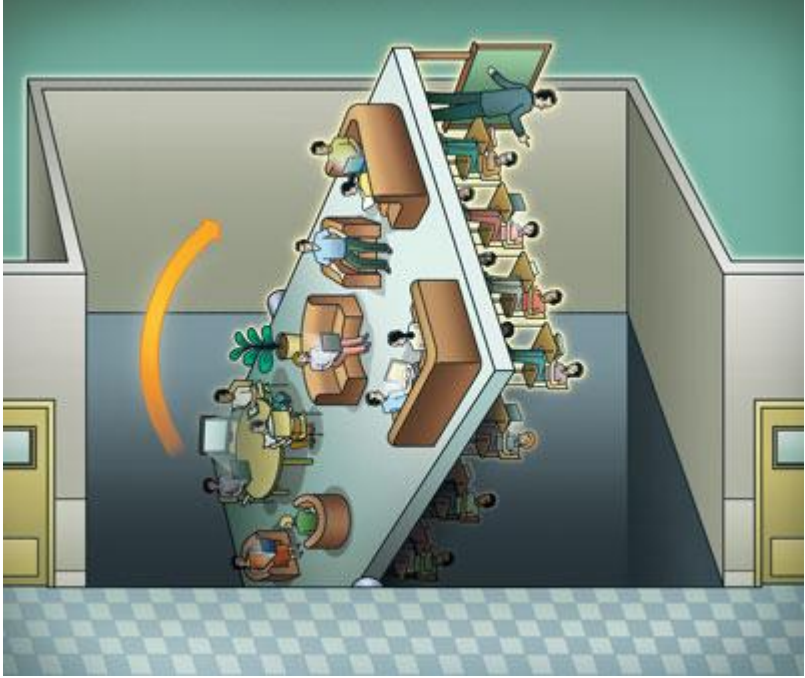


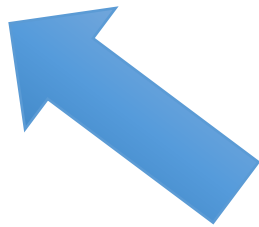
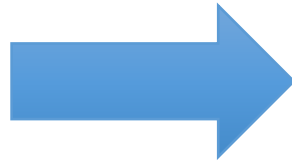
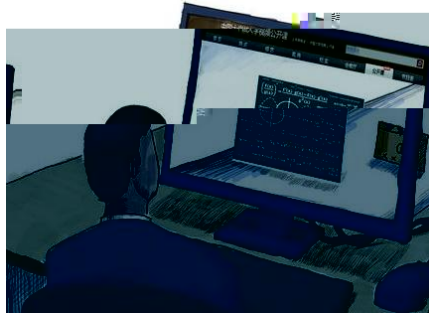
wangqiong@pku.edu.cn

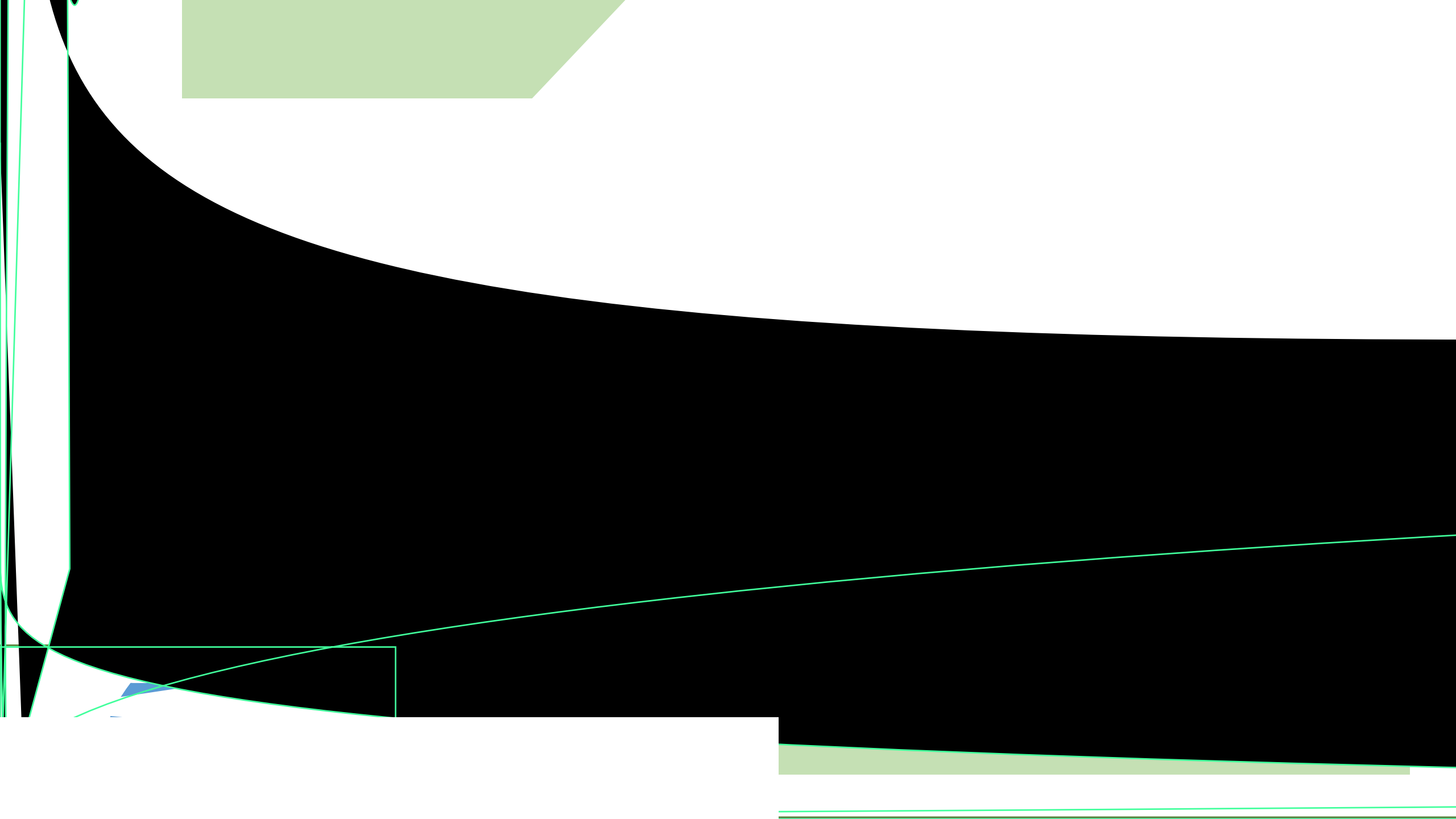
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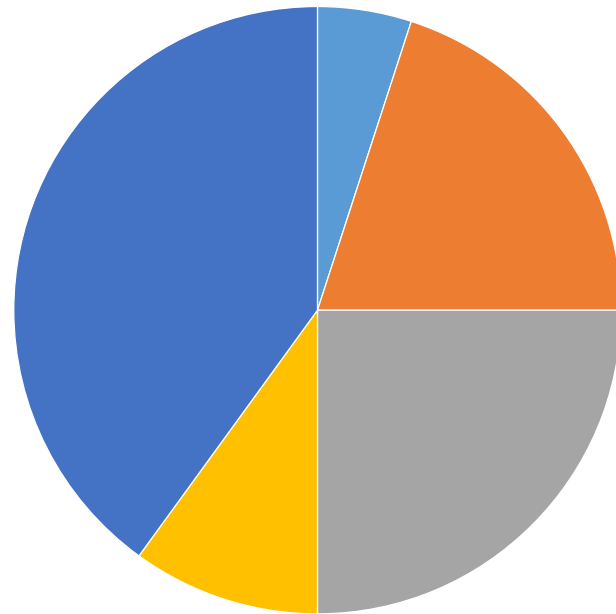
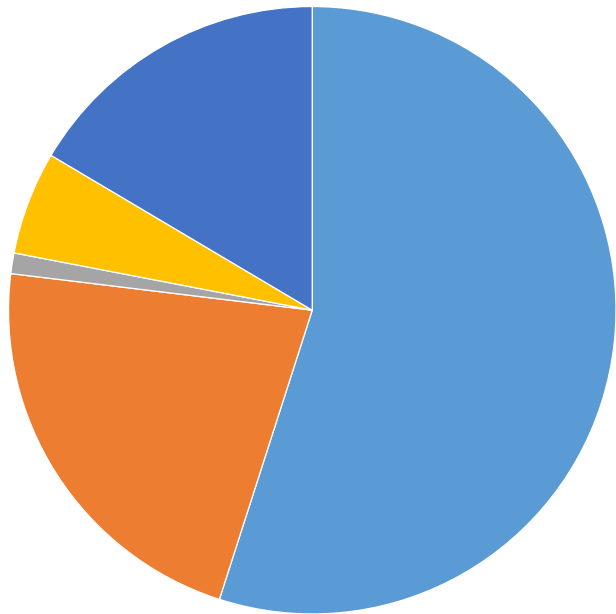
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<b>2 =90</b>		<b>2 =90</b>	
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	45		75
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THE IMPACT OF MASTERY LEARNING AND VIDEO PODCASTING ON LEARNER PERFORMANCE IN SECONDARY MATHEMATICS: PRE-VODCASTING AND THE REVERSE CLASSROOM, Gerald R. Overmyer, Colorado State University, 2010



# How People Learn

▪  
**Developing expert (vs. novice) performance and learning.**

**Promoting transfer of learning.**

**Providing frequent formative assessment.** +

**Helping students become reflective learners  
(metacognition).**

Bransford, J. D., Brown, A. L., & Cocking, R. (Eds.). (2000). How people learn: Brain, mind, experience, and school. Washington, D.C.: National Academy Press.

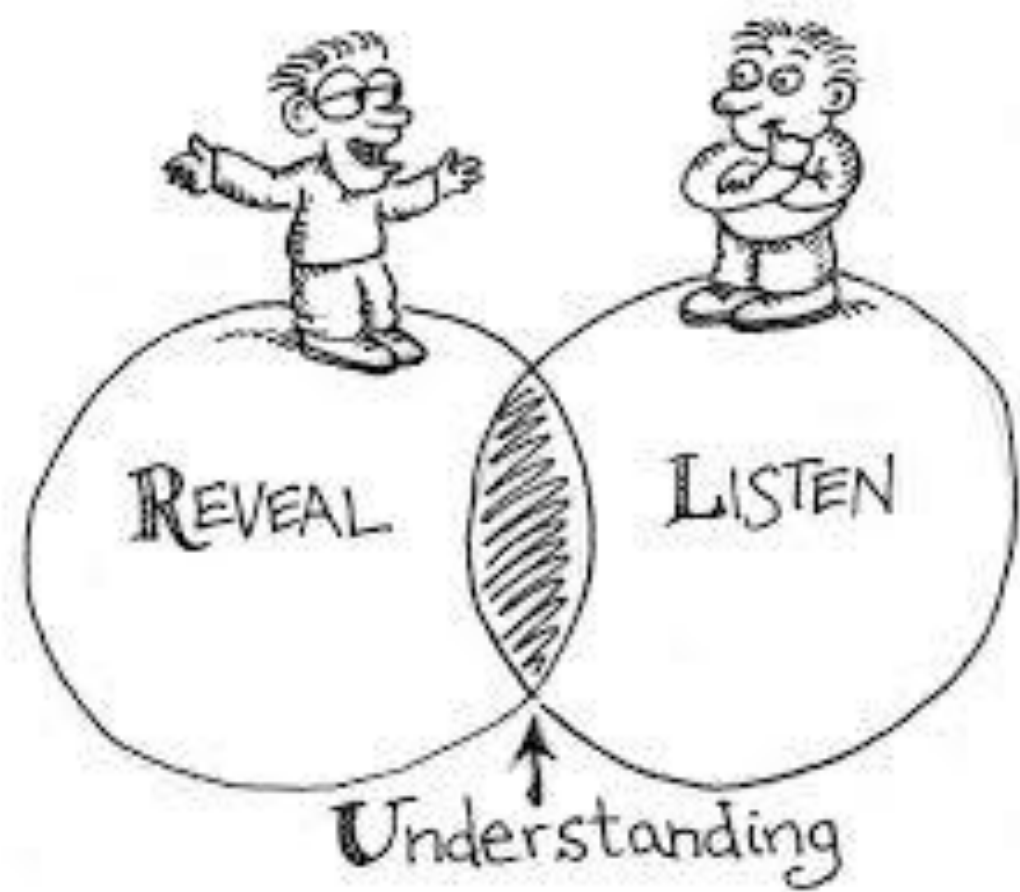


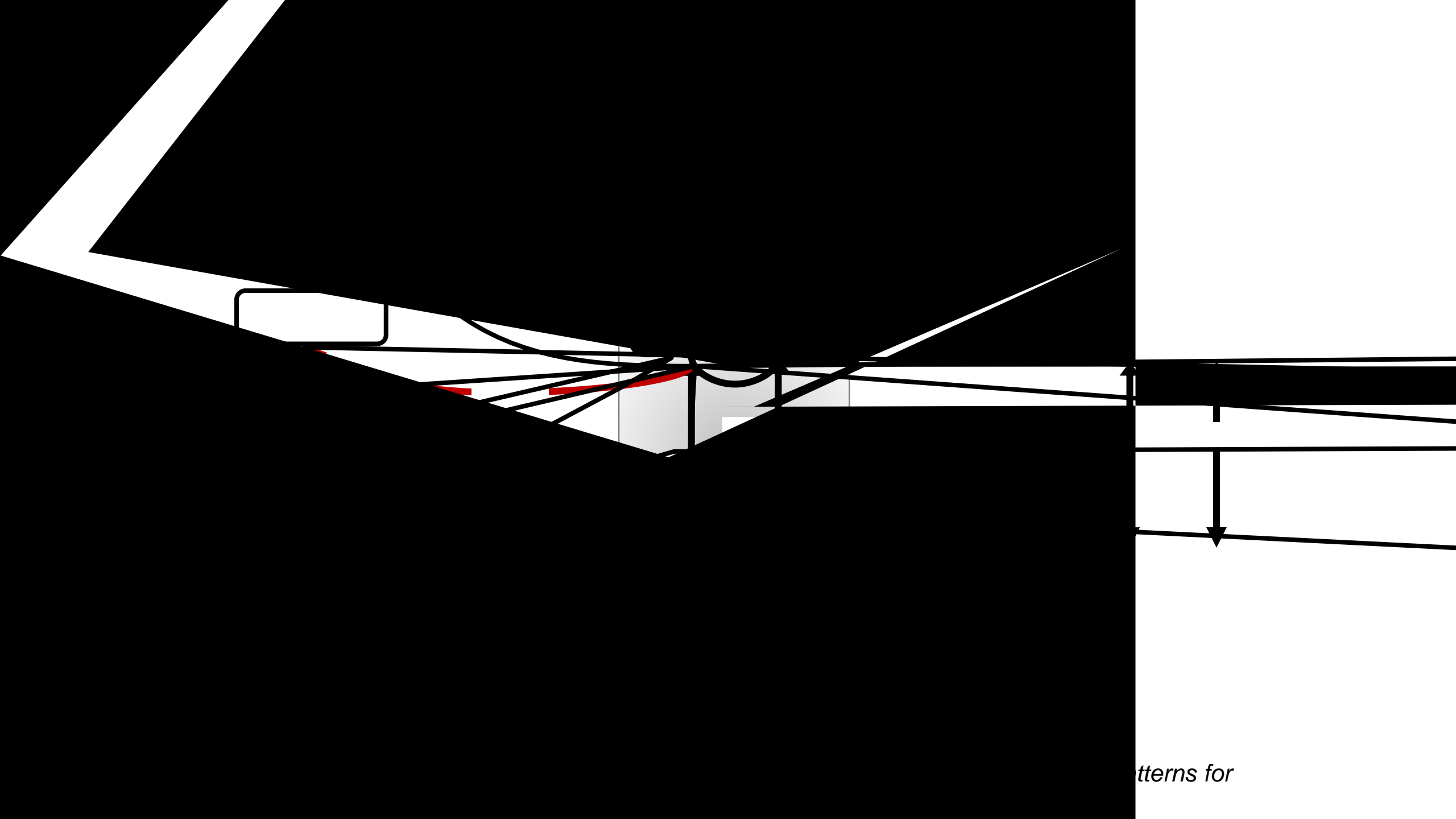
# Seven Principles for Good Practice in Undergraduate Education

1. encourages contact between students and faculty.
2. develops cooperation among students.
3. encourages active learning.
4. gives prompt feedback.
5. emphasizes time on task.
6. communicates high expectations.
7. respects diverse talents and ways of learning.

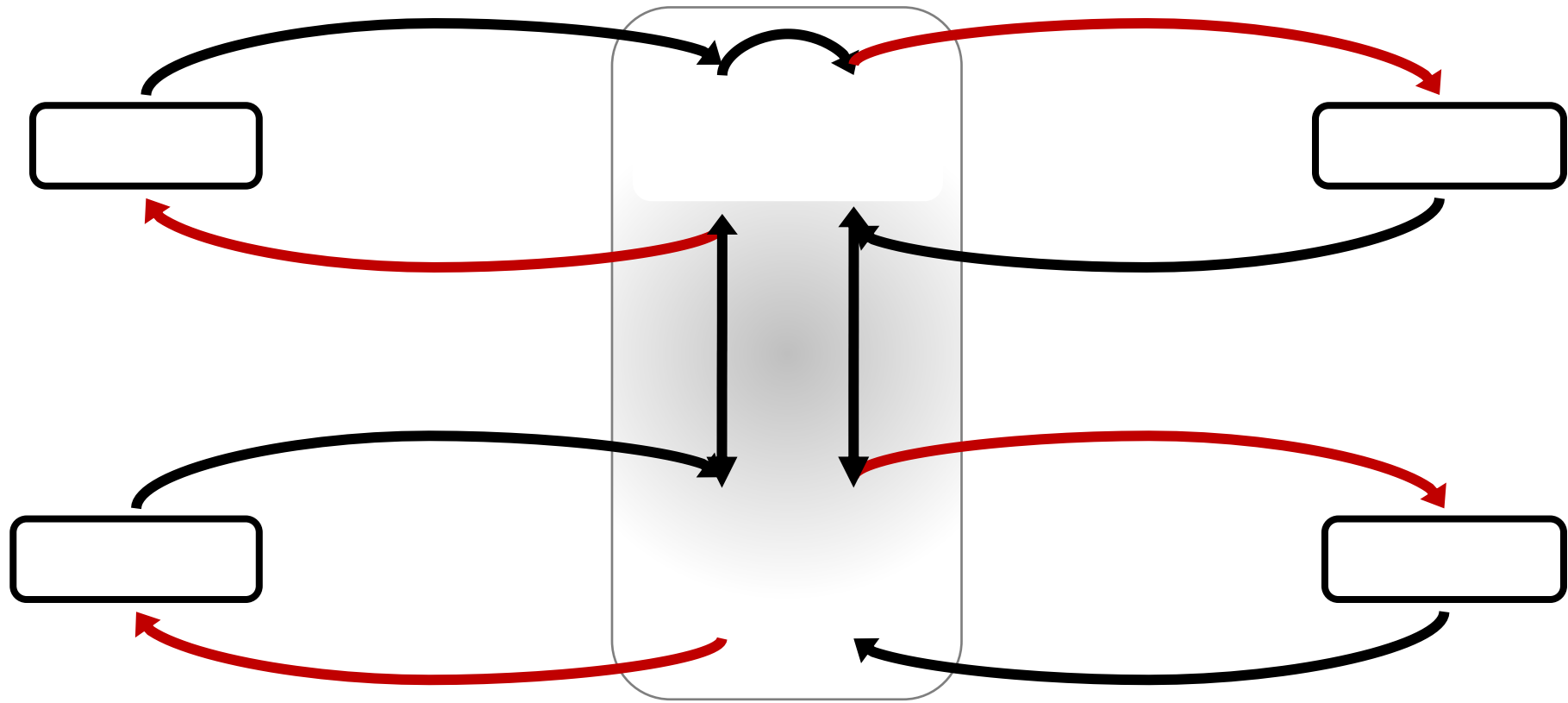






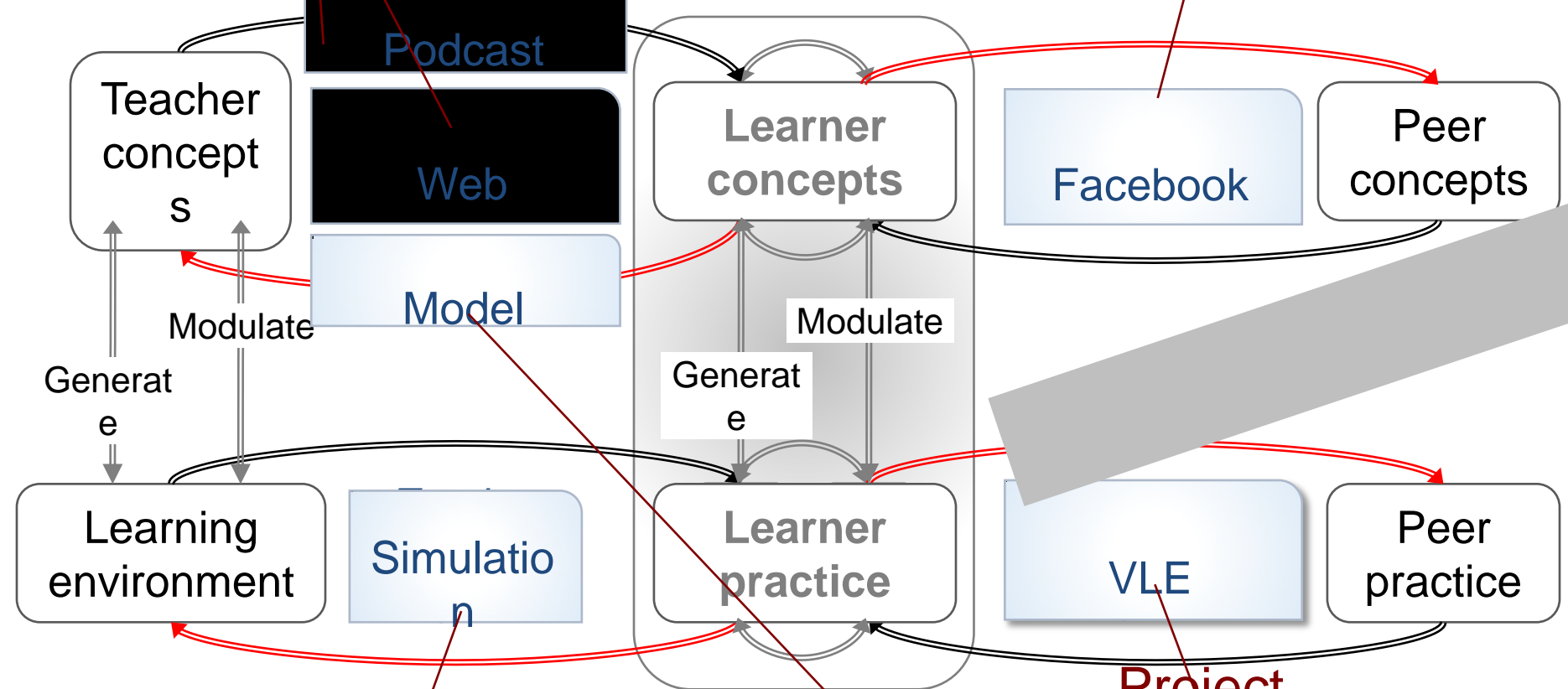


*tterns for*



Books, lectures, papers, websites, videos

Tutorials, seminars, small groups, online forums, social



Labs, exercises, problem designs, projects, groups, teamwork, gam... The teacher needs to use all types of learning technology within the **Conversational Framework**

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# retrieval practice

" " Encoding " " Retrieval " "

Roediger & Karpicke 2006

2007

McDaniel

2008 Jeffrey

Jeffery 2008

testing effect

retrieval practice

test-enhanced

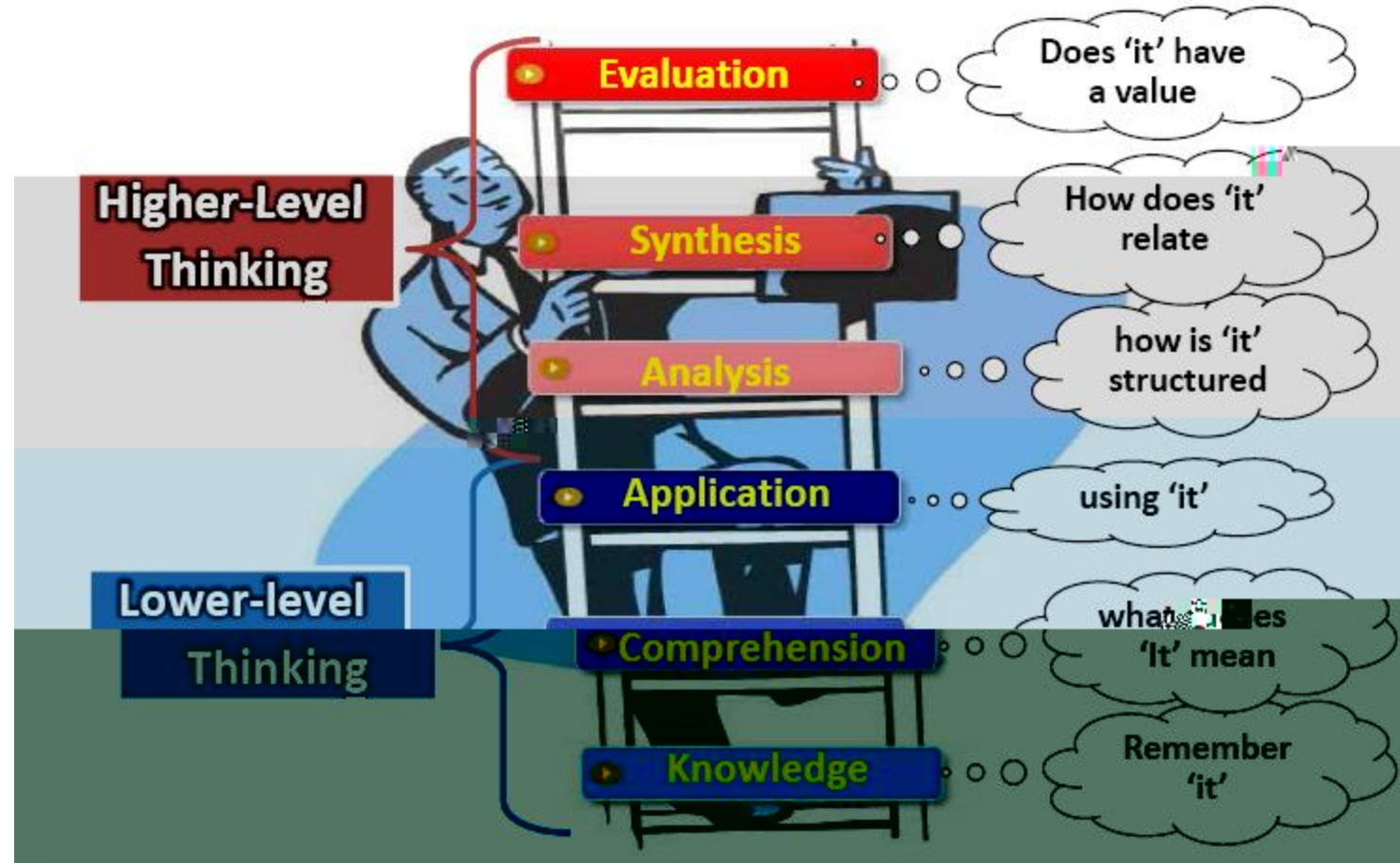
learning

Jeffrey D. Karpicke

2008 Science

2011 Science

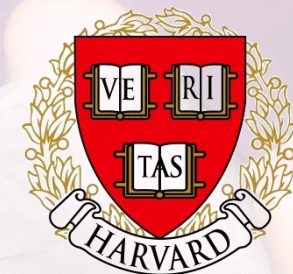
# Bloom's Taxonomy



source :Zaid Ali Alsagoff, Using E-learning to facilitate 21st Century Learning, from slideshare.net

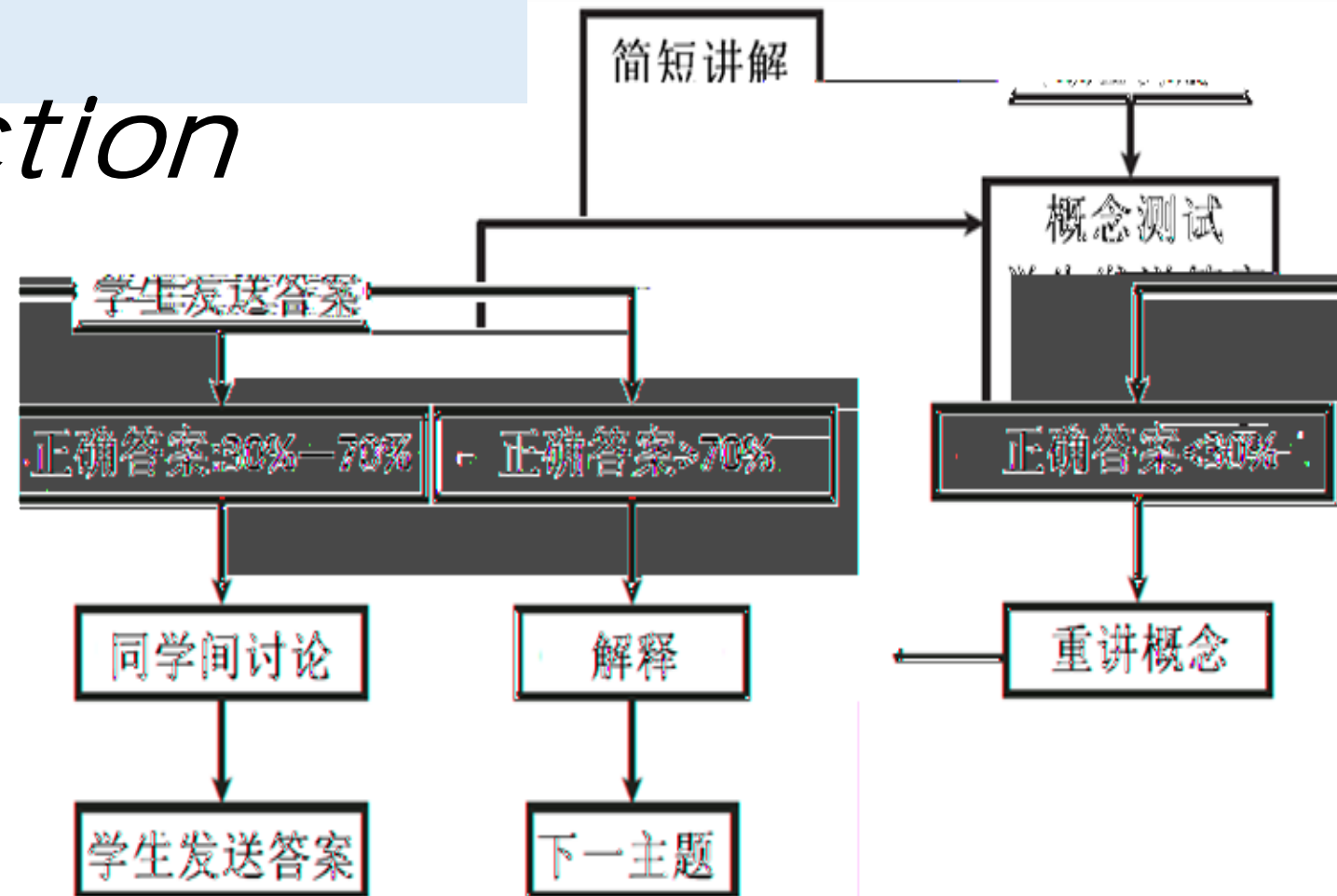
# Peer Instruction







# Peer Instruction



## 自我导向的教学策略：阶段化的自我导向学习模型（Grow）

Grow的阶段化自我导向学习模式<sup>[7]</sup>

阶段	学习者	教师角色	例子
1	依赖	有威望的(教师) 教练	课堂教学, 对出现的障碍及时指导
2	产生兴趣	动机指导者	启发式讲解, 小组讨论, 目标设定
3	参与	协调员 (提供便利)	教师引导的平等讨论, 研讨会
4	自我导向	顾问	实习医师, 自我导向研究组, 个体工作



最佳匹配策略

接近匹配策略

避免不匹配策略

S4:自导学习者	严重不匹配	不匹配	接近匹配	匹配
S3:参与学习者	不匹配	接近匹配	匹配	接近匹配
S2:兴趣学习者	接近匹配	匹配	接近匹配	不匹配
S1:依赖型学习者	匹配	接近匹配	不匹配	严重不匹配
最佳匹配线	T1: 权威人士 专家	T2: 推销者 兴趣激发者	T3: 促进者 协调员	T4: 授权者 指导、顾问

图5 不同学习者和教师角色匹配二维矩阵图



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Outside of Class

In Class



**EVERY CLASS ENDS WITH A MASTERY CHECK OF SKILLS!**