

Techniques for Active Learning: What are they and how can I use them in my health economics courses?

Presenters:

Jill Boylston Herndon and Femi Ayadi



Course development and implementation



Active Learning: An Overview

Jill Boylston Herndon, PhD
jill.herndon@keyanalyticsconsulting.com

Teaching Health Economics
Special Interest Group Virtual Workshop
*Techniques For Active Learning: What Are They and
How Can I Use Them In My Health Economics Courses?*

June 29, 2022

Objectives

- Provide an overview of active learning methods.
- Identify characteristics that are common to successful applied activities.
- Identify common barriers/challenges to implementing applied activities and strategies for overcoming those barriers.
- Provide participants with new ideas for improving and expanding active learning within their curricula.

What is active learning?



What is active learning?



- Not passive
- Students *participate* and *engage* in the learning process
- Students *use* knowledge
- Students *relate* new material to current knowledge and past experience

Why does active learning matter?

- Learning involves acquisition, retention, and transfer.
- Creating connections between new information and previously learned information promotes encoding from short-term to long-term memory.
- There is limited capacity to process information – only so many “chunks” of knowledge can be processed at a given time.

“As teachers, we must constantly resist pressure to ‘cover the field.’ It is not what the instructor ‘covers’ but what the student learns that counts.”

-Saunders (1998)

Myths about Active Learning

Myth #1

Active learning requires significant content reduction.

Myth #2

True active learning requires complicated, group activities.

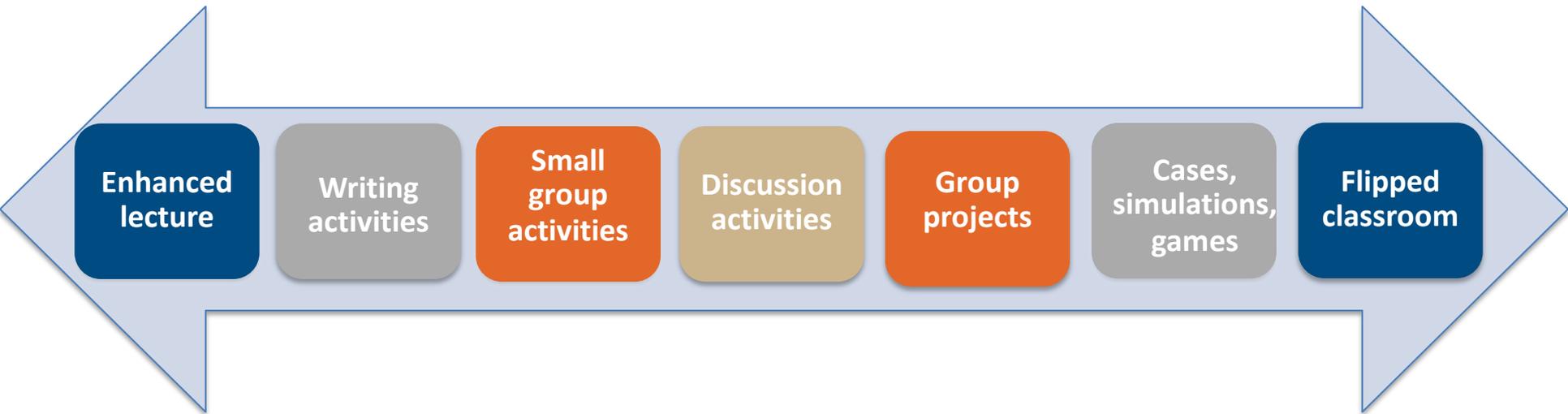
Myth #3

Active learning doesn't work effectively in large classes.

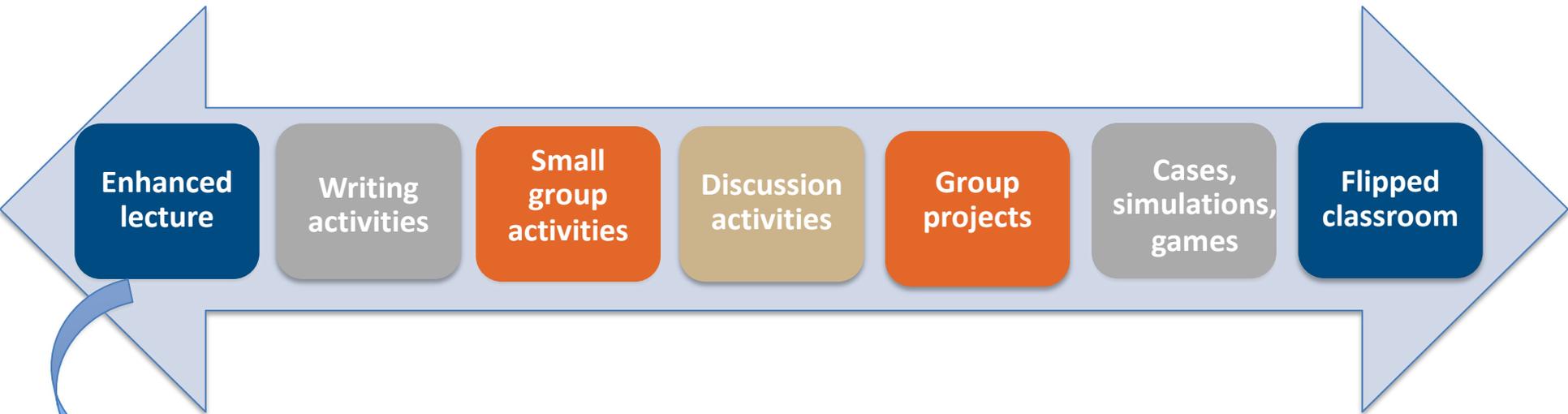
Myth #4

Incorporating active learning requires significant additional course prep time.

Spectrum of Active Learning



Spectrum of Active Learning



- Pause procedure
- Think-pair-share
- Audience response
- Problem solving

Considerations in selecting, developing, and improving active learning activities



What do you want your students to achieve?

Objectives

Knowledge/
Comprehension

Application/
Analysis

Synthesis/
Evaluation

- What do you want your students to *know*?
- What do you want your students to *be able to do*?
- Make objectives explicit for yourself and for your students!

Who are your students?

Student characteristics and experience

New to
discipline



Advanced

New to active
learning



Experienced

Highly
structured



Go with the
flow

- What *prior experience* (and current interest) of the students can you *relate* the content and activity to?
- What models of instruction are students accustomed to and comfortable with? How might this affect your approach and expectations?

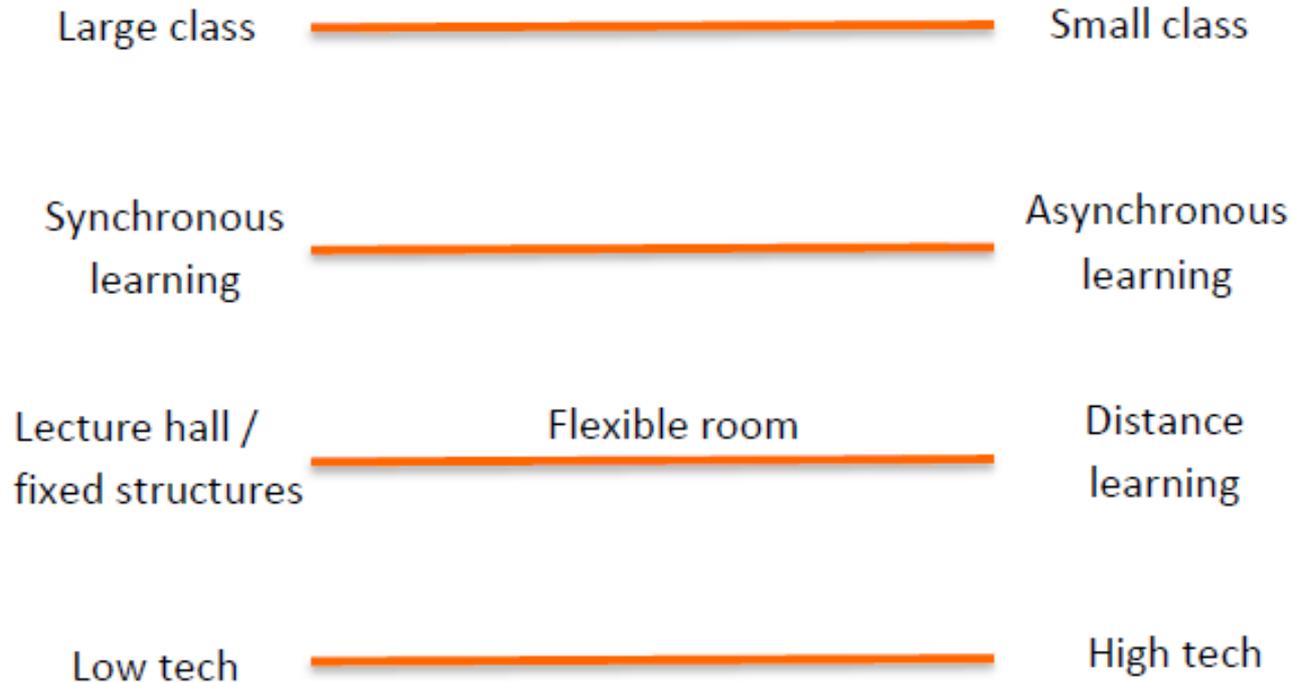
Who are you (as an instructor)?

Instructor teaching style and experience



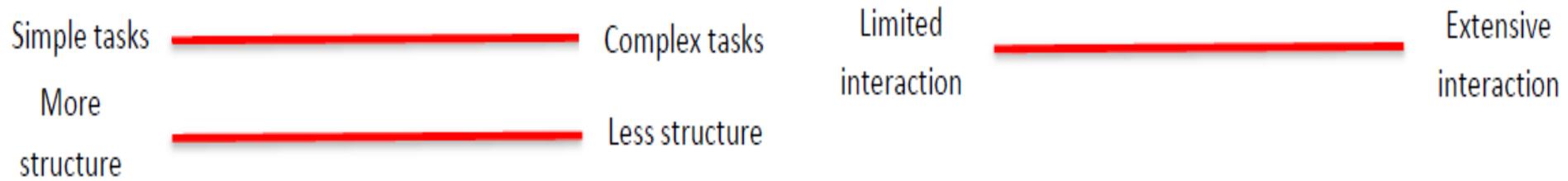
- What is your *experience* and *comfort level* with different types of active learning activities?
- How much are you willing to “let go”?
- Your supports: Are you in an environment that supports trying novel approaches that may take some trial and error?

What is your setting? Context/Environment



- What is the **physical environment** (or **virtual**) in which you are teaching, and what opportunities or limitations does that environment present?
- What technology and technology supports are available?

Active Learning Activity



- Use your assessment to determine the characteristics of your active learning activity.
- Will you focus on simpler tasks or more complex?
- How structured versus free-flowing will the activity be?
- What extent of student interaction will you have and how independent will that interaction be from faculty facilitation?

Low- and High-Risk Active Learning Activities

(Bonwell and Eison 1991)

DIMENSION	LOW-RISK	HIGH-RISK
Class time required	Relatively short	Relatively long
Degree of structure	More structured	Less structured
Degree of planning	Meticulously planned	Spontaneous
Potential for controversy	Less controversial	Very controversial
Students' prior knowledge of subject	Better informed	Less informed
Students' prior knowledge of teaching technique	Familiar	Unfamiliar
Instructor's prior experience with teaching technique	Considerable	Limited
Pattern of interaction	Between faculty and students	Among students

Common Barriers to Implementing Active Learning ... with Suggestions!

■ Time

- Start small; develop and implement incrementally
- Trade some lecture development and delivery for some active learning development and implementation

■ Content coverage

- Start small – active learning doesn't have to require a lot of time
- Is all current content truly essential?
- Can students do some prep work to learn some of the basic information?

Related reference: Michael (2010)

Common Barriers to Implementing Active Learning ... with Suggestions!

- Student resistance
 - Explain what you are doing and why (include objectives!)
 - Provide structure and guidance
 - Assess – get their feedback on the activity and discuss it
- Physical space/technological supports are inadequate; class size is too large
 - Select activities with limitations in mind – can be low-tech and relatively low-interaction if necessary and still effective
 - Explore alternate learning spaces (even if just for 1 or 2 sessions); explore virtual collaboration opportunities

Common Barriers to Implementing Active Learning ... with Suggestions!

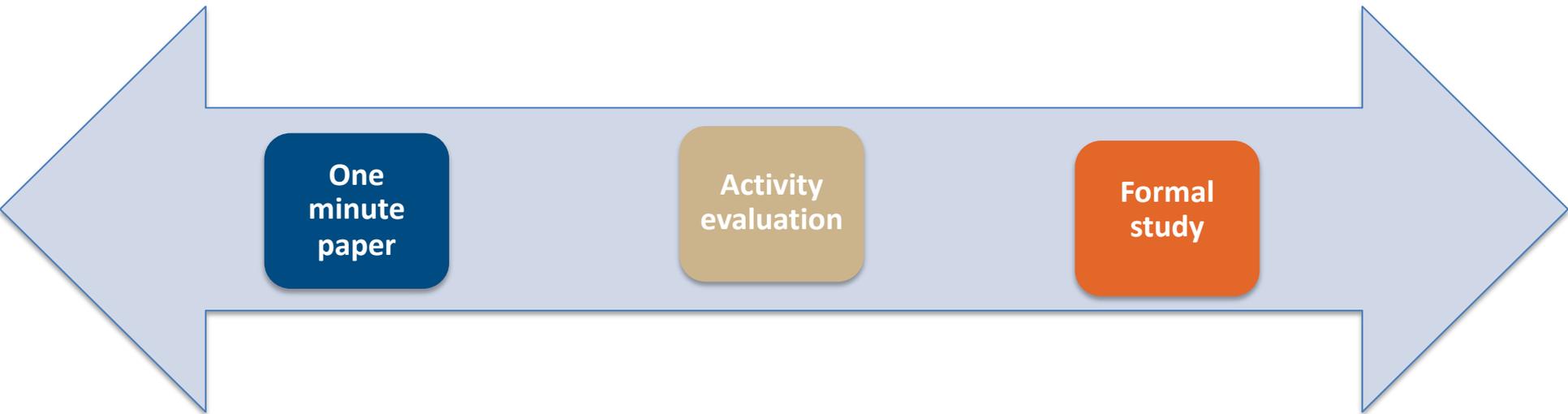
- Loss of control
 - Start small; develop incrementally
 - Build in enough structure to make yourself and students comfortable
 - Assess what works and what doesn't; make adjustments
 - Develop your peer-teaching network (see resources!)

Challenge: We ask students to “stretch” themselves – but in an attainable way. What is your “stretch” challenge as an instructor? In small (or large if you dare) steps, try something new!

Assessment: The Spectrum

Assessment: Non-graded, anonymous feedback

Get feedback!



... and share it with the students

Assessment: Examples

■ Minute Paper (Angelo and Cross 1993)

- “What was the most important thing you learned during this class?” [useful]
- “What important question remains unanswered?” [muddiest]

Course Assessment

Please take a couple of minutes to respond to the following questions. Do *not* put your name on this form. Thank you for taking the time to respond to these questions.

Please provide your reaction to the tax incidence in-class exercise (involving group work with the groups presenting their answers in front of the class):

What has been the most useful to you for learning the course material?

What questions or concerns do you have at this point?

Other:

Course Assessment

Please take a couple of minutes to respond to the following questions. Do *not* put your name on this form. Thank you for taking the time to respond to these questions.

How's it going?

Questions or concerns?

Other:

Note: You can adapt assessment forms to get the feedback you want!

Assessment: Examples

■ Activity-Specific Evaluation

- Example: Student Evaluation for Gallery Walk
(<https://serc.carleton.edu/introgeo/gallerywalk/assessment.html>)

■ Formal Study



RESEARCH IN ECONOMIC EDUCATION

Evaluating the flipped classroom: A randomized controlled trial

Nathan Wozny , Cary Balsler & Drew Ives

Pages 115-129 | Published online: 14 Mar 2018

Download citation  <https://doi.org/10.1080/00220485.2018.1438860>



 Full Article

 Figures & data

 References

 Citations

 Metrics

 Reprints & Permissions

Get access

ABSTRACT

Despite recent interest in flipped classrooms, rigorous research evaluating their effectiveness is sparse. In this study, the authors implement a randomized controlled trial to evaluate the effect of a flipped classroom technique relative to a traditional lecture in an introductory undergraduate econometrics course. Random assignment enables the analysis to eliminate other potential explanations of performance differences between the flipped and traditional classrooms, while assignment of experimental condition by section and lesson enables improved statistical precision. The authors find that the flipped classroom increases scores on medium-term, high-stakes assessments by 0.16 standard deviation, with similar long-term effects for high-performing students. Estimated impacts are robust to alternative specifications accounting for possible spillover effects arising from the experimental design.

Assessment: Closing the Loop

Share the results with your students

- Let them know how you are using their feedback
 - What will you change based on their feedback?
 - What won't you change and why?
- Share with future students as well (e.g., “Based on feedback from last year’s class”)

References and Selected Resources: Articles & Handbooks

Angelo T. A., Cross K. P. (1993). *Classroom Assessment Techniques: A Handbook for College Teachers* (2nd Ed.). San Francisco: Jossey-Bass.

Bonwell C.C., Eison J.A. (1991). *Active Learning: Creating Excitement in the Classroom*. AHE-ERIC Higher Education Report No. 1. Washington, DC: The George Washington University, School of Education and Human Development. Available at: <https://files.eric.ed.gov/fulltext/ED336049.pdf>.

Bonwell C.C., Sutherland T.E. (Fall 1996). *The Active Learning Continuum: Choosing Activities to Engage Students in the Classroom* in: Bonwell C.C., Sutherland T.E. (eds.). *Using Active Learning in College Classes: A Range of Options for Faculty*. New Directions for Teaching and Learning, no. 67. San Francisco: Jossey-Bass.

Bonwell C.C., Sutherland T.E. (eds.) (Fall 1996). *Using Active Learning in College Classes: A Range of Options for Faculty*. New Directions for Teaching and Learning, no. 67. San Francisco: Jossey-Bass.

Michael J. (2010) Faculty Perceptions About Barriers to Active Learning, *College Teaching*, 55:2, 42-47.

Saunders P.W., Walstad W.B. (eds.) (1998). *Teaching Undergraduate Economics: A Handbook for Instructors*. New York: McGraw-Hill.

References and Selected Resources: Websites

Carleton College Science Education Resource Center. (2018). Gallery Walk. Available at: <https://serc.carleton.edu/introgeo/gallerywalk/index.html>.

Vanderbilt University Center for Teaching. (2018). Available at: <https://cft.vanderbilt.edu/guides-sub-pages/resources/>.

References and Selected Resources: iHEA

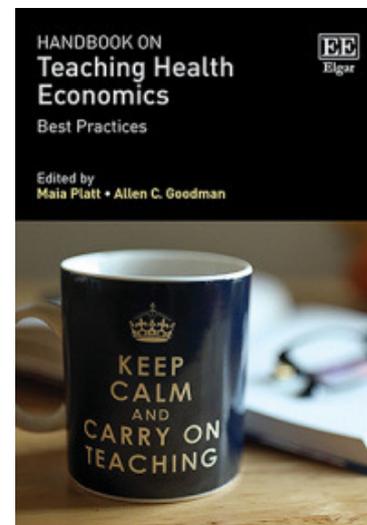
Teaching Health Economics Special Interest Group:

<https://www.healtheconomics.org/page/THESIG>

- Global repository of teaching materials
- Past webinars/workshops

Handbook on Teaching Health Economics, Edward Elgar

Publishing: <https://www.e-elgar.com/shop/usd/handbook-on-teaching-health-economics-9781789906653.html>



Teaching Health Economics Pre-Congress Session Recordings from the 2017 iHEA World Congress:

<https://www.healtheconomics.org/page/CongressRecordings?&hhsearchterms=%22teaching+and+health+and+economics%22>

- Includes examples of games, distance learning strategies, teaching in non-economics curricula, and more!

THANK YOU!!

Jill Boylston Herndon, PhD

jill.herndon@keyanalyticsconsulting.com

Managing Member and Principal Consultant, Key Analytics and Consulting

Affiliate Research Associate Professor, Departments of Pediatrics and Community Dentistry
& Behavioral Science, University of Florida

Affiliate Senior Fellow of Practice, Health Policy Research Program, Public Policy Center,
University of Iowa