

MOOCs:

The Situation

as of December 2013

Jörn Loviscach



FH Bielefeld
University of
Applied Sciences

- **MOOC providers**
- **Participants**
- **Costs**
- **Course credits**
- **Business and usage models**
- **Quizzes**
- **A fundamental contradiction**

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Coursera Secures \$43M in Series B Funding, Plans to Grow in Size

+ \$20M

The Coursera logo, consisting of the word "coursera" in a blue, lowercase, sans-serif font, enclosed within a thin black rectangular border.

and New Enterprise Associates, who participated in our Series A round of funding and are furthering their investment in this round as well.

Since we launched in April 2012, we've grown to offer around 400 courses from 83 educational institutions, and we recently hit the 4 million student mark! These investors, spanning the sectors of Internet technology, education technology, and emerging world markets, closely align with our efforts to continue building the technologies and communities necessary to allow students around the world to learn without limits.

As a social entrepreneurship company, we're committed to offering free courses to benefit its global audience. We also acknowledge the important role traditional institutions play in the future of higher education. Courses on Coursera receive a share of any revenue generated by Coursera's verified certificates through Signature Track, course adoption by institutions and

Today, we're extremely excited to announce that we've closed \$43M in Series B funding from GSV Capital, International Finance Corporation (IFC), the investment arm of the World Bank, Laureate Education Inc., Learn Capital and Turi Mihner, as well as Kleiner Perkins Caufield & Byers.

<http://blog.coursera.org/post/55080731561/coursera-secures-43m>

F / L

FUTURELEARN



UDACITY

MOOC2DEGREE™





FRANCE
UNIVERSITÉ
NUMÉRIQUE





HPI
Hasse
Plattner
Institut




LEUPHANA DIGITAL SCHOOL

OPENCOURSEWORLD









xuetangX.com
学堂在线




CLASS CENTRAL

- Courses ▾
- Providers ▾
- Subjects ▾
- Recently started or starting soon (58)
- Just Announced (89)
- Courses in Progress (256)
- Future courses (415)
- Self Paced (45)
- Finished courses (837)

Future courses (415)

INTRO COURSE NAME

INSTRUCTOR(S)

SUBJECT

Finished courses -
START
DATE



中医药与中华传统文化
Traditional Chinese Medicine
and Chinese Culture
Shanghai Jiao Tong University

彭崇胜

Health & Medicine

1st Dec,
2013



数学之旅 The Journey of
Mathematics
Shanghai Jiao Tong University

王维克

Mathematics and
Statistics

1st Dec,
2013



Creative, Serious and Playful
Science of Android Apps
University of Illinois at Urbana-
Champaign

Lawrence Angrave

Computer Science

2nd Dec,
2013

Mike Sharland

Health & Medicine

2nd Dec,
2013

<http://www.class-central.com/>

Open edX



<http://code.edx.org>

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Democratization?

Coursera Blog

8th Grade Twins take Astrobiology and Einstein Courses

Editor's note: Muhammad and Khadija Niazi are twins living in Pakistan. They are turning 13 this year, each completed over 6 courses already. They, along with their mom, will be guest blogging to share their experience on MOOCs for young students and families in the coming months. We're excited to have them share their thoughts with the community!

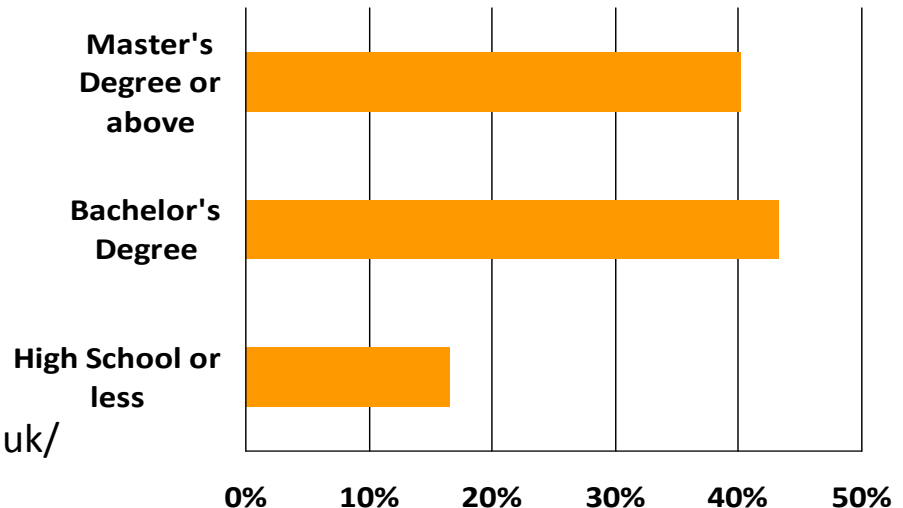
AN. COURSERA COMMUNITY!

fraternal twins (Muhammad, the brother, is 13 years old, and have just started their journey with our family.

<http://blog.coursera.org/post/54132976778/8th-grade-twins-take-astrobiology>

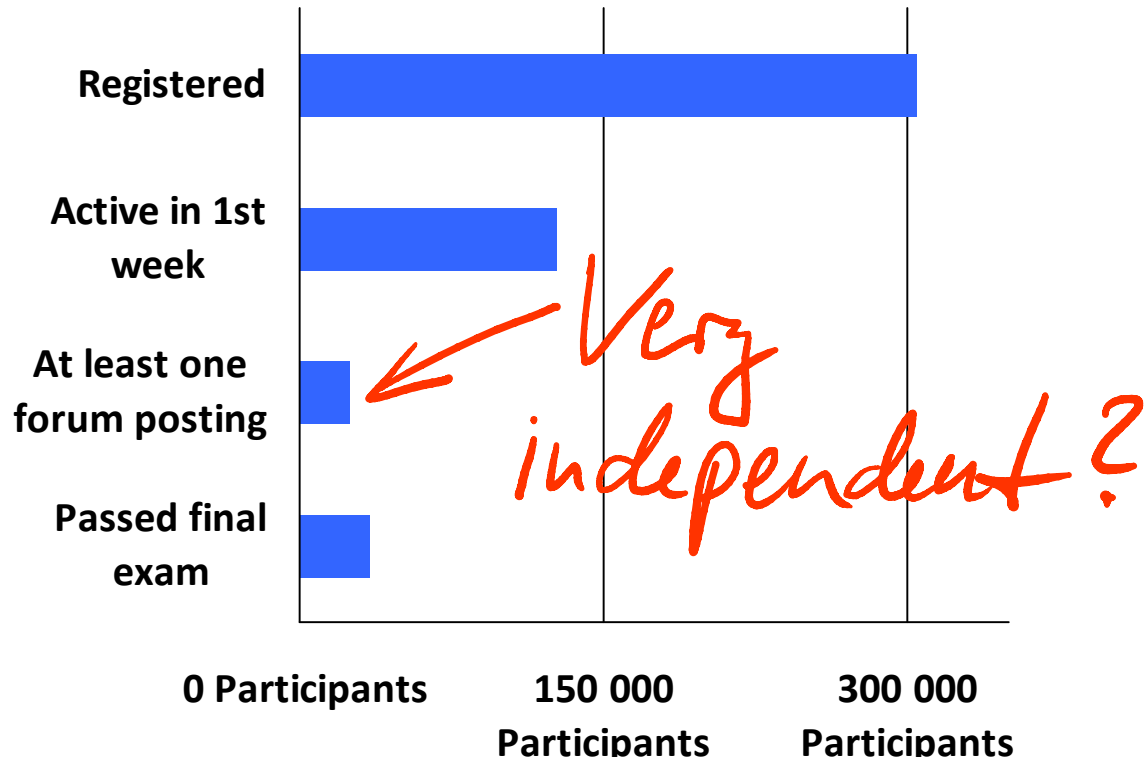
U of Edinburgh, 2013

„so many of our learners appeared to be very well educated despite the undergraduate entry-level“



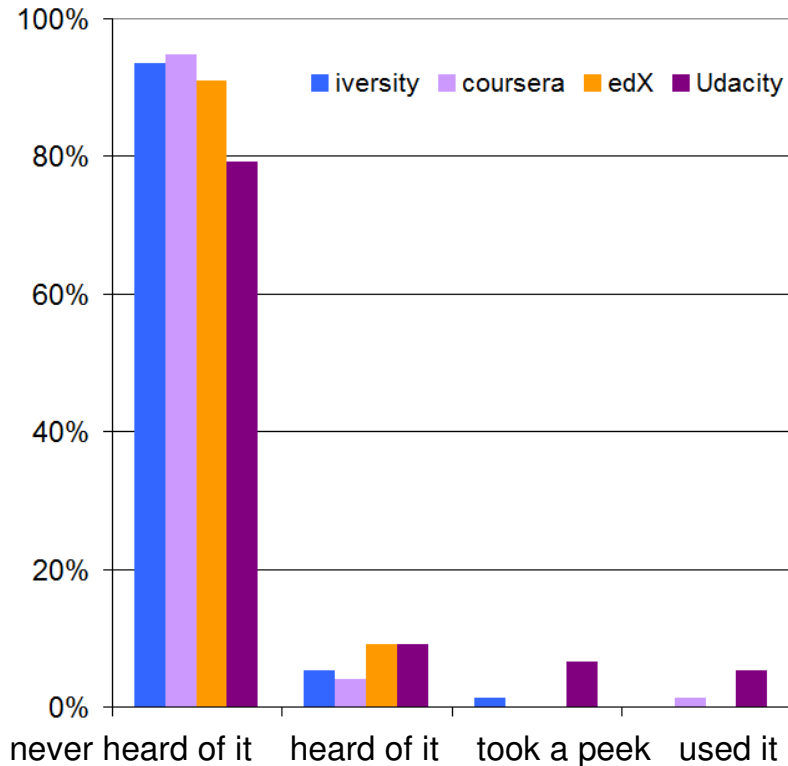
<https://www.era.lib.ed.ac.uk/handle/1842/6683>

U of Edinburgh, 2013



<https://www.era.lib.ed.ac.uk/handle/1842/6683>

Did Students Take Notice?



Survey among local students (bachelor's and master's programs), N = 77

University of Pennsylvania

The main users, especially in BRICS and developing countries tend to be young, well-educated males who are trying to advance in their jobs. [...T]he individuals the MOOC revolution is supposed to help the most [...] are conspicuously underrepresented [...].

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2350964

Sebastian Thrun, Udacity

*We were on the front pages
of newspapers and magazines,
and at the same time, I was realizing,
we don't educate people
as others wished, or as I wished.
We have a lousy product.*

MOOCs to Lure High Potentials?



[http://blog.coursera.org/post/65596539008/
introducing-coursera-learning-hubs-global](http://blog.coursera.org/post/65596539008/introducing-coursera-learning-hubs-global)

New Target Groups?

- Continuing education
- Professional development

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EUR 25,000?

<http://moocfellowship.org/>



The image shows a promotional banner for the MOOC Production Fellowship. The banner has a yellow background with a dark blue header. The header contains the text 'MOOC PRODUCTION FELLOWSHIP' and 'Anmelden oder registrieren'. Below the header, the text 'Kurse Details Jury' is visible. The main title 'MOOC PRODUCTION FELLOWSHIP' is prominently displayed in large, white, sans-serif font. Below the title, it says 'von Inerity und dem Stiftungsverband für die Deutsche Wissenschaft'. The central text reads 'Und hier sind die Gewinner!' followed by a paragraph: 'Untenstehend finden Sie die zehn Gewinner des MOOC Production Fellowship Wettbewerbs. In den kommenden Monaten beginnen die Fellows damit ihre Kurse zu produzieren. Im Herbst diesen Jahres werden die ersten MOOCs live gehen.' A green button with white text 'Gewinner ansehen' and a downward arrow is located at the bottom left. On the right side, there is a video player with a play button icon and a question mark in a speech bubble. Below the video player, the text 'Was sind MOOCs - und warum sollte ich einen machen?' is visible. The bottom of the banner features a photograph of a classical building with a clock tower and a tree with autumn leaves.

Anmelden oder registrieren

Kurse Details Jury

MOOC PRODUCTION FELLOWSHIP

von Inerity und dem Stiftungsverband für die Deutsche Wissenschaft

MOOC PRODUCTION FELLOWSHIP

Und hier sind die Gewinner!

Untenstehend finden Sie die zehn Gewinner des MOOC Production Fellowship Wettbewerbs. In den kommenden Monaten beginnen die Fellows damit ihre Kurse zu produzieren. Im Herbst diesen Jahres werden die ersten MOOCs live gehen.

Gewinner ansehen ▼

Was sind MOOCs - und warum sollte ich einen machen?

Udacity and Georgia Tech

Per Course:

- “Faculty stipend”: US\$ 20,000 once
- Lecturer: US\$ 10,000 per run
- Production: US\$ 111,000 once
- “Course assistants”: US\$ 33,000 per run (200 participants)

<http://www.documentcloud.org/documents/703593>

edX Fees

- “University self-service”:
edX keeps first US\$ 50,000
of revenue
- “edX-supported model”:
US\$ 250,000 for production,
US\$ 50,000 for every additional run

<http://chronicle.com/article/How-EdX-Plans-to-Earn-and/137433/>

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San José State University is partnering with the online education company Udacity to offer five affordable online courses this summer. Courses are available to current SJSU and non-SJSU students as well.

Registration for summer courses ([see below](#)) closes on May 24 and courses begin June 3. These classes--each rich with interactive opportunities--are open to SJSU students, veterans and high school and community college students.

Students who successfully complete the College Algebra, Elementary Statistics, General Psychology, and Intro to Programming courses will earn credits transferable to most colleges and universities nationwide.

Technical requirements include a computer with Internet service and a web camera.

SJSU Plus Summer 2013 Courses

Course	Course Description	Class Number	Credits/Cost
MATH 6L Entry-Level Mathematics	(Non-baccalaureate credit) A review of topics from elementary and intermediate algebra. Completion of this course with a credit grade indicates satisfaction of the prerequisite for college level math courses. Student MUST register for the seminar AND lab.	Sem: 30767 Lab: 30768	5 credits/\$150
MATH 8 College Algebra	Review of basic algebra including complex numbers, functions, graphs, polynomials, inverse functions, and exponential and logarithmic functions. <i>General Education: B4</i>	30762	3 credits/\$150
	Organization and classification of data		

Coursera Blog

Earn a College Credit Recommendation from ACE CREDIT with Pre-Calculus from University of California Irvine

We have great news for current or future college students! You can earn a College Credit Recommendation for 3.0 credits in mathematics for [Precalculus](#), all for less than \$45 per credit! Pre-Calculus begins October 7th.

SIGNING UP IS EASY:

1. First, check with your school to see if they accept ACE CREDIT College Credit Recommendations (Over 2,000 schools will consider them!)
2. Then, enroll in Pre-Calculus.
3. Next, be sure to register for Signature Track by the end of the third week of the course
4. Finally, at the end of the course, schedule your online proctored Credit Recommendation exam.

You can visit the [College Credit Recommendation Guidebook](#) for a complete overview.

ABOUT C

Coursera is a
that partner
and organiz
courses onl
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Tips

FEA

Udacity, Georgia Tech, and AT&T Partnership

Online Master of Science in Computer Science

We're incredibly excited to offer the first fully accredited, massive Online Master of Science in Computer Science from Georgia Tech in collaboration with AT&T. Beginning in January 2014, this degree will be offered at an affordable price, and later next Spring individual courses will also be available for students to take for free or for individual certification. Our mission with each single course is to help students advance their knowledge and careers. **Cost of the degree: \$6,600**

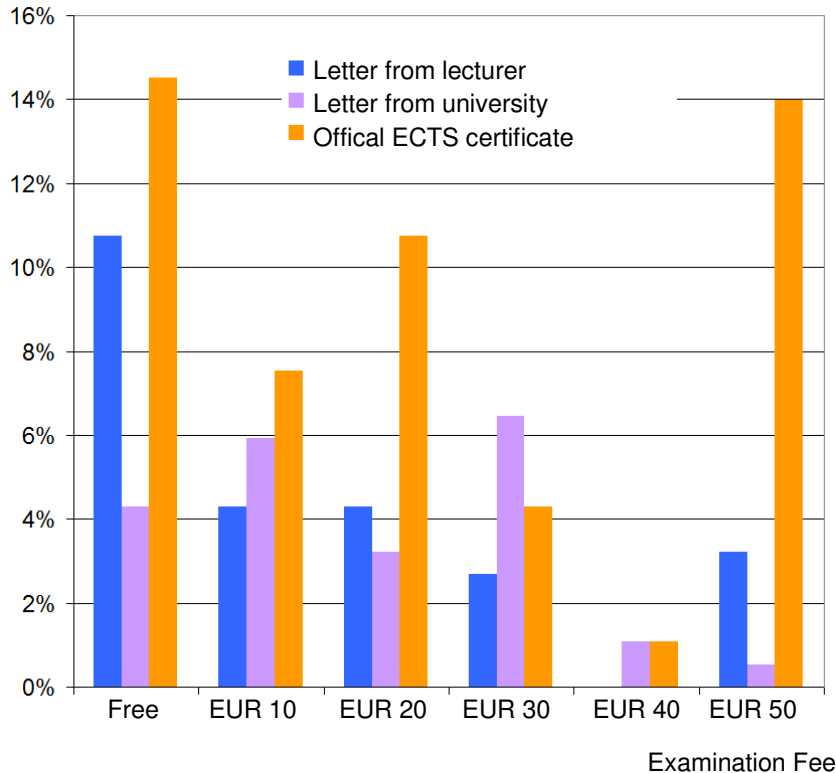
To learn more about our program, sign up to hear the latest updates!

Name

ECTS Credits for MOOCs?

- Transfer of U.S. credits?
- No ECTS credits without formal enrollment?
- Loopholes?
- Lisbon: reversal of evidence

Written Exam for my Math Videos?



Survey on Facebook and Google+; 186 participants


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Paid Tutoring

- Udacity and SJSU:

25% pass rate instead of 65%,

73% with general audience

 <http://blog.udacity.com/2013/08/sebastian-thrun-update-on-our-sjsu-plus.html>

- Udacity: „Courses“
- Udacity & Georgia Tech: Master

Freelance Online Tutoring



MOOC as Textbook 2.0

FIRST BLENDED MOOC COURSE SLATED FOR BUNKER HILL COMMUNITY COLLEGE (BHCC) AND MASSBAY COMMUNITY COLLEGE (MCC).

CAMBRIDGE, Mass. – November 19, 2012 – edX, the world's leading online-learning initiative founded by Harvard University and the Massachusetts Institute of Technology (MIT), today announced an innovative blended massive open online course (MOOC) offering at Bunker Hill and MassBay Community Colleges, the first community colleges to work with edX to bring a new teaching model to the world.

Through this public/private initiative, community colleges are connecting students with leading teaching methods have the potential to help college students learn, both in and out of the classroom. At Agarwal, president of edX. "Our partnership with MassBay will enable us to work with the country to provide excellent education, even in an ever-tightening budget."

San Jose State's new blended course is part of a \$9 million initiative to expand its online offerings.

San Jose State University and edX Announce Course Expansion to 11 California State University Campuses

SJSU will open a Center for Excellence in Adaptive and Blended Learning. The expanded collaboration follows a promising pilot where edX blended model correlated with higher pass rates.

April 10, 2013 01:00 PM Eastern Daylight Time

SAN JOSE, Calif.--(BUSINESS WIRE)--Thousands more California State University students will benefit from a major expansion to the collaboration between San Jose State University and edX, the not-for-profit enterprise founded by Harvard University and the Massachusetts Institute of Technology. SJSU detailed this announcement at a news conference April 10.

Through a \$1 million grant, SJSU will expand its online offerings to 11 other CSU campuses. The new blended course is part of a \$9 million initiative to expand its online offerings.

<http://www.businesswire.com/news/home/20130410006022/en/>

<https://www.edx.org/press/gates-foundation-announcement>

Flipped Classroom: Dual Use

- One's own videos etc.:
better education
(EPFL: groups of students working
with videos, flipped classroom)
- Somebody else's MOOC:
cost reduction (really?)

MOOCs by Manufacturers



<http://www.opencourseworld.de/pages/coursedescription.jsf?courseId=487693>



<https://open.sap.com/courses>

Education Without Universities

- Udacity Open Education Alliance

- Badges, Endorsements, ...



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Not So Much About Technology

UDACITY

Differential Equations in Action

Problem Set 1

PROBLEM 2

- Modify the trajectory function below to plot the trajectory of several particles.
- Each trajectory starts at the point $(0,0)$
- given initial speed in the direction specified by the angle
- Euler Method

UDACITY

Differential Equations in Action

Lesson 6 - Wildfire

Central-Difference Formulas for Derivatives

$$f''(x_0) \approx \frac{f(x_0 - \Delta x) + f(x_0 + \Delta x) - 2f(x_0)}{(\Delta x)^2}$$

$$f'''(x_0) \approx \frac{1}{(\Delta x)^4} \begin{pmatrix} f(x_0 - 2\Delta x) \\ f(x_0 - \Delta x) \\ f(x_0) \\ f(x_0 + \Delta x) \\ f(x_0 + 2\Delta x) \end{pmatrix}$$

Effect is included here?

$$= -\frac{5 \times 10^{-9}}{\text{day} \cdot \text{person}} I(t) S(t) + 1000 \frac{\text{persons}}{\text{day}}$$

$$= \frac{5 \times 10^{-9}}{\text{day} \cdot \text{person}} I(t) S(t) - \frac{1}{5 \text{ days}} I(t)$$

$$= \frac{1}{5 \text{ days}} I(t)$$

- Vaccination
- Births
- Immigration
- Deaths

Discussions

Units-7 Grader Error

Ask a Question

Inside Quizzes

- **Types of Quizzes**

Dead man's switch, skill & drill,
worked example, transfer, self-explanation, ...

- **Roles of Quizzes**

Busywork, checkpoint,
learning device, motivator, ...

- **Types of Feedback**

Correct answer vs. diagnostics, text vs. video,
immediate vs. delayed, ...

Easy Learning?

- „Desirable Difficulties“

Bjork/Dunlosky/Kornell. Self-Regulated Learning: Beliefs, Techniques, and Illusions. Annu. Rev. Psychol 64, 417-444 (2013).

- „Amount of Invested Mental Effort“

Salomon. Television is “easy” and print is “tough”.
J. Ed. Psychology 76(4), 647-658 (1984).

Integrated Quizzes

$3^0 = ?$
Rechenregel.

$(3^0) \cdot 3^4 = 3^{0+4} = 3^4$

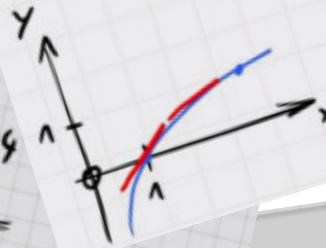
Für welche Zahl x gilt: $x \cdot 3^4 = 3^4$?

$x =$

Ableitung des natürlichen Logarithmus $\ln(x)$

$x > 0$

Was ist die Steigung der Tangente des natürlichen Logarithmus an der Stelle $\frac{1}{2}$?



$$1 = \frac{e^{\ln(x)}}{x} \cdot \frac{d \ln(x)}{dx} \Rightarrow \frac{d \ln(x)}{dx} = \frac{1}{x}$$

$\frac{x^{42}}{x^{15} \cdot x^{26}} = ?$

0/6




<http://www.capira.de/>

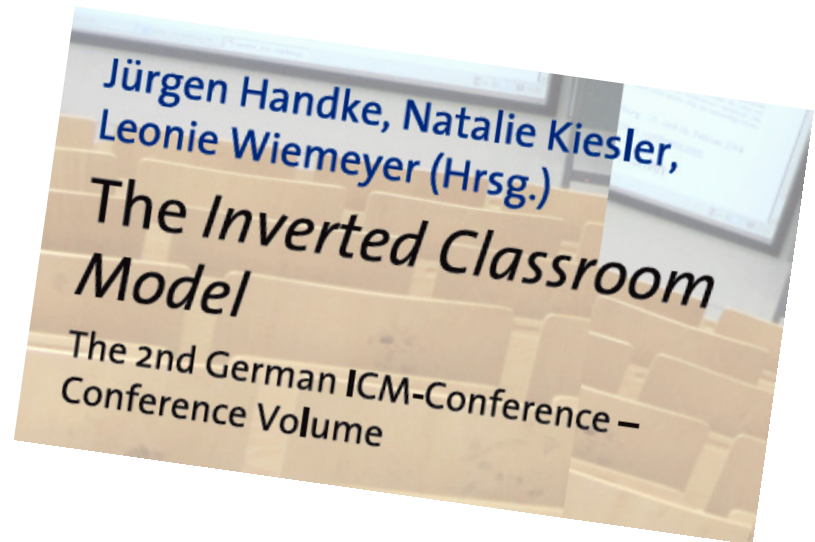
0	1
x^2	x

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A Fundamental Contradiction

- What we do:
spoonfeeding
 - Who we reach:
autonomous learners
- 
- How to do higher education?

www.j3L7h.de



[http://www.waxmann.com/fileadmin/
media/zusatztexte/2960Volltext.pdf](http://www.waxmann.com/fileadmin/media/zusatztexte/2960Volltext.pdf)