

Poll Everywhere

Draeger, Hill, Hunter, and Mahler (2013) reported “everyone seemed to believe that they ‘know it [rigor] when they see it,’ but few felt confident in their ability to define it” (p. 269).

How do you know academic rigor when you see it?

Quality Matters Connect Conference 2019

The Quality Matters White Paper Series: Academic Rigor

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Learning Outcomes

- Distinguish between constructs typically confounded with academic rigor.
- Cite multiple types of evidence to document rigor.
- Identify revisions at your institution that are needed to better support rigor.

Agenda

- Setting the Context
 - Current Notions of Academic Rigor
 - A Working Definition of Academic Rigor
 - Qualities
 - Location in the Higher Education Landscape
- Leveraging the QM White Papers for Institutional Change to Support Academic Rigor
 - Teaching Philosophies
 - Learning Context Assessment Practices
 - Observations of Teaching
 - Student Evaluations of Teaching
- Applying Concepts at Your Institution
- Improving the Definition, Process, and Research Support

Academic Rigor: Current Context

- Academic rigor has a negative connotation (e.g., rigor mortis).
 - Wraga (2010)
- Academic rigor is widely used but hard to define.
 - Graham and Essex (2001)
 - Draeger, Hill, Hunter, Mahler (2013)
- There is no consensus on the definitions of academic rigor that do exist.
 - Hechinger Institute (2009)
- Academic rigor in higher education is assumed to exist even in the absence of evidence to document it.
 - Labaree (1997)
 - Whitaker (2016)

Academic Rigor: Current Context

- Academic rigor as a negotiable standard is a threat to student learning.
 - Schnee (2008)
 - Students reported having weak academic preparation for college.
 - Teachers, with few resources to assist, reported lowering expectations for work.
 - Schutz, Drake, and Lessner (2013)
 - 44.5% of faculty members in a community college sample ($N = 1,559$) reported sometimes assigning grades higher than students actually earned.
 - Jaschik and Lederman (2018)
 - 57% of community college presidents agreed with the statement “I worry that some reforms encouraged as part of the ‘completion agenda’ may not result in increased learning.”

Academic Rigor: Current Context

- Definitions may confound teacher responsibilities with student responsibilities.
 - Teachers are responsible for creating conditions to support academic rigor.
 - Students are responsible for learning.
 - Academic rigor is not synonymous with student learning because student learning is influenced by multiple factors.
- Definitions may confound curriculum with course delivery.
 - Curriculum may be set collaboratively by program faculty and others.
 - Pushing higher level curriculum down to a lower level course is not academic rigor.
 - Course delivery is determined by individual faculty members.
 - Curriculum and/or student learning can be threatened by lack of “implementation fidelity” (Mathers, Finney , & Hathcoat, 2018, p. 1224)

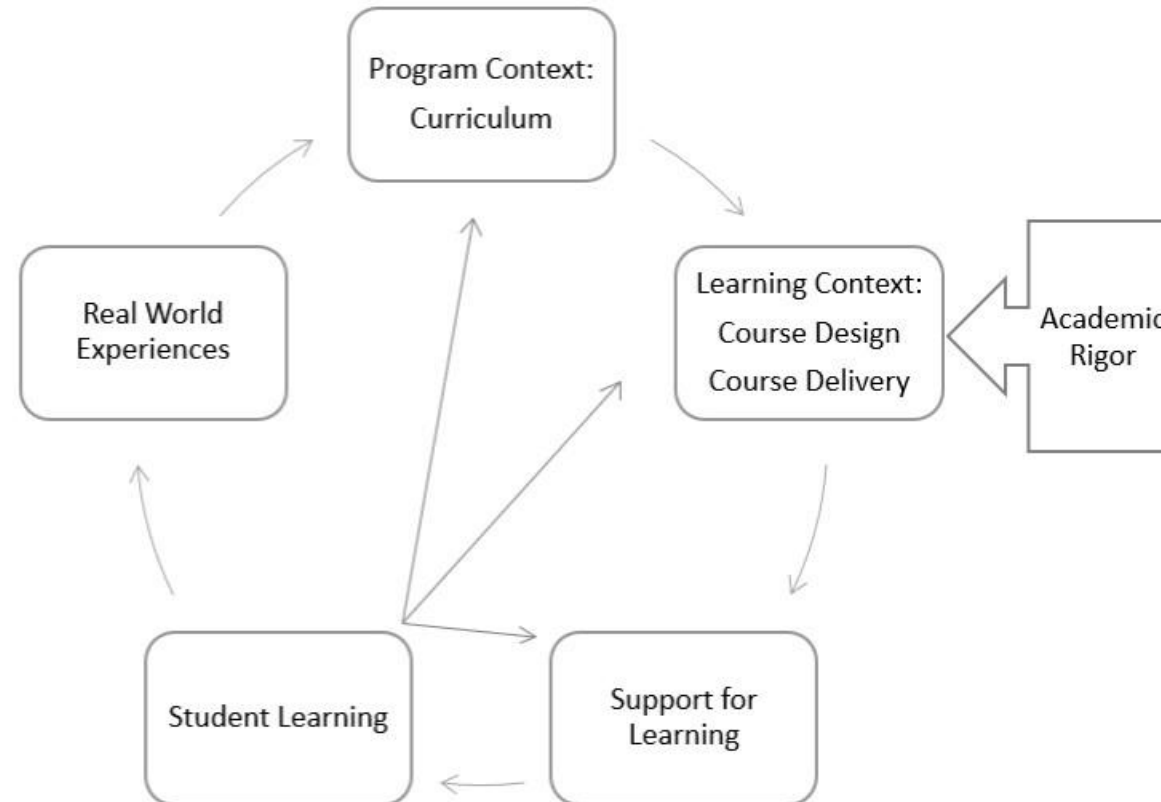
Academic Rigor: Current Context

- Subjective interpretations of effective learning are misleading.
 - Roediger and Karpicke (2006, p. 199)
 - “...people often do not voluntarily engage in difficult learning activities, even though such activities may improve learning.”
 - Kornell and Bjork (2008, p. 591)
 - “...individuals responsible for the design and evaluation of instruction that involves induction are susceptible to being very misled by their own intuitions and subjective experiences.”
 - Kornell and Bjork (2009)
 - Humans fail to predict how much their memory can change over time (i.e., stability bias).
 - Bjork and Bjork (2011)
 - “Desirable difficulties” facilitate learning.

A Definition of Academic Rigor Needs To...

- Unconfound Teacher Responsibilities and Student Responsibilities
- Unconfound Curriculum and Course Delivery
- Avoid Subjective Interpretations to Reduce Bias via Grounding in Research
- Be Observable, Measurable, and Subject to Continuous Improvement
- Prioritize Student Learning

Location of Academic Rigor



A Working Definition of Academic Rigor

Academic Rigor is...

intentionally crafted and sequenced learning activities and interactions that are supported by research and provide students the opportunity to create and demonstrate their own understanding or interpretation of information and support it with evidence

Institutional Realignment Examples

- Institutional Processes May Need Revision to Align with Academic Rigor
 - Teaching Philosophies
 - Classroom Assessment Practices
 - Observations of Teaching
 - Student Evaluations of Teaching

Institutional Realignment Example 1

- Teaching Philosophies
 - Typically idiosyncratic and anecdotal
 - Commonly requested in job applications and promotion and tenure packets

4. A section (organized with tabs and sub-tabs, as needed) related to the candidate's teaching at the University during the probationary period (or period under review). This section must include at least the following:

- The candidate's statement on teaching (teaching philosophy)
- A list of all classes taught, with commentary on new preps,

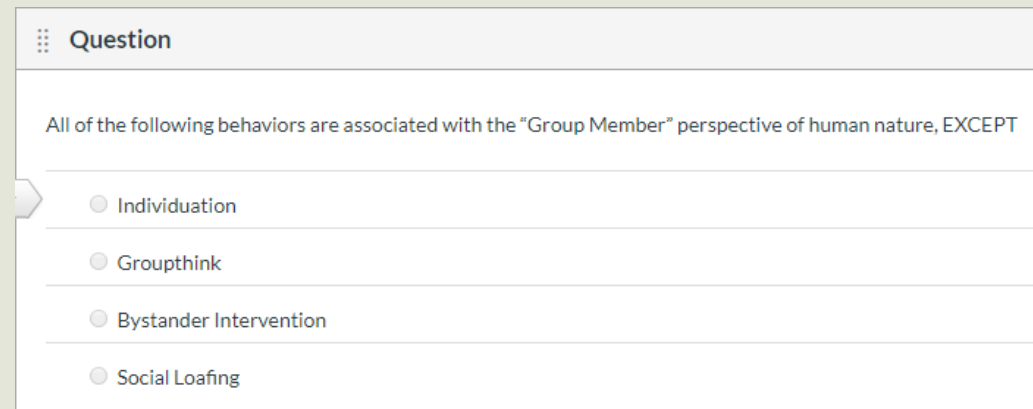
- But, with the emergence of empirical research on human learning and the scholarship of teaching and learning, we can replace philosophies with scholarly narratives documenting effective teaching practices.

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Institutional Realignment Example 2

- Learning Context Assessment Practices
 - Administrator's "hypothetical" example of a course lacking rigor is a graduate course with only multiple choice exams.



The screenshot shows a digital assessment interface. At the top, there is a header with a three-dot menu icon and the word "Question". Below this is the question text: "All of the following behaviors are associated with the 'Group Member' perspective of human nature, EXCEPT". There are four radio button options listed below the question: "Individuation", "Groupthink", "Bystander Intervention", and "Social Loafing". The "Individuation" option is currently selected, indicated by a grey arrow pointing to its radio button.

- What research supports this design?
 - Is Roediger & Karpicke's (2006) work on the testing effect sufficient?
- What types of evidence are students providing to demonstrate their understanding or interpretation of information?
 - Is "I clicked A" sufficient evidence?

Institutional Realignment Example 2

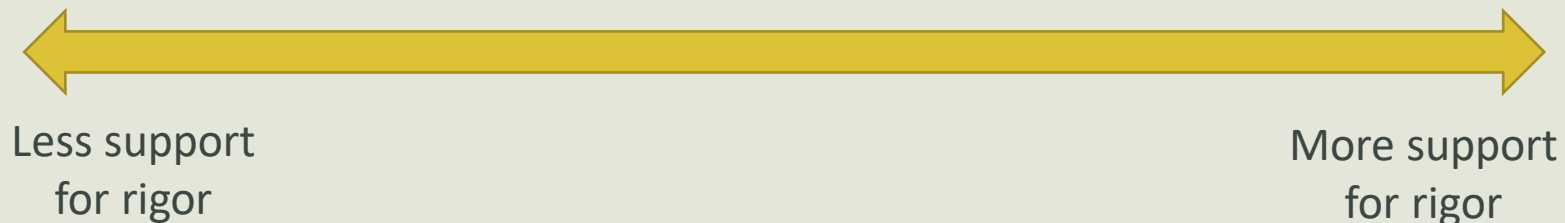
- Learning Context Assessment Practices
 - A “hypothetical” example of a graduate course with rigor (i.e., intentionally crafted and **sequenced** learning activities and interactions that are supported by **research** and provide students the opportunity to **create** and **demonstrate** their own understanding or interpretation of information and support it with **evidence**)

	<u>Assignment</u>	<u>Number Due</u>	<u>Points Per</u>	<u>Points Total</u>	<u>Percentage</u>
Roediger & Karpicke (2006) Testing effect	Class Participation	15	4	60	6.0
	Module Quizzes	15	10	150	15.0
Taylor & Rohrer (2010) Interleaving content	Application Discussions & Replies	15	14	210	21.0
	Research Article Analysis	5	40	200	20.0
Kluger & DeNisi (1996) Task feedback	Synthesis Essays (Midterm/Final)	2	75	150	15.0
	Community Service Proposal				
	Ideas	1	10	10	1.0
	Research on Behavior	1	50	50	5.0
	Research on Social Influence	1	50	50	5.0
	Proposal	1	50	50	5.0
	Presentation	1	40	40	4.0
	Presentation Peer Reviews	3	10	30	3.0
				1000	100%

Donovan & Radosevich (1999) Spaced practice	→	Research Article Analysis
Pan & Rickard (2018) Transfer	→	Presentation

Institutional Realignment Example 2

- Learning Context Assessment Practices
 - Academic Rigor as a Continuum
 - Where do we need to be?
 - What evidence is relevant?
 - What evidence is missing but needed?
 - What is the impact on student learning?



- Reframes conversation from personal focus to task focus (i.e., research-based with measurable outcomes; see Kluger & DeNisi, 1996)

Institutional Realignment Example 3

- Observation of Faculty Teaching
 - Need to distinguish teacher responsibilities from student responsibilities
 - Course Syllabus:

UNIVERSITY RESOURCES, PROCEDURES, AND GUIDELINES

Drop Policy.
 If you discover that you need to drop this class, you must complete a [Drop Request Form](https://www.tamuct.edu/registrar/docs/Drop_Request_Form.pdf) [https://www.tamuct.edu/registrar/docs/Drop_Request_Form.pdf].

Professors cannot drop students; this is always the responsibility of the student.

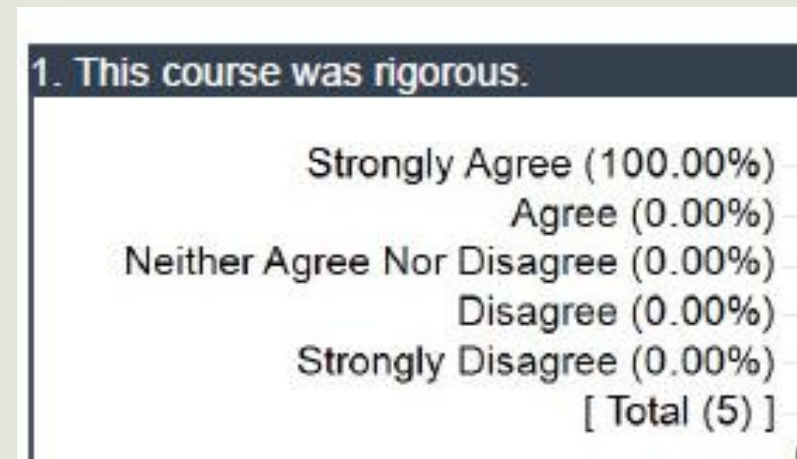
- Online Course Observation:

Excellent Good Average Poor

Information from observation of students				
Students engage in opportunities for inquiry, dialogue, and discussion in class learning activities.		X		Students are engaged in discussion via Discussion boards. Requiring students to go beyond the commonly-observed post/respond, is a much more effective use of this format.
Students are attentive and on task in class learning activities.			X	Four of the eleven students appear to be having some difficulty staying engaged in the class and submitting assignments on time.

Institutional Realignment Example 4

- Student Evaluations of Teaching
 - Do students understand what they are evaluating?
 - With no shared definition of academic rigor, what does this item mean?
- Draeger, Hill, and Mahler (2015)
 - Students' definitions are based on workload and strict grading instead of higher-order thinking.
- Do students have the opportunity to create and demonstrate their own understanding or interpretation of information and support it with evidence?



Institutional Realignment Example 4

- Student Evaluations of Teaching
 - Purpose 1 – Indicator of teaching effectiveness
 - annual faculty evaluations
 - promotion and tenure
 - But, Uttl, White, and Gonzalez (2017)
 - Meta-analysis of multi-section studies that were adjusted for small study-size effects (i.e., studies with small samples require large coefficients to reach statistical significance) revealed no relationship between students' evaluations of teaching and student learning.
- Is teaching effectiveness actually measured by ratings that are not related to student learning?

Institutional Realignment Example 4

- Student Evaluations of Teaching
 - Purpose 2 - Indirect measures of student learning for program assessment

Indirect Measures: The outcomes include at least one indirect measure or evidence that is a proxy (less clear and less convincing).	Does not meet	Slightly meets	Moderately meets	Meets	Ideally meets with no room for improvement	
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- Are students' self-reports of their learning progress sufficient indicators of learning when they do not have to demonstrate any competence?
 - Kruger and Dunning (1999)
 - Dunning-Kruger Effect - when individuals lack competence in a given skill, they also lack the ability to accurately evaluate their own lack of competence

Institutional Realignment Example 4

- Student Evaluations of Teaching
 - Instead of assessing perceptions of learning, students can report on course design and delivery behaviors in the learning context that are associated with setting conditions for learning.
 - Items aligned with student learning may provide more useful information to evaluate teaching and improve the learning context for students.
 - “The instructor provided opportunities for students to create their own interpretation of information instead of telling students what to believe.”
 - “Students were routinely expected to support their interpretations with evidence using course resources.”

Institutional Realignment

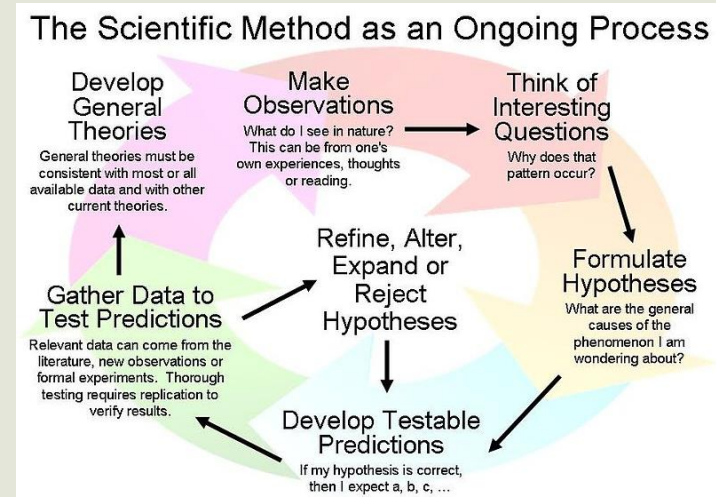
- Poll Everywhere
 - What institutional processes might need to be revised to better support academic rigor at your institution?

A Working Definition of Academic Rigor

- Teacher Responsibilities are Distinct from Student Responsibilities
- Curriculum is Distinct from Course Delivery
- Grounding in Research Reduces Subjective Interpretations and Bias
- Academic Rigor Prioritizes Student Learning as the Purpose of Teaching
- A Teacher's Decisions Regarding Academic Rigor Can Be Observed, Measured, and Revised for Continuous Improvement
 - Multiple lines of evidence can be used to document rigor.
 - existing research on human learning
 - existing discipline-specific research on the scholarship of teaching and learning (SoTL)
 - A definition of rigor that is based on research facilitates new advances in SoTL research.
 - Hutchings, Huber, and Ciccone (2011)
 - Faculty members can test techniques in their own learning contexts.

Improving the Definition, Process, & Research

- Make it better!
 - Apply the concepts in the QM White Papers
 - Determine the limits
 - Empirically test the techniques
 - Revise the definition and context
 - Share the results so we all learn



https://commons.wikimedia.org/wiki/File:Scientific_Method_3.jpg

Quality Matters Connect Conference 2019

Thank you for attending!

Quality Matters White Paper Series:
Academic Rigor

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