

Improve your Teaching & Student Learning with Research from the Classroom eHandout

G. Alex Ambrose, PhD., Director of Learning Research
ND Learning | Kaneb Center for Teaching Excellence

Workshop Links:

Workshop Slides: (ND Login Required)

<https://bit.ly/NDsotl2022>

Virtual Poster Gallery:

<https://bit.ly/NDSoTLGallery>

eHandout: (ND Login Required)

<https://bit.ly/SoTLhandout>

Recording: (Check back soon)

Related Links

ND Learning Research About Page:

<https://learning.nd.edu/instructor-opportunities/learning-research/>

ND Learning Research Blog:

<https://learning.nd.edu/story-category/learning-research-news/>

Umbrella IRB

<https://learning.nd.edu/resources/umbrella-irb/>

Handout Activity #1: WHY engage with SoTL?

Identify the top 2-3 and discuss it with a partner.

What are your motivations?

- ☐ Scholarly teaching with evidence-based practices
- ☐ Generates evidence of student learning for promotion
- ☐ Support program assessment
- ☐ Align to / support college accreditation goals
- ☐ Support grant development/assessment
- ☐ Confirm I'm doing a good job teaching
- ☐ Others...

Which teaching improvement area?

- ☐ Measuring student learning
- ☐ Classroom teaching approaches
- ☐ Student engagement/motivation
- ☐ Course assignments
- ☐ Course assessment
- ☐ Others...

Handout Activity #2:

WHAT are your Research Themes & Questions?

Research themes

- Student engagement
- Learning space
- Active and Collaborative Learning
- Inclusive curriculum design, inclusive teaching
- Assessment
- Student-faculty interaction
- The flipped classroom
- Mobile technology
- Implementing teaching theories or principles
- Supplemental instruction, tutoring, and other academic Resources
- Using students' personal technology to facilitate engagement in the curriculum
- Large classroom management
- Classroom participation
- Assessing the effectiveness of technology in supporting student learning
- Adult learning
- Learner/student-centered
- Motivation
- Online teaching and learning
- Blended learning
- Effective writing
- Critical thinking
- First-year students
- Group work
- Course design/redesign
- Other...

Research questions

1. Identify your research theme, the general area you would like to investigate (see list above).

2. Draft your research questions. Based on this theme, can you write several specific research questions? Be sure to write in the form of a question.

Types of Research Questions

“What works” questions: Inquiry into the effectiveness of teaching practices and pedagogical approaches

Example: Do students learn more when they have to teach the content to their peers than when they only have to summarize it for their own use?

Example: Do students demonstrate more mastery of content in a flipped class than they do in a lecture-only class?

“What is” questions: Descriptive inquiry about students’ learning, students’ prior knowledge, characteristics of a pedagogical approach, a problem a teacher has encountered in a classroom, etc.

Example: What prior writing knowledge do my students bring to my first-year writing course?

Example: What characteristics do literature classes, which require students to read outside of class in preparation for classroom discussions, share with video-based flipped classes?

Visions of the possible: Inquiry focused on what might be

Example: What would happen if I used a “Reacting to the Past” game to help students understand the social-political context of ancient Greece?

Example: How might a systematic reflection activity completed when I return graded work prompt students to apply the feedback they receive to future class assignments?

Formulating new conceptual frameworks: Models and frameworks that lead to new inquiry questions

Example: What themes emerge from studies on reflection that might help us understand students’ development of metacognitive awareness?

Example: What might systematic analysis of student bottlenecks tell us about troublesome knowledge in the discipline?

Elon University

<https://www.centerforengagedlearning.org/studying-engaged-learning/asking-inquiry-questions/>

QUESTION	STRATEGY	METHOD	EXAMPLE
How much X or Y exists?	Descriptive/ case study	Gather data about individuals (cases) or groups	How much background knowledge do students have? Do they read the chapter before each class?
Are X and Y related to each other?	Correlational	Gather at least two sets of data from a group	Does the amount of time spent studying relate to test scores?
Does X cause Y? (Weak test)	Quasi-experimental	Compare data from two groups, which are NOT randomly assigned	If I give a chapter quiz each day in my morning class, will their test scores be higher than the night class?
Does X cause Y? (strong test)	Experimental	Compare two groups which ARE randomly assigned to program. All else is the same.	Do chapter quizzes improve exam scores? Randomly assign students to program. Nothing varies BUT program.

Handout Activity #3:

WHICH data?

Identify the top 2-3 and discuss it with a partner.

<u>Existing data</u> (Easiest to gather)	<u>Conventional Sources</u> (Require selection or development of data collection instruments)	<u>Inventive Sources</u> (Products or performances. May be difficult to create and more difficult to evaluate)
<i>Records</i>	<i>Behavioral Data</i>	
Student grades*	Teacher Journal*	Exhibits^
Attendance	Number of books read	Portfolios^
Teacher/course evaluations	Library use	Expositions^
Program retention rate	Writing samples	Video recording ^
% of students participating in campus organizations/groups	Test grades*	
Standardized test results	Variety of course materials used	
Demographics	Teacher observations of student participation, interactions, etc.*	
	Outside observations of classroom^	
	Student journals /ePortfolios	
	Minutes from meetings	
	Staff development (hours, types)	
	Audio or video of classroom^	
<i>Archival Data</i>	<i>Perceptual data (attitudes/opinions)</i>	
Research literature	Surveys	
Policies rules and regulations about education	Interviews	
Syllabi and curriculum	Consultations	
Accreditation reports		

* = excellent source of data ^ = may need an investment of time or money

(adapted from Calhoun, Emily (1994). How to use action research in the self-renewing school. Alexandria, VA: ASCD.)

Handout Activity #4:

HOW can you use the services/tools? WHO can help?

Identify the top 2-3 and discuss it with a partner.

How?

- ☐ Umbrella IRB & Consent Form Access
- ☐ SoTL Lib Guides
- ☐ Survey Design & Administration Services
- ☐ Video Observations & Rubric Development Consultations
- ☐ Focus Group & Interview Support
- ☐ Learning Analytics Data Access, Analysis, & Visualization
- ☐ Other

Who?

- ☐ Center for the Study of Languages & Cultures: Ursula Fellowship
- ☐ Center for Social Science Research
- ☐ Institute for Scholarship in the Liberal Arts
- ☐ Center for Digital Scholarship
- ☐ Library & Media Corp
- ☐ Academic Technologies
- ☐ ND Research Internal Grant
- ☐ Prochaska Family Endowment for Excellence

Handout Activity #5: WHERE could you share?

Identify 2-3 short/long term scholar-practitioner goals.

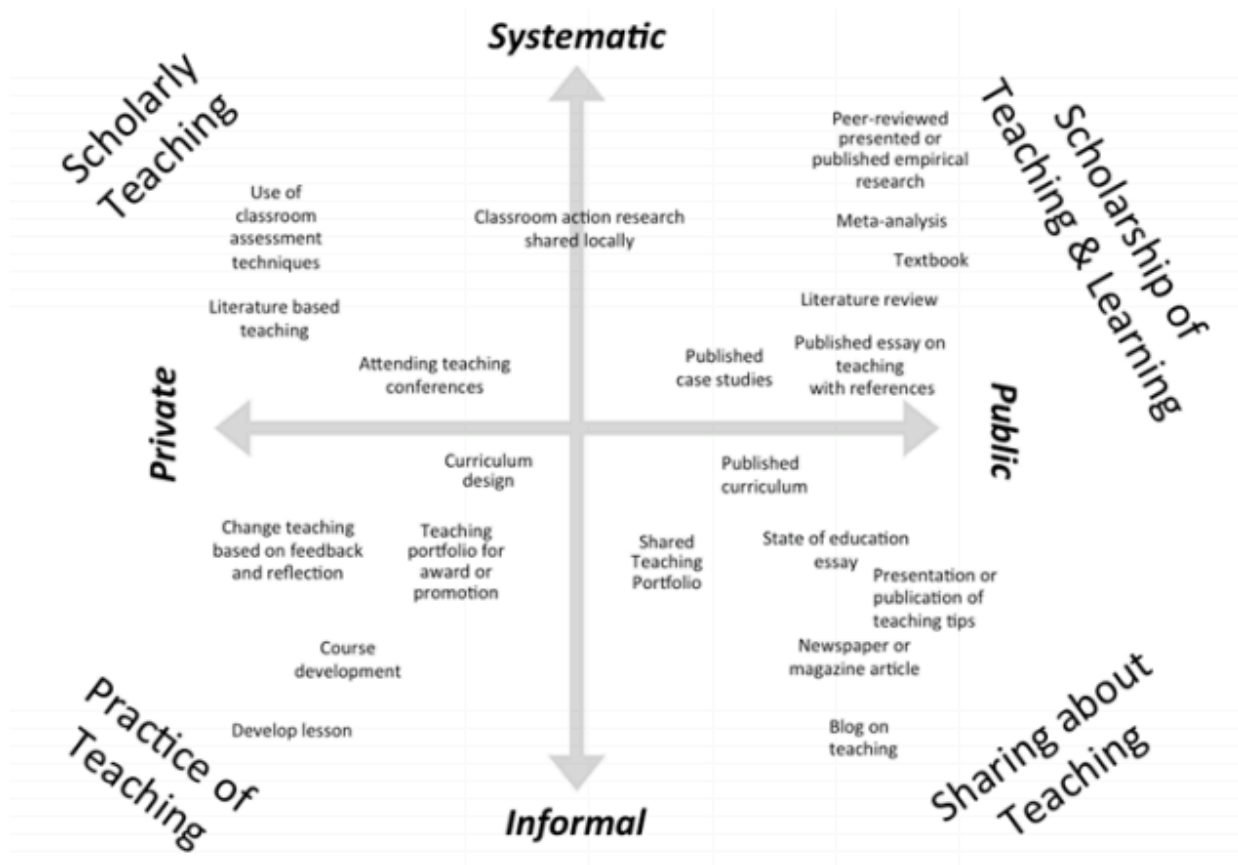


Figure 1. Dimensions of Activities Related to Teaching (DART)

Kern, Beth, et al. (2015) "The role of SoTL in the academy: Upon the 25th anniversary of Boyer's Scholarship Reconsidered." Journal of the Scholarship of Teaching and Learning 15.3, 1-14.

NOTES