

“Teaching as Research: Integrating SoTL into Your Teaching”

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Nanjing University



Prof. Spencer Benson,
University of Maryland,
University of Macau
Eli-Consulting, LLC

Today Agenda

- Introduction
- Background and History
- What is SoTL and TaR
- Why they are increasingly important?
- Integrating TaR and SoTL in Teaching
- Challenges



“Teaching is leading students into a situation in which they can only escape by thinking”

“教学就是向学生指引一条道路，这条道路只有通过学生自己的思考才能找到出口”



It is a Different World

21世纪的文盲将不再是那些不能阅读和书写的人，而是那些不懂如何学习、如何抛弃所学、重新学习的人

The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn.

— Alvin Toffler —

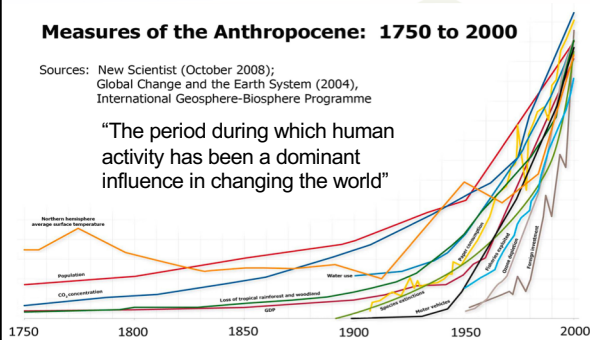
AZ QUOTES

It is a Changing World

Measures of the Anthropocene: 1750 to 2000

Sources: New Scientist (October 2008);
Global Change and the Earth System (2004),
International Geosphere-Biosphere Programme

“The period during which human activity has been a dominant influence in changing the world”



What is the primary purpose of a modern university? 现代大学的主要目的是什么？



Think Time
思考时间

Share with the person beside you
与您旁边的同事分享

General Sharing
分享

Recognition and Advancement
认可与进步

Recognition and Advancement

Teaching Service

Research
Publications No.
Publication Impact

Measurements

- Research Effectiveness
 - Easier to measure
 - Data cloud
 - Impact Factors (H- factor)
- Teaching Effectiveness
 - Difficult to measure
 - SET
 - No good valid system
- Service
 - Low expectations low value

How did we get here?

What is the primary purpose of a modern university?

现代大学的主要目的是什么?



History of the US Academe

- Pre-1800 - Universities for the elite study of the classics



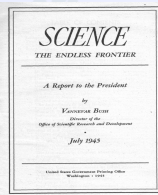
- Late 1800s

- Change to meet the demands for the industrial revolution, universities for the workers
- Land Grant Colleges 1890
 - Morrill Act



History of the US Academe

- Mid 1900s
 - The Endless Frontier 1943 Vannevar Bush
 - Expansion of the university population
 - Expansion in funding for university research



New Paradigms for 21st Century Higher Education

21世纪高等教育的新范式

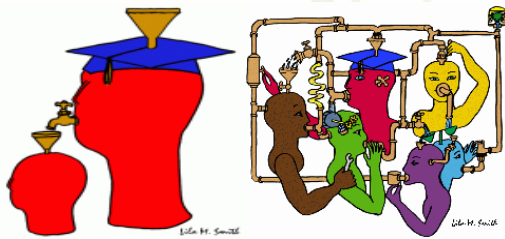
Teacher Centered → Learner Centered
以教师为中心 → 以学习者为中心

Information Dissemination → Knowledge Building
信息传播 → 知识建构

Acceptance → Accountability
接收知识 → 学习责任



Teaching Centered - Learning Centered 教为中心 -- 学为中心



Reproductive Teaching

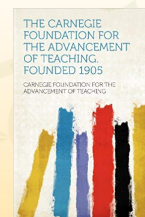
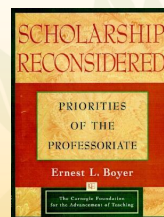
重复式教学

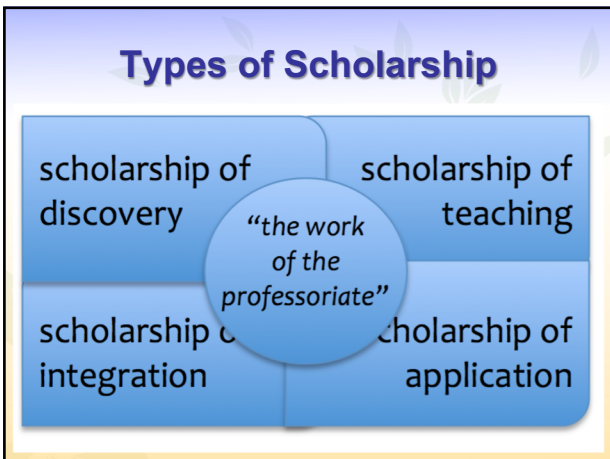
Reconstructive Learning

重构式学习

A Bit of SoTL History

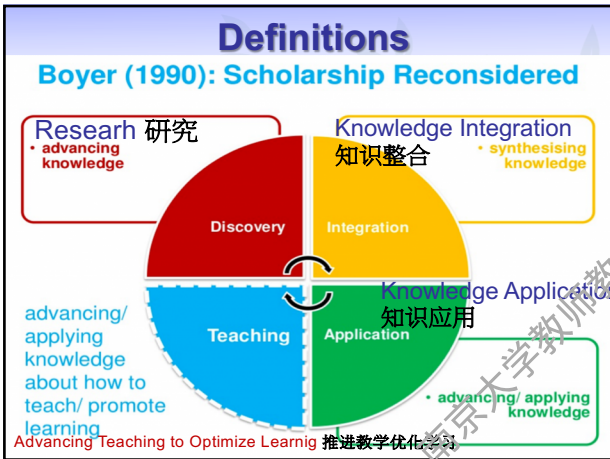
- Ernest Boyer
 - President Carnegie Foundation for Advancement of Teaching (founded in 1905)
- Scholarship Reconsidered, 1990






Definitions

Type of Scholarship	Purpose
Discovery	Build new knowledge through traditional research. Research – Knowledge Building
Integration	Interpret the use of knowledge across disciplines. Knowledge Integration Across Disciplines
Application	Aid society and professions in addressing problems. Knowledge Application (Applied Research)
Teaching	Study teaching models and practices to achieve optimal learning. Development of Teaching to Optimize Learning



Lee Shulman

- President of Carnegie Foundation For Advancement of Teaching 1996-2007



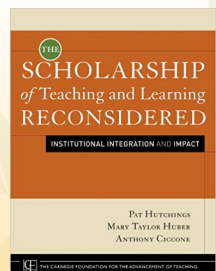

As we have come to view teaching, it begins with an act of reason, continues with a process of reasoning, culminates in performances of imparting, eliciting, involving, or enticing, and is then thought about some more until the process can begin again

— Lee S. Shulman —

AZ QUOTES

CASTL Project 1998-2003

The Carnegie Academy for the Scholarship of Teaching and Learning in Higher Education
Five year 6M (USD) PEW Funded Project

Outcomes From the CASTL Project

Gallery of Teaching & Learning



The Carnegie Academy for the Scholarship of Teaching and Learning in Higher Education

Welcome to the CASTL Higher Education Collection. This collection presents the efforts of over 15 CASTL Scholars to render their teaching public. The authors of the sites are faculty members from different institutions and of various disciplines, each of whom turned a scholarly eye upon their teaching and generously shared representations of these efforts here, for others to engage.

The sites in this collection include hand-built faculty teaching portfolios and scholarship of teaching and learning (SoTL) projects that were created over a period of eight years. They display the inquiry, processes, and reflections of faculty from disciplines including (but not limited to) mathematics, psychology, and music. At the same time, they reveal some unique ways of representing individual faculty investigations of teaching, collaborative inquiry, and disciplinary and interdisciplinary teaching and learning.

Learn more about the CASTL Scholars and their work.

Teaching as Research (TaR)

作为研究教学

Teaching-as-research is the deliberate, systematic, and reflective use of research methods by science, technology, engineering, and mathematics (STEM) instructors to develop and implement teaching practices that advance the learning experiences and outcomes of both students and teachers.

The CIRTL Network
CENTER FOR THE INTEGRATION OF RESEARCH, TEACHING, & LEARNING

CIRTL Network CIRTL网络

40 institutions from the across US sharing recourses and helping to build effective STEM faculty for the future

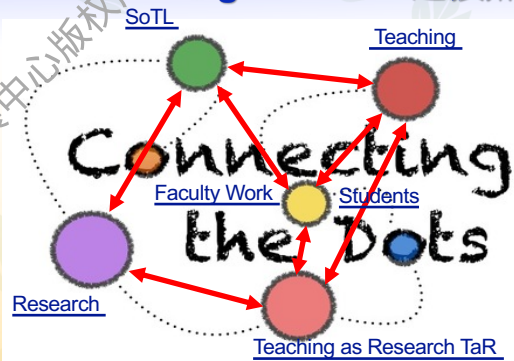


Three Levels of Engagement

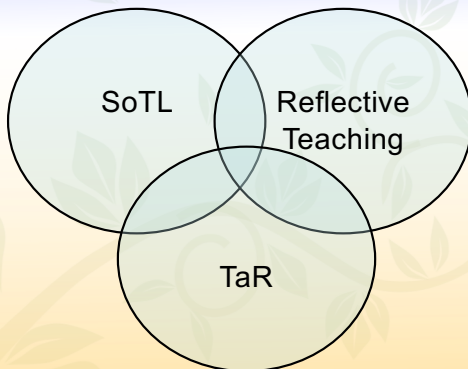
- **CIRTL Associates**
 - Describe and Recognize Value
 - Evidence based teaching
 - Learning communities
 - Learning through diversity
- **CIRTL Practitioners**
 - Develop an implement a TaR plan
- **CIRTL Scholars**
 - Added to community knowledge about teaching and learning
 - Through their peer-reviewed TaR project



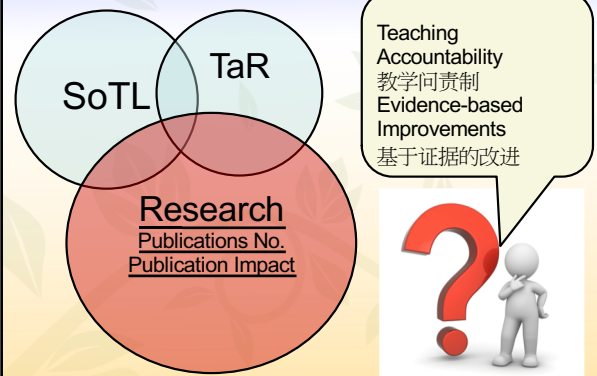
Connecting the Dots 连接点

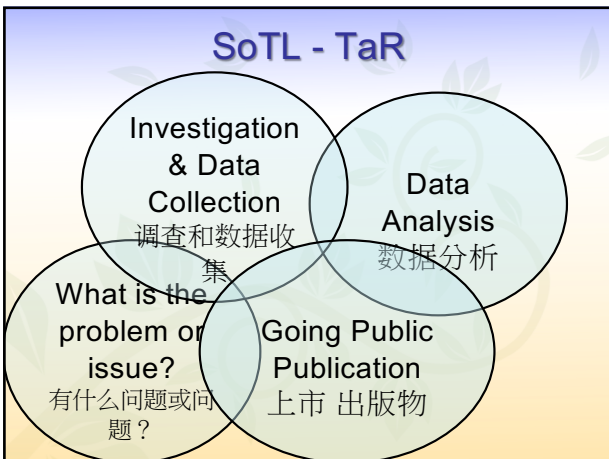


Why are They Important?



Why Are They Important?





What's the Problem?

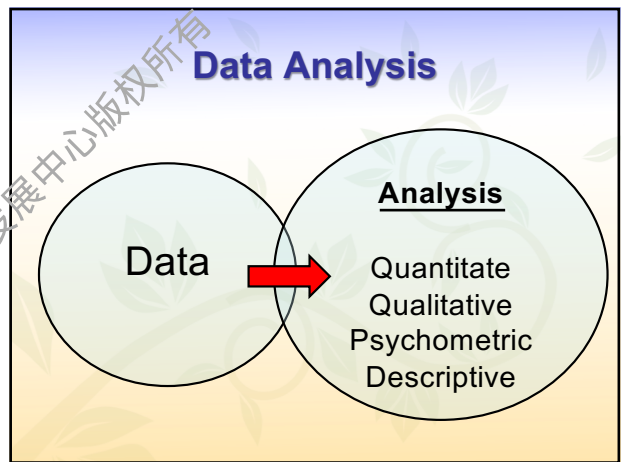
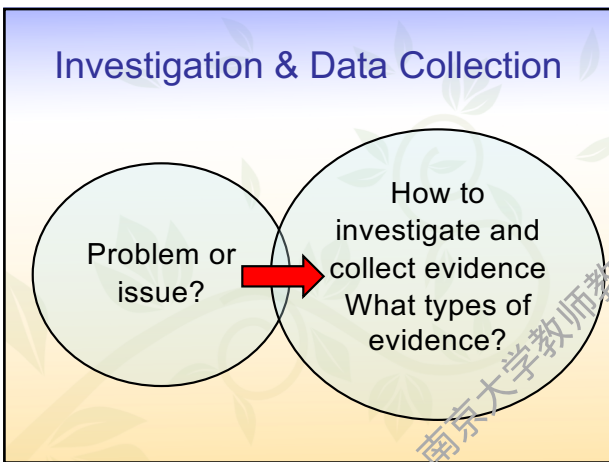
Problem

In scholarship and research, having a "problem" is at the heart of the investigative process. But in one's teaching, a "problem" is something you don't want to have and if you have one, you probably want to fix it.

Randy Bass, 1999. "The Scholarship of Teaching: What's the Problem?" *Inventio*

PROBLEM

In teaching problems are investigated and not always solved 在教学中调查问题并不总是解决问题



Evidence - Data

- Test performance
 - Pre post tests
 - Parallel cohorts
- Student surveys
- Interviews and focus groups
- Student academic products
- Grades and retention
- Post class achievements

Alignment is important

Dissemination = Going Public

Sharing the results for other can use or build upon.

- Presentations
- Conferences
- Blogs
- Newsletters
- Publication

Making it Work

让它发挥作用

Learning Communities are a primary way to jumpstart and sustain SoTL

Communities can be local or virtual

We learn best when we learn together




Learning Communities

Thank You [谢谢]!

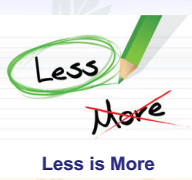
问题或意见?




Final Thoughts



If we teach today's students as we taught yesterday's, we rob them of tomorrow.
- John Dewey




Less is More


Improving teaching without improving learning will not be enough to bring about the kinds of learning improvements that are needed to meet the job demands of the future.

21st Century *teaching* is teaching students to learn more effectively.

Final Thoughts



如果我们用昨天的方法教授今天的学生，我们就剥夺了他们的明天。
John Dewey, 1910
- John Dewey



少即是多

不以改进学习为目的的教学提升，将无法提供学习者未来就业所需要的学习改进。

21世纪的教学是教学生如何更有效地学习

Mark Your Calendar 标记您的日历

May 16-19, 2019



LILLY-ASIA: EVIDENCE-BASED TEACHING AND LEARNING
Lilly Conference - Hong Kong - 16-18 May, 2019

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Contact Information

Prof. Spencer Benson, PhD
Education Innovations International Consulting, LLC
Consultant University of Maryland
University Park, MD, USA
sbenson@eii-consulting.com
sbenson51@gmail.com
sab51@umd.edu



"TEACHING IS LEADING STUDENTS INTO SITUATIONS IN WHICH THEY CAN ONLY ESCAPE BY THINKING"