hist & Film	U	12	B
SPRING TERM 1995-1996	COURSE: 2		SENIOR	
2.672	Project Laboratory	U	6	B
2.86	Introduction to Manufacturing	U	9	B
2.95	Real-World Ethics	U	12	B
2.995	Special Topics in Mech Eng	U	12	A
17.205	Health Policy	U	12	B

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Subject	Subject Name	Lvl	Cred	Grade
FALL TERM 1996-1997	COURSE: 2		SENIOR	
2.010	Control System Principles	U	9	A
2.73	Design Projects	U	12	A
6.312	Acoustics	U	12	A
21W.755	Writng & Readng Short Stories	U	12	B
JANUARY TERM 1996-1997	COURSE: 2		SENIOR	
2.THU	Undergrad Ind Study or Thesis	U	6	J/A
SPRING TERM 1996-1997	COURSE: 2		SENIOR	
2.THU	Undergrad Ind Study or Thesis	U	3	A
SPRING TERM 1997-1998	COURSE: 2 M		GRADUATE STUDENT	
2.151	Adv System Dynamics & Control	H	12	B
2.51	Heat& Mass Transfer	G	12	A
2.THG	Thesis	H	24	J/A
SUMMER TERM 1998	COURSE: 2 M		GRADUATE STUDENT	
2.THG	Thesis	H	36	J/A
FALL TERM 1998-1999	COURSE: 2 M		GRADUATE STUDENT	
2.032	Dynamics	H	12	B
2.THG	Thesis	H	24	J/A
18.085	Math Methods for Engineers I	H	12	A
SPRING TERM 1998-1999	COURSE: 2 M		GRADUATE STUDENT	
2.152	Nonlinear Control System Desgn	H	12	A
2.THG	Thesis	H	36	J/A

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Unofficial without signature
Mary R. Callahan, Registrar

Mary R. Callahan

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A black and white document is not an original

FALL TERM 2001-2002	COURSE: 2 D		GRADUATE STUDENT	
2.75	Precision Machine Design	H	12	A
2.THG	Thesis	H	36	J
SPRING TERM 2001-2002	COURSE: 2 D		GRADUATE STUDENT	
2.THG	Thesis	H	12	MG
HST.574	Engineering of Intermediate	H	12	A
SUMMER TERM 2002	COURSE: 2 D		GRADUATE STUDENT	
2.THG	Thesis	H	1	J

06-JUN-1997 Awarded the Degree of Bachelor of Science in Mechanical Engineering
20-SEP-2000 Awarded the Degree of Master of Science in Mechanical Engineering
31-JAN-2002 Doctoral General Examination completed

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UCI's Strategic Plan

Goal 2.3: Utilize modern technological tools to create the most effective learning environments UCI embraces a technologically enhanced education strategy that goes beyond online courses and leverages all forms of innovation to enhance student experiences. We will develop a comprehensive plan for deploying technology in a way that best supports our diverse internal and external constituencies. In addition, we will use student analytics to improve learning, decrease time to degree, increase graduation rates, and close gaps between race/ethnicity, first-generation status, and income groups.

Utilize modern technological tools to create the most effective learning environments

- Become a national leader for high-quality online education by establishing metrics that ensure students successfully meet learning goals
- Incorporate technological innovations and global connections into traditional on-campus teaching by providing resources for online education training, standardizing support for educational technologies, and using digital platforms to bring top lecturers and researchers into the classroom
- Provide facilities, software and other tools that accommodate in-person and technology-based instruction


Active Learning and
Digital Transformation

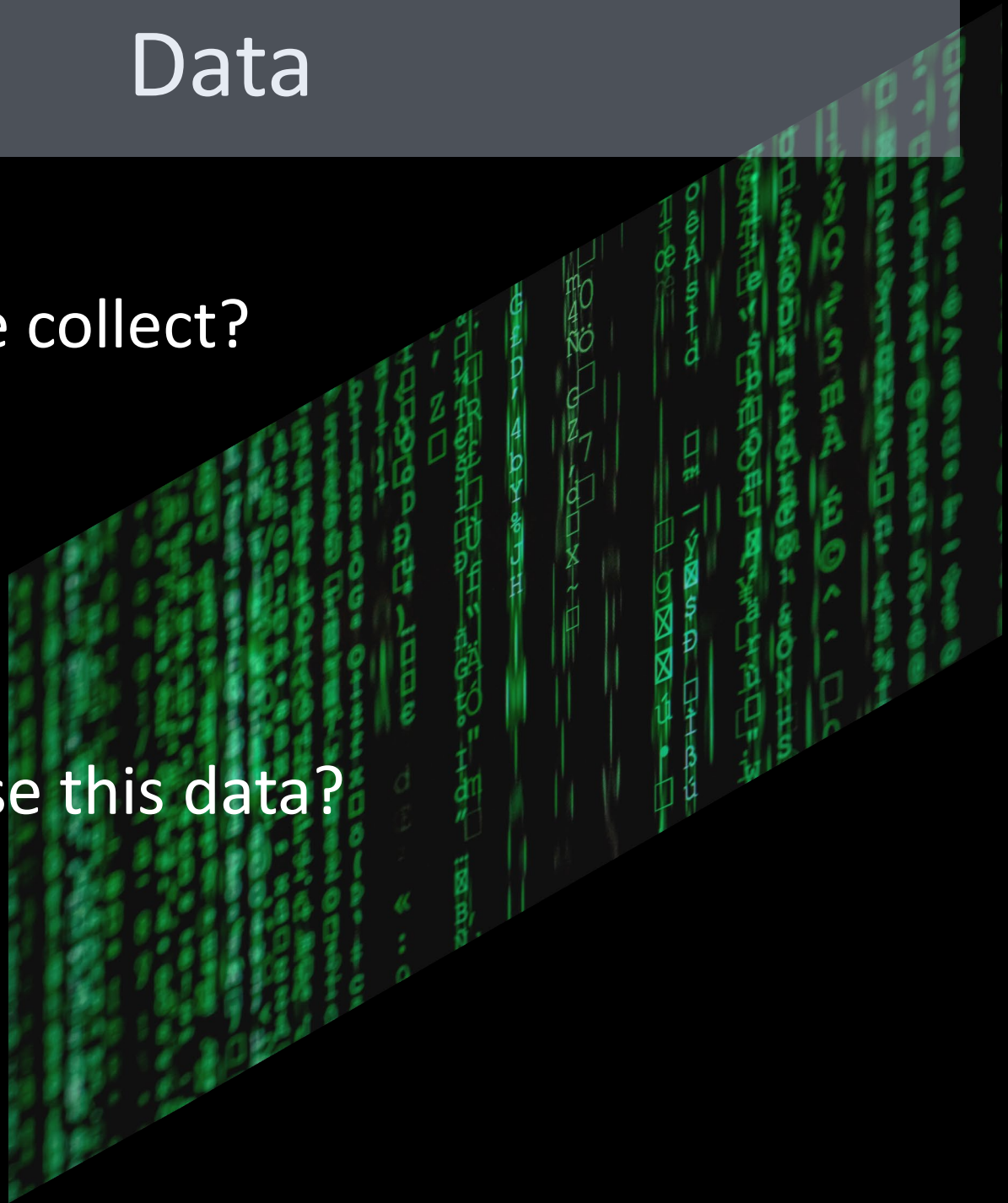
Digital + Face-to-Face

Data

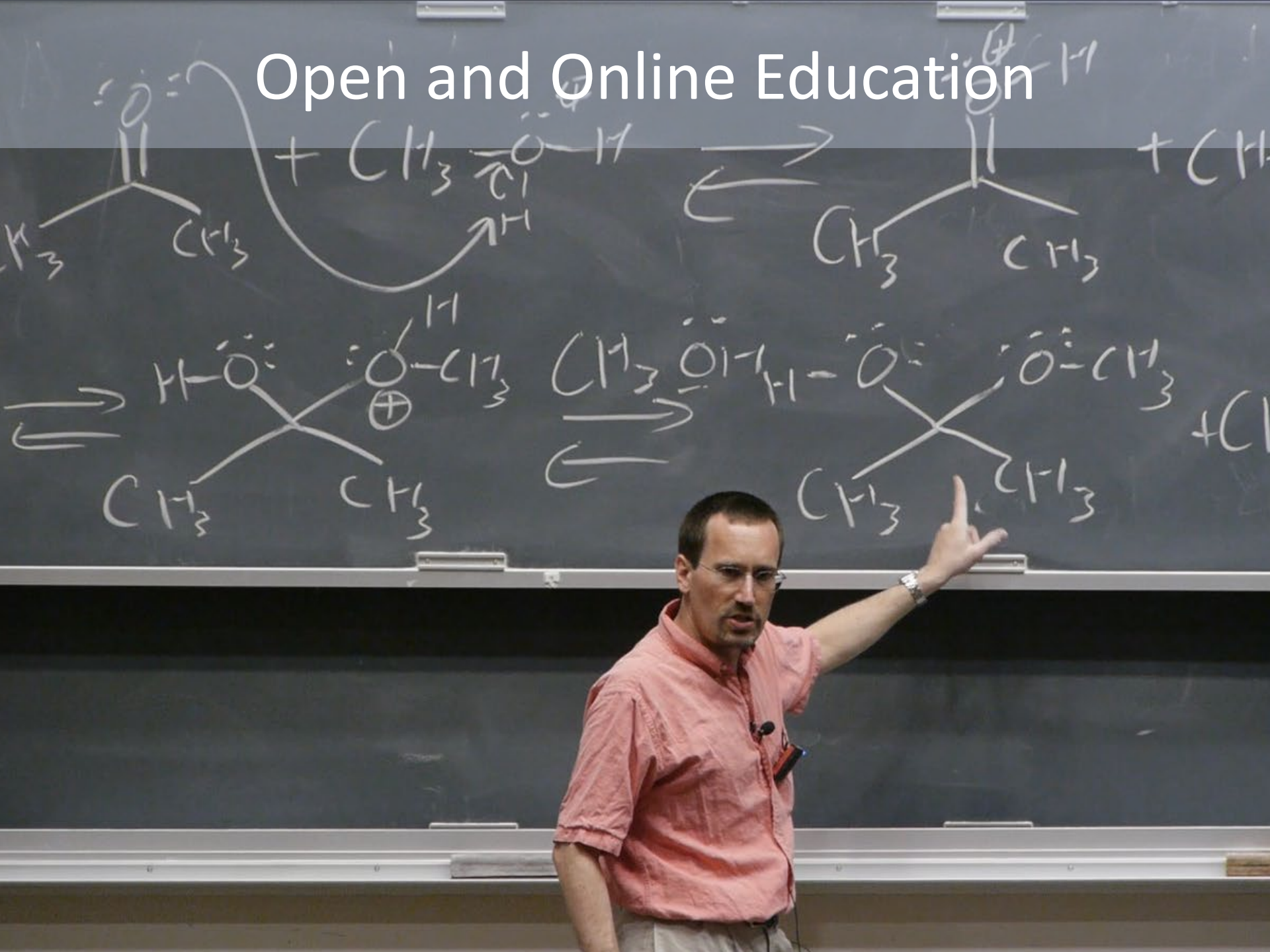
What data do we collect?

- Student data
- Course data
- Research data

- How can we use this data?



Open and Online Education



Digital Transformation at UCI School of Medicine

- Students author some texts in collaboration with faculty and peers.
- UCI School of Medicine first to integrate Google Glass into curriculum
- IMEDED – First fully digital curriculum (2010)

Digital transformation, digital citizenship and the University

- Is the Internet broken?
- What is the business model of the Internet?
- How does the Internet's business model affect digital citizenship?
- What is the University's responsibility for the formation of digital citizens?

Core concepts of digital citizenship

- Privacy and digital footprint
- Trust and skepticism
- Literacy and knowledge
- Safety and security
- Digital inclusion
- Community engagement

Conclusions

- The crucial affordance of the Internet is that the marginal cost of distribution of digital content drops to nothing.
- As society undergoes the transformation, the University impacts and is impacted by that transformation.
- Learning is impacted by the transformation of communications technologies and the ability to shift place, time, and tasks.
- The evaluation of learning will inevitably shift toward digital mechanisms that provide rich data on student's achievements.
- Sound pedagogical practices will take advantage of digital technologies to optimize active learning by students.

Thank you!

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