

# 大数据时代的人才培养新路径 ——美国经验与中国可能

严文蕃

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## Challenges

- US teaching force change
- Teaching in the information age
- Scholarship Reconsidered

# US teaching force change

- Tenure system under attack
- Full-time vs. part-time faculty: gypsy scholar
- Faculty productivity: teacher scholar

# Teaching in the information age

- Effects on teaching and learning
- Class preparation and instruction
- Advising
- Interdisciplinary units

# Scholarship Reconsidered

- Carnegie foundation for the advancement of teaching report
- Analyze, synthesize, and present knowledge in new and effective ways (Ernest Boye)
- A scholarship of teaching is not synonymous with excellent teaching. It requires a kind of “going meta” in which faculty frame and systematically investigate questions related to student learning.
- (Hatching & Shulman, 1999)

Figure 1: Loss of enthusiasm by grade level

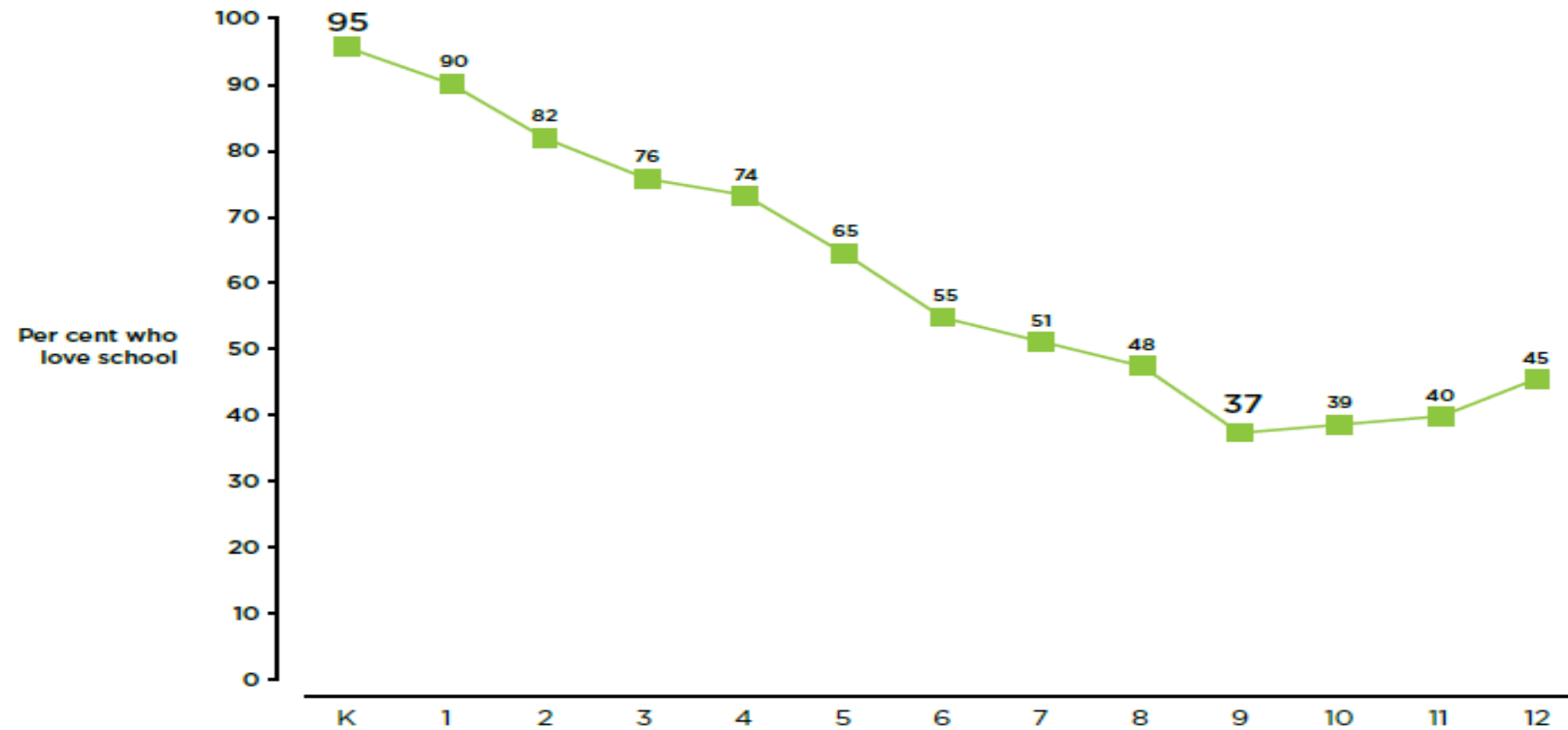


Figure are retrieved from Jenkins, L. (2012). Reversing the Downslide of Student Enthusiasm. From Fullan, M & Donnelly, K. (2013). ALIVE IN THE SWAMP. London: Nesta.

# “推力”

- 调查研究数据显示美国学生喜爱学校并对学校抱有热情，下降到了37%；同时教师对学校的满意度也骤然下降，传统的教育教学模式受到了极大的挑战，学生与教师在心理层面与现实层面正在被推出学校，此谓“推力”

Figure 2: Global digital information created and shared, 2005–2015E

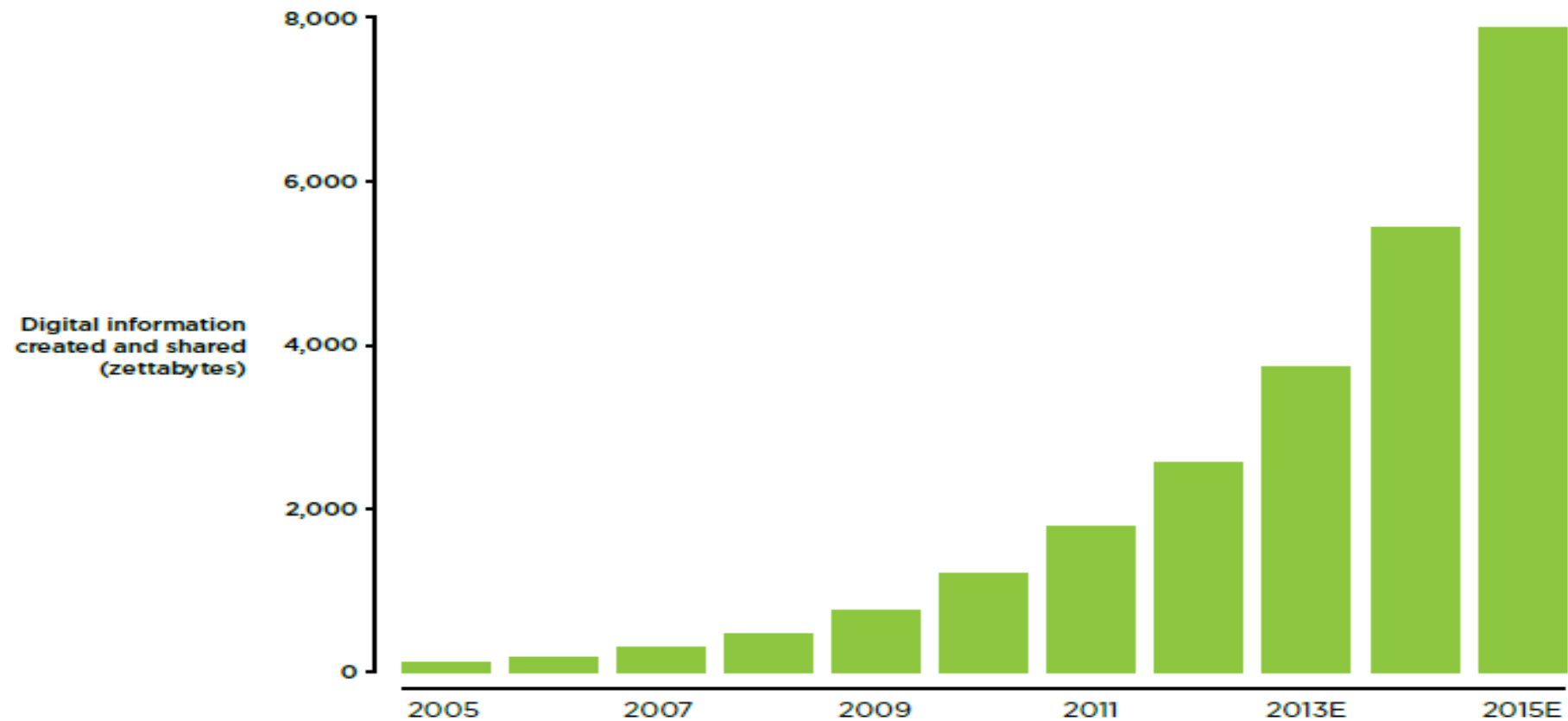


Figure are retrieved from IDC IVIEW report 'Extracting value from chaos'. June 2011. From Fullan, M & Donnelly, K. (2013). ALIVE IN THE SWAMP. London: Nesta.



# “拉力”

- ，此股“拉力”是指在信息爆炸时代，数字技术正以惊人的速度应用到了教育的发展中，全球数字信息创新与共享的速度在过去五年内翻了九倍，因特网在教育领域的应用正在成为一支强大的力量，给教师与学生带来了新的视野，成为了教育中一股新的“拉力”。

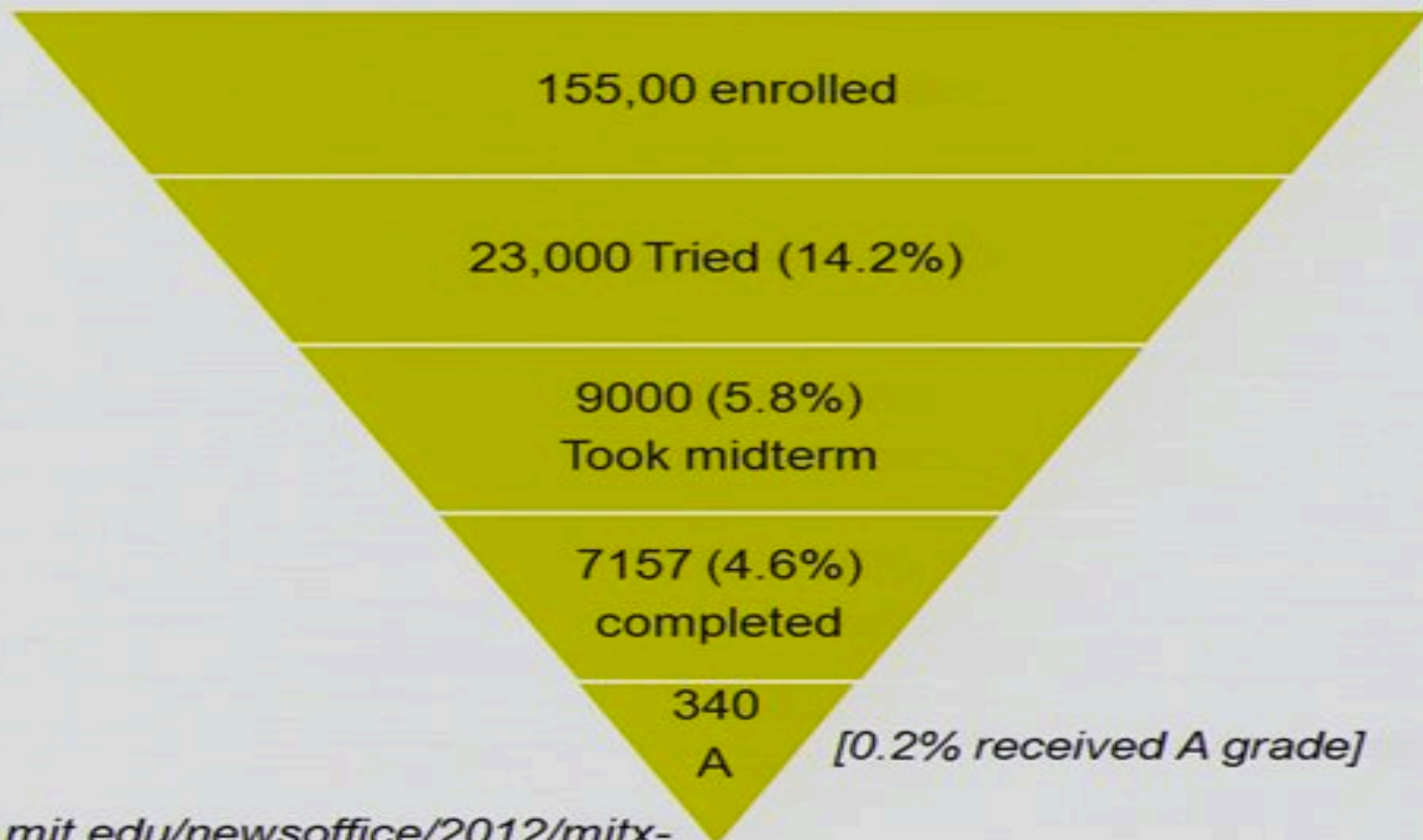
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# Vision

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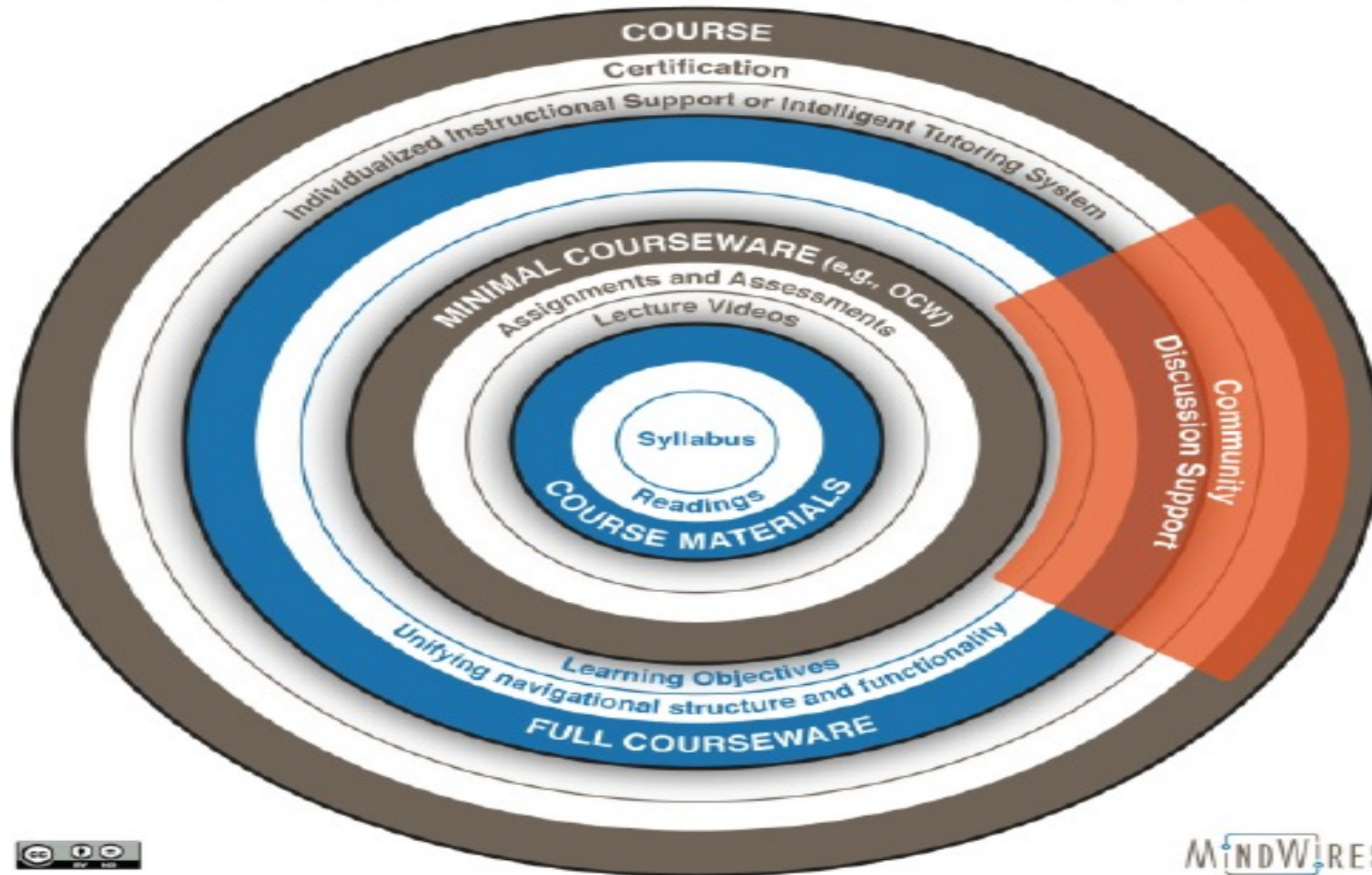
Expand access to education for students worldwide through online learning, while reinventing campus education through blended models

# Results of Prototype MITx Course on Circuits and Electronics (6.002x)



<http://web.mit.edu/newsoffice/2012/mitx-edx-first-course-recap-0716.html>

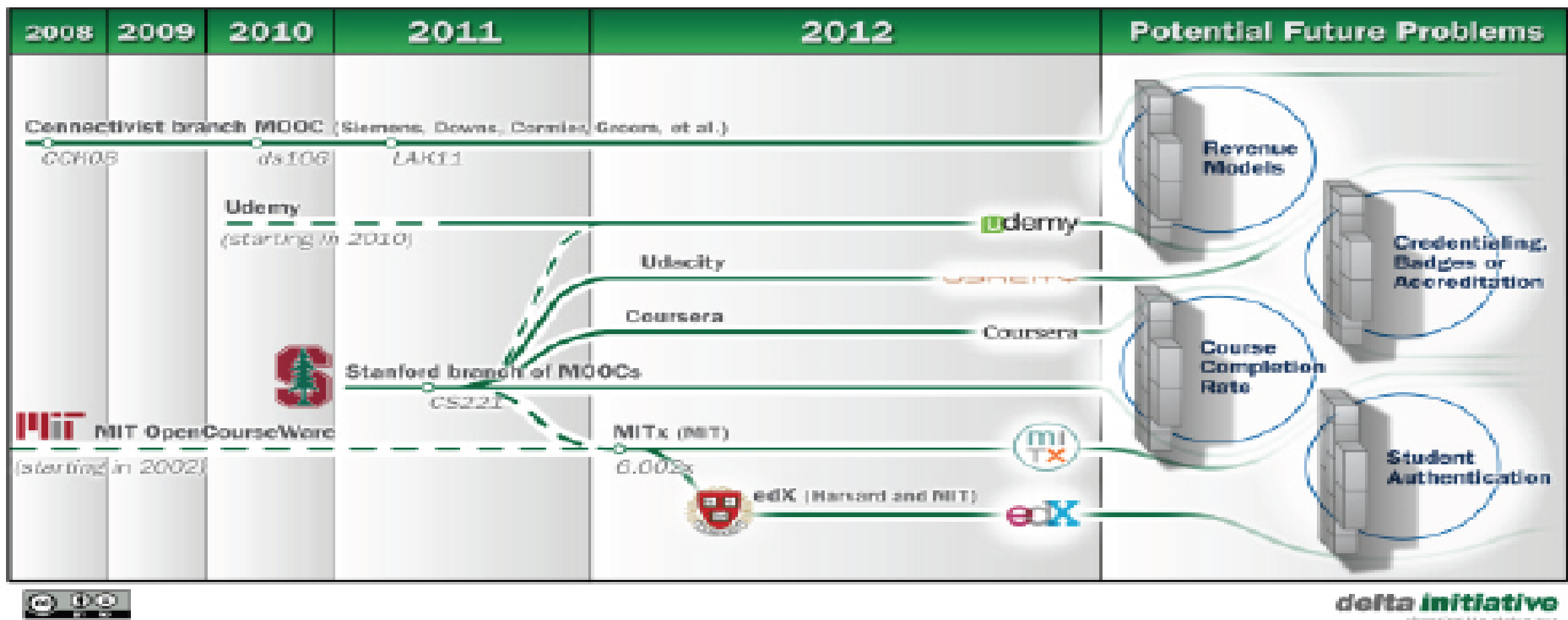
# The Course as a Product



MINDWIRE

Source: Michael Feldstein(2013, April). MOOCs, Courseware, and the Course as an Artifact.

Retrieved March 2, 2014, from the World Wide Web: <http://mfeldstein.com/moocs-courseware-and-the-course-as-an-a>.



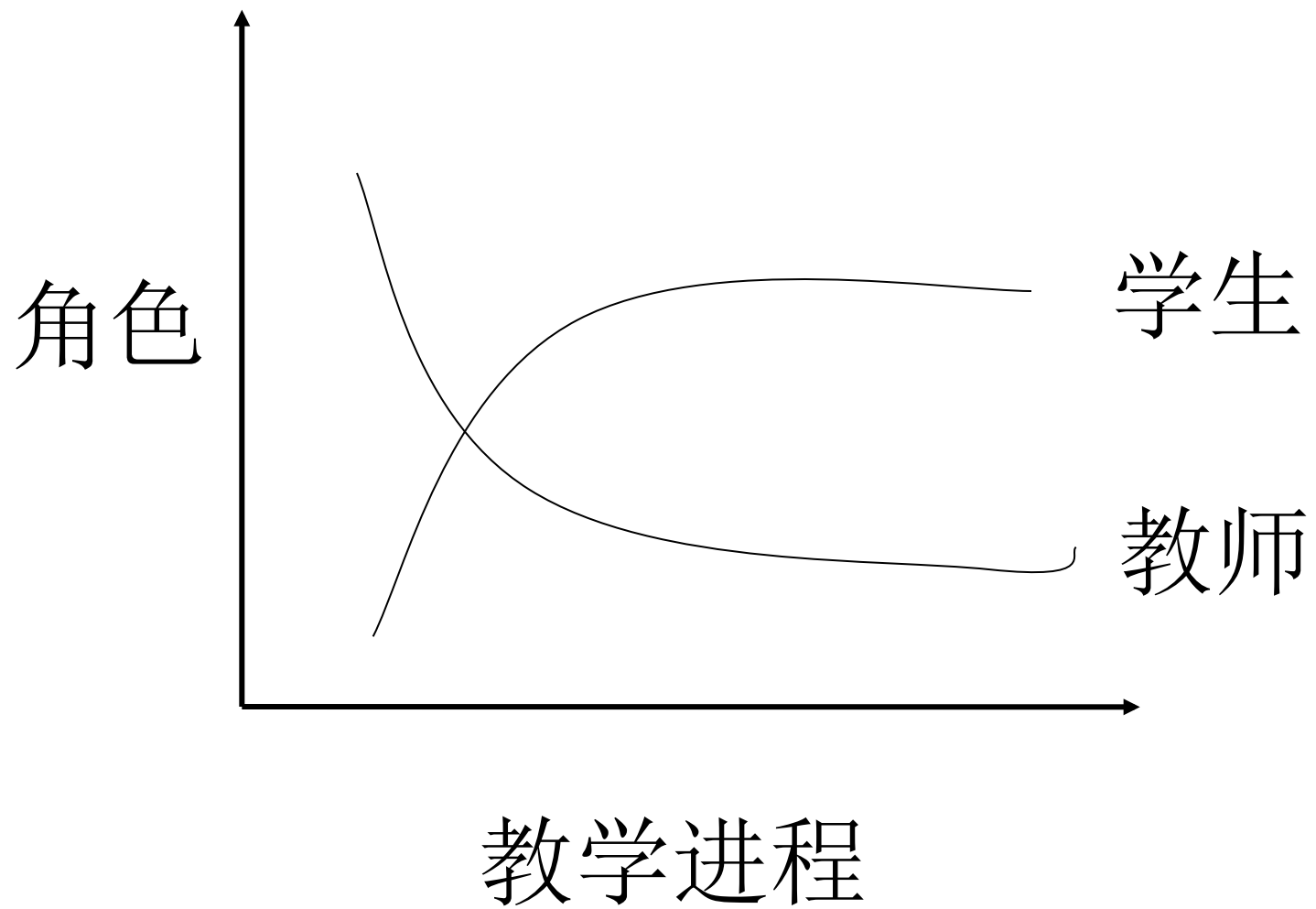
Source: Phil Hill (2012, July). Four Barriers That MOOCs Must Overcome To Build a Sustainable Model, Retrieved March 2, 2014, from the World Wide Web: <http://mfeldstein.com/four-barriers-that-moocs-must-overcome>.

# 翻转课堂：新机遇和新挑战



# 教学过程翻转







# 布鲁姆的分类系统(修改过的)



# 布鲁姆的分类系统(Lorin Anderson改造)

创造

评价

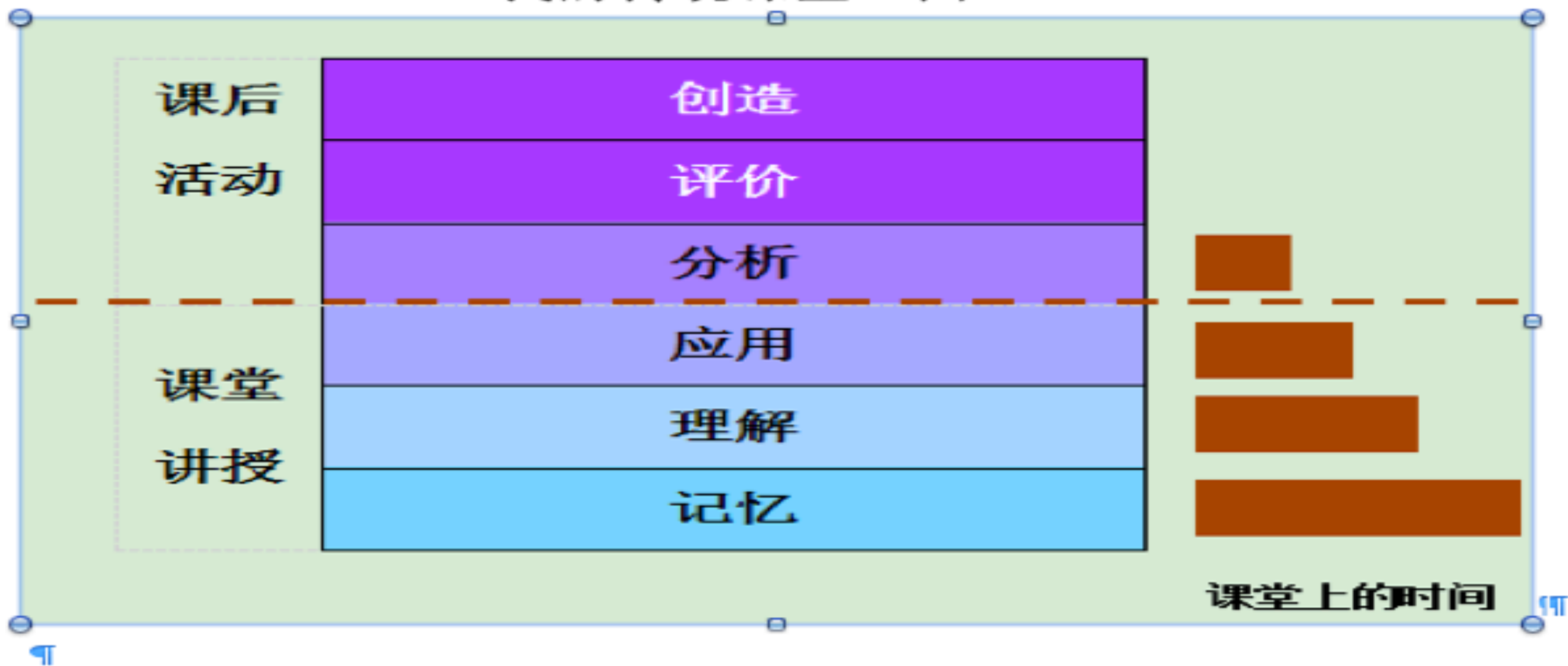
分析

应用

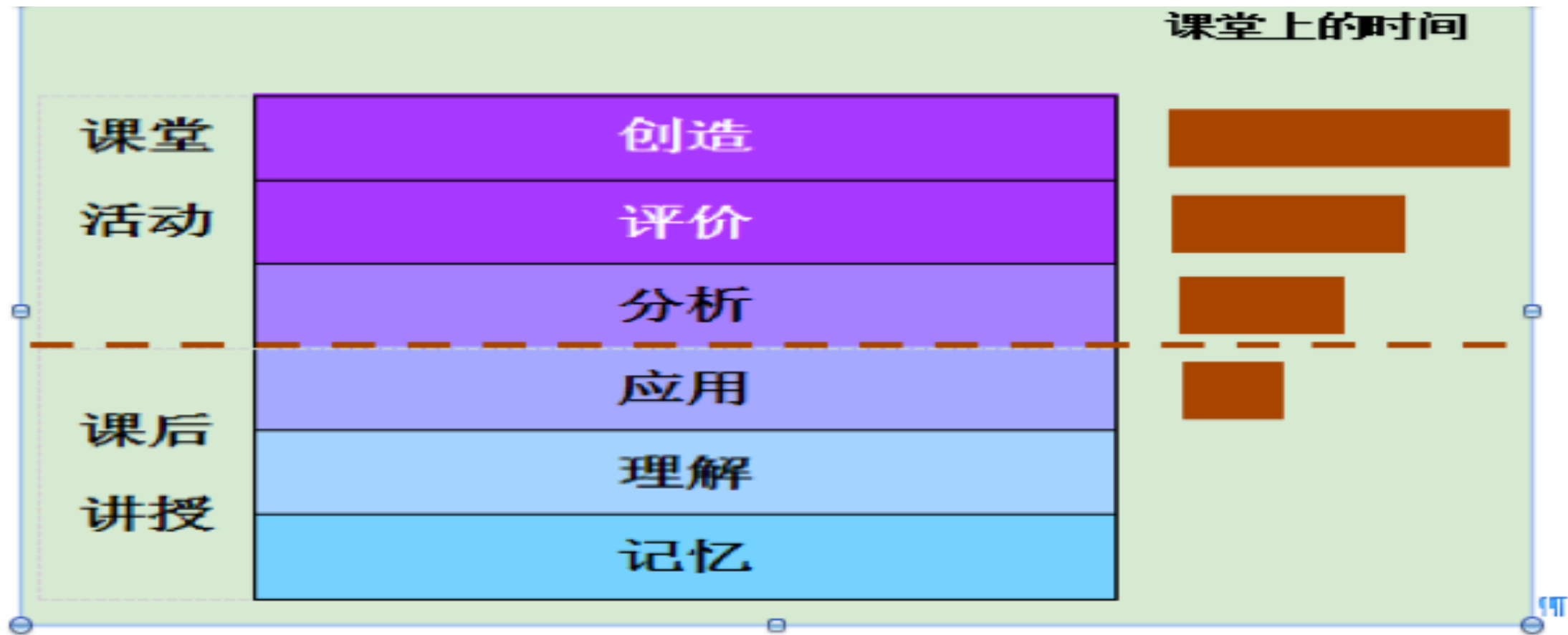
理解

记忆

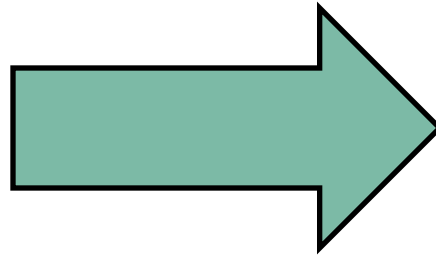
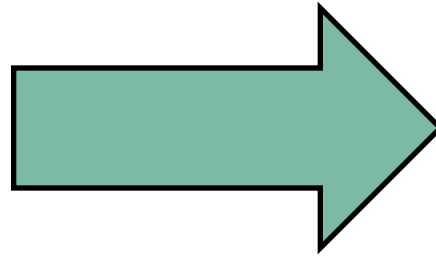
# 传统课堂



# 我的翻转课堂



# Universal Design in Life



## Recognition Networks

The “what” of learning

认知网络系统：学习“什么”

## Strategic Networks

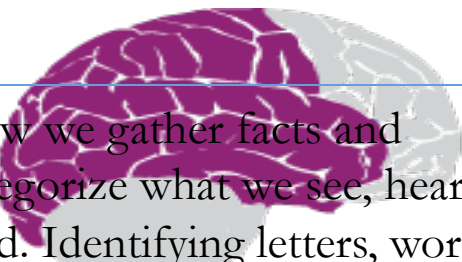
The “how” of learning

策略网络系统：“如何”学习

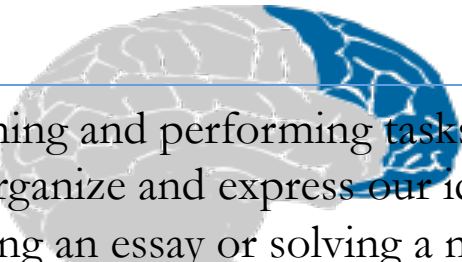
## Affective Networks

The "why" of learning


情感网络系统：“为何”学习



How we gather facts and categorize what we see, hear, and read. Identifying letters, words, or an author's style are recognition tasks.



Planning and performing tasks. How we organize and express our ideas. Writing an essay or solving a math problem are strategic tasks.



How learners get engaged and stay motivated. How they are challenged, excited, or interested. These are affective dimensions.

Present information and content in different ways

Differentiate the ways that students can express what they know

Stimulate interest and motivation for learning

**Multiple Means of  
Representation**  
多元呈现方式

**Multiple Means of Action and  
Expression**  
多元行动和表达方式

**Multiple Means of  
Engagement**  
多元参与融入方式

谢谢！

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