

Fostering Motivation and Engagement with Formative Assessment

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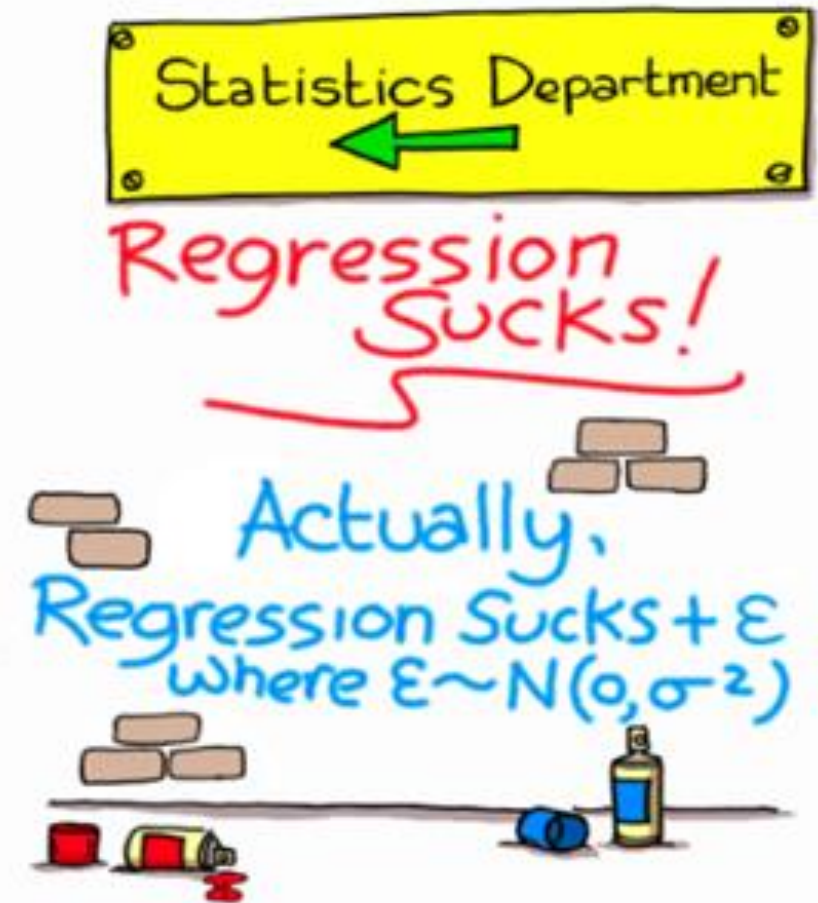
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Research Methods & Educational Psychology



High probability that students will be off task.

- ▶ Just want to 'get through' this required class.
- ▶ Don't want "to look dumb" in front of their peers.
- ▶ Don't get help when they are struggling because they don't know what to ask.
- ▶ Prefer to memorize a definition or a formula.
- ▶ The internet is a click away.



Guiding Principles from Achievement Motivation Literature

► Relevance

- Lam, Pak, and Ma (2007) called this 'real-life significance'. They found that when students perceived that their teachers could provide this relevancy they were more intrinsically motivated to learn.

► Competence

- Student self-perceptions of ability lead them to engage in learning or perhaps to avoid trying a task which they think is too difficult (Schunk, 2002).

► Engagement

- Students' active involvement in a learning activity (Christensen, Reschly, & Wylie, 2012)

How can assessment help?

- ▶ Provide an opportunity for additional examples and personalization.
- ▶ Identify students' zone of proximal development.
- ▶ Remind students of the “big ideas” and major concepts
- ▶ Help students self assess in a difficult subject matter
- ▶ Allow student interaction

Academic Engagement

Multi-dimensional construct (Fredricks, Blumenfeld, & Paris, 2004)

- ▶ Cognitive-investment in learning, thoughtfulness
- ▶ Behavioral- attention, persistence
- ▶ Emotional-interest, absence of anxiety
- ▶ Agentic (Reeve & Tseng, 2011;Reeve, 2013)
 - ▶ Students' constructive contribution to the flow of instruction
 - ▶ Express a preference, offer input, ask a question, communicate needs, solicit resources

Type of formative assessment

- ▶ Group Quizzes in class
- ▶ ‘No penalty’ online quiz
- ▶ Instructor feedback (yes, this means formative assessment of you as well!)

Group Quizzes

- ▶ Assign students to groups based on strengths and weaknesses
- ▶ Timed quiz with a mix of question difficulty
- ▶ Consider allowing technology (e.g. “googling”)
- ▶ Collaborative Answers
 - ▶ Exposure to different ways of thinking

Compare and contrast the following concepts. This means you should tell what is similar about them and what is different. (2 points each)

1. Part (semi-partial) correlation and simple (zero order) correlation
2. Univariate versus multivariate outlier.
3. b versus Beta (β)

Given the following output, provide responses to the questions below.

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	63.255	2	31.627	28.181	.000 ^a
	Residual	257.003	229	1.122		
	Total	320.258	231			

a. Predictors: (Constant), teacher respectful, morality of cheating

b. Dependent Variable: liklihood of cheating

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.546	.250		14.174	.000
	morality of cheating	.321	.098	.195	3.278	.001
	teacher respectful	-.364	.057	-.381	-6.401	.000

a. Dependent Variable: liklihood of cheating

4. Write a 2-4 sentence summary of the results in APA format. (3 points)
5. What is the effect size? (please give both the numerical value and description/meaning) (2 points)

Signature of Group members contributing to this quiz:

1)

A “no penalty” online quiz

- ▶ Reflect on what you think are the important “take away” messages from today’s class.
- ▶ Take the online quiz within 48 hours of class.
- ▶ No notes → What do you know?

Syllabus

Online Quizzes (10%): Each week (beginning week 2) there will be a short quiz posted on Blackboard. The quizzes are composed of short answer and multiple choice items which will cover the basic concepts presented in class and in the textbook. Quizzes are timed (usually 25 minutes) and must be completed during the specified time period. These quizzes are designed to provide you (and me) with feedback about your course progress. Your quiz score cannot lower your overall course grade (unless you have received 0's on quizzes due to failure to complete them). You are encouraged to take the quizzes soon after the class meeting; the purpose of the quiz is to help you to isolate key concepts from the class period and to focus your study time.

Remaining Time: 24 minutes, 31 seconds.

Question Completion Status:

Question 1

1 points

Which of the following accurately describes the critical region?

- ☐ Outcomes with a very low probability if the null hypothesis is true.
- ☐ Outcomes with a high probability if the null hypothesis is true.
- ☐ Outcomes with a very low probability if the null hypothesis is false.
- ☐ Outcomes with a high probability if the null hypothesis is false.

📌 **Question Completion Status:**

2 points

For the toolbar, press ALT+F10 (PC) or ALT+FN+F10 (Mac).

Force Completion Once started, this test will automatically complete.

This test does not have a time limit.

Remaining Time: 28 minutes, 43 seconds.

Question Completion Status:

⚠ Moving to the next question pre

Question 7

2 points

Save Answer

Write an original research question that could be answered using a t-test. Do not use any textbook or class examples. Which type of t-test is appropriate?

For the toolbar, press ALT+F10 (PC) or ALT+FN+F10 (Mac).

Rich text editor toolbar with icons for text formatting (bold, italic, underline, strikethrough), paragraph alignment, font face (Arial), font size (3 (12pt)), bulleted and numbered lists, indent, outdent, link, unlink, insert link, insert image, undo, redo, and other editing tools.

Diagnostic Tool

Students

- ▶ What do I know?
- ▶ How should I focus my study?



Faculty

- ▶ Lesson objectives achieved?
- ▶ What do I need to reteach?
- ▶ How will I address common misunderstandings?



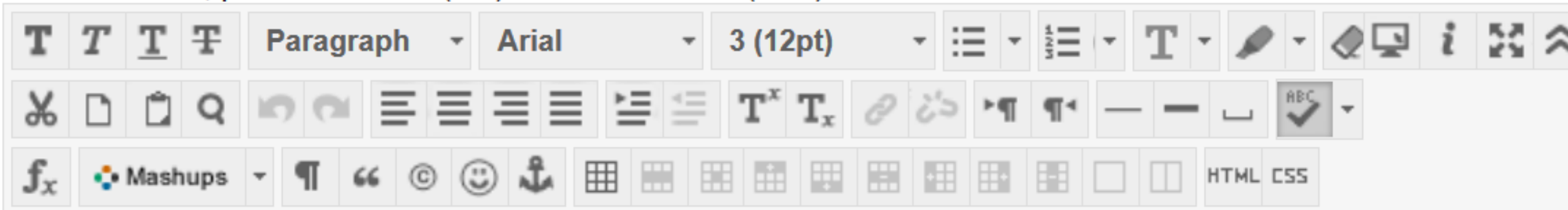
Provide Feedback

- ▶ Information that the learner can use to confirm or restructure beliefs about self, task, or strategies (Winne & Butler, 1994).
- ▶ Immediate
- ▶ Encourage interaction and questions
 - ▶ Students are more comfortable asking questions online in a content area where they may lack confidence

Question Completion Status:

Save Ans

For the toolbar, press ALT+F10 (PC) or ALT+FN+F10 (Mac).



Other 'check-in' items

- ▶ Are you studying a little each day? Working in short doses can be very helpful as you master these foundational concepts.
- ▶ What do you like best about the text book so far? Notice that as we move away from foundational concepts and become more applied that the chapters focus more on how to run tests in SPSS and provide you with lots of annotated output. This can be very helpful with homework!
- ▶ We are down to 2 topics remaining...how is your statistics anxiety now? Stop a moment and congratulate yourself on all that you have learned! You can read results sections!
- ▶ What topic has been the most difficult? Which topic do you feel is your strongest statistical skill?

Student Response with feedback

How are things going so far? Figuring out SPSS? Able to keep up in class? Feeling OK about asking a question in class? (yes, you really get 1 point for answering this question).

Given Class is exciting - and I'm not just saying that. I leave it feeling like my brain is going
Answer: 100mph. However, I feel like I am really twisting some terms around in my head and the relationships they hold with one another. It's like I get the big picture but the nuances aren't quite there yet. I'm trying to remind myself to give myself time to get used to it all - but it still overwhelms me. I think I have a decent feel for SPSS.

Response Feedback: yes, you are twisting terms. Start with clarifying population and sample---this confusion is causing you make statements that are unclear (and is probably why you are mixing some concepts together).

It does take time....take one piece at a time.

How does this keep students on task?

- ▶ Log-in/Tune-in opportunity
 - ▶ Reflect and take a quiz (behavioral engagement)
- ▶ Short factual items
 - ▶ Basic understanding (competence)
- ▶ Short answer items
 - ▶ Extend thinking and explain understanding of more difficult concepts (cognitive engagement)
 - ▶ Personalize (relevance)
- ▶ “Check-in” item
 - ▶ Extension of office hours and connection to students (emotional & agentic engagement)

What about you as the instructor? How can formative assessment help you AND keep students on task?

- ▶ Ask for feedback
- ▶ Index Card Method
 - ▶ “Any suggestions?”
 - ▶ “Questions about today’s class?”
 - ▶ “What about class did you like or dislike?”
 - ▶ “Any suggestions on how the next class could be better?”

What kinds of things do students say?

- ▶ “Could you please post the ppt slides earlier in the day?”
- ▶ “I like that we get to have input about what happens in class. It makes me feel like you want me to learn.”
- ▶ “My working group is really helpful.”
- ▶ “I like the online quizzes. They help me figure out what is most important.”
- ▶ “I don’t like that this class is 2.5 hours long; but it does go pretty fast when we are constantly busy.”

Follow up!

- ▶ If you ask for student input, a response is necessary.
 - ▶ What things can change?
 - ▶ What things cannot change? **Why?**

Thank you!

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