

Designing alternative assessment to ease Psychology students' statistics anxiety



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Our context: The undergraduate statistics curriculum in Psychology



Year 1 (200–300 students):

Visualising data, applying common tools for statistical inference



Year 2 (200–250 students):

Analysing independent data using basic linear regression



Year 3 (100–150 students):

More advanced models (linear mixed models, factor analysis)
for non-independent data and survey data

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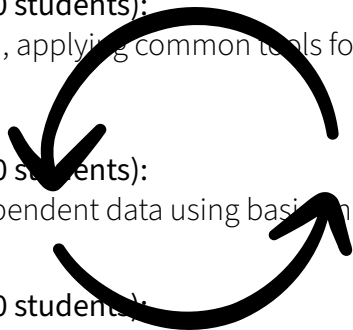
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Gathering student input (or at least trying)



How input shaped our changes to assessment structure



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How input shaped our changes to assessment structure

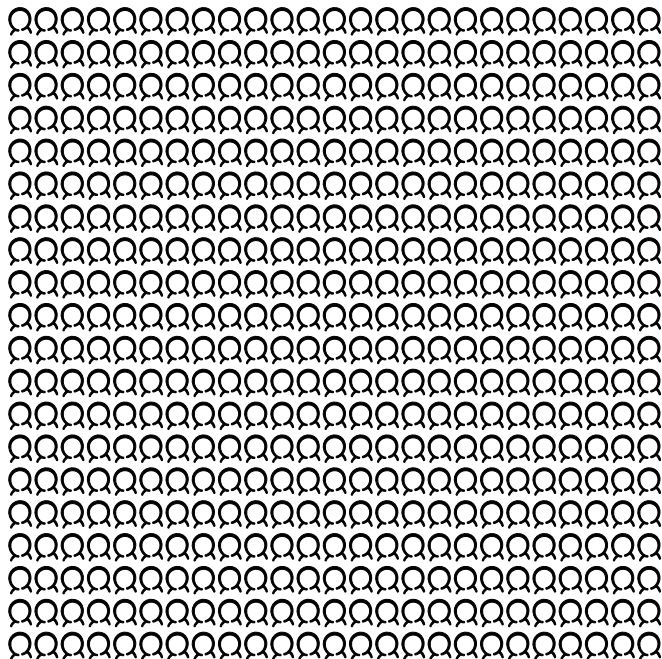
We tried two ways to ask students what they wanted from the redesign:



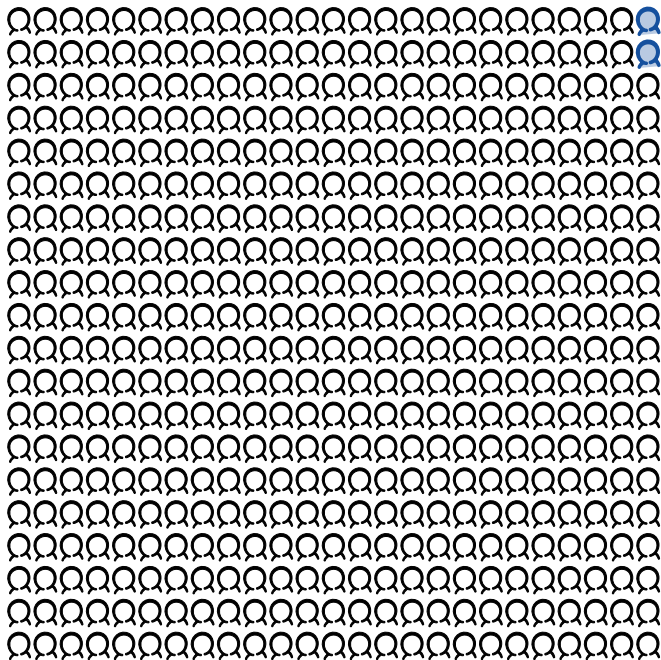
An in-person drop-in
discussion session



An anonymous
online form

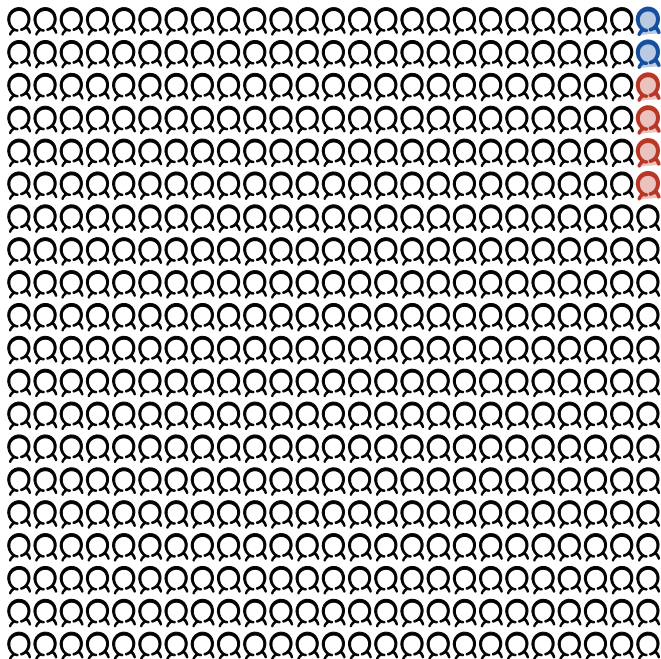


Of about 500
students:



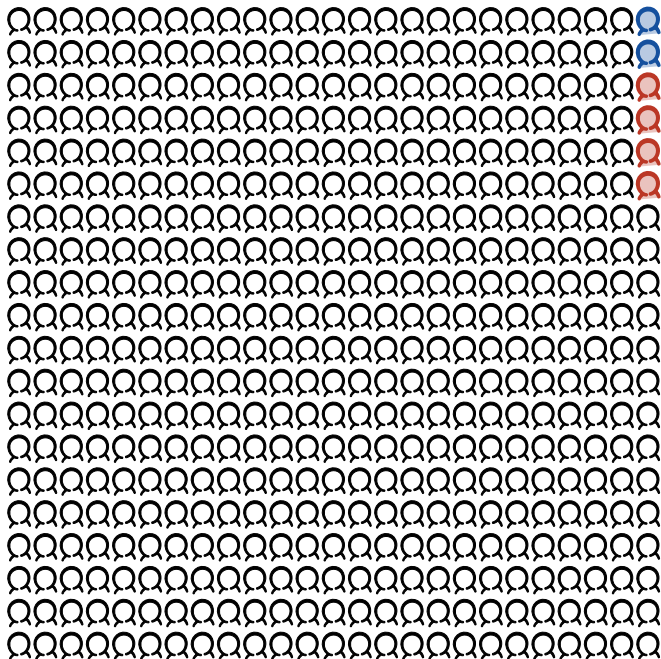
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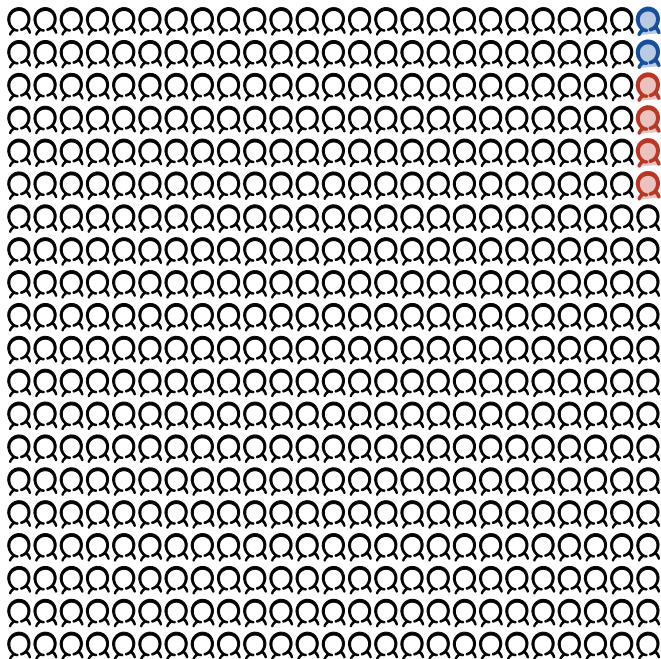




Of about 500
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← ???



Of about 500
students:



→ 2



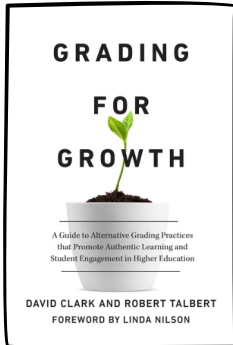
→ 4

Educated guesses
about the rest:
SoTL literature

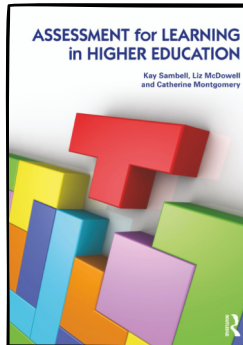




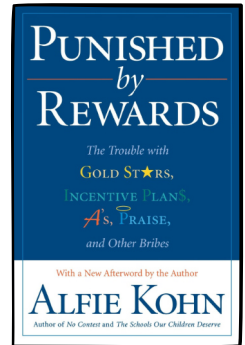
A few key references for compassionate, authentic, equitable assessment:



Clark & Talbert (2023)



Sambell et al. (2013)



Kohn (1993)



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1. How will students evidence their learning?
2. What course outcomes can students receive?



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Before: Three components



Weekly quizzes



Group report



Final exam

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Before: Three components



Weekly quizzes

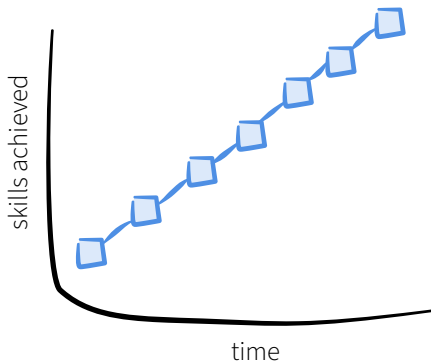


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Now: Skills-based assessment



1. How will students evidence their learning?

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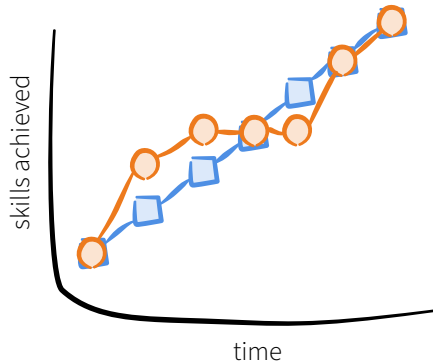


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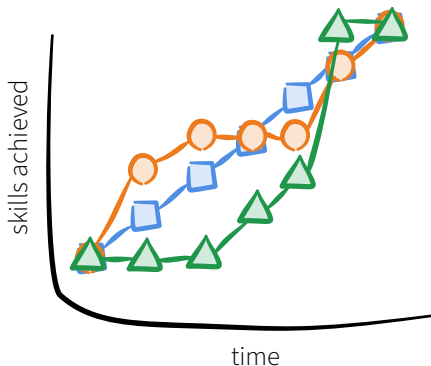


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Now: Skills-based assessment



Views on skills-based assessment:



Accurately reflects that statistics is practical and hands-on

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Offers better insight into the ability of people “who are actually remarkably capable in real world uses of [statistics]” but struggle with high-pressure assessment scenarios

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More motivational: Students work toward achieving something, instead of fearing punishment for mistakes (Clark & Talbert, 2023)

More equitable: Can eliminate gender gap in test anxiety (Lewis, 2022) and give people in many different circumstances the same opportunities to succeed (Zuraw et al., 2019)



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Before: Weighted average of %s



Weekly quizzes 10%



Group report 30%



Final exam 60%

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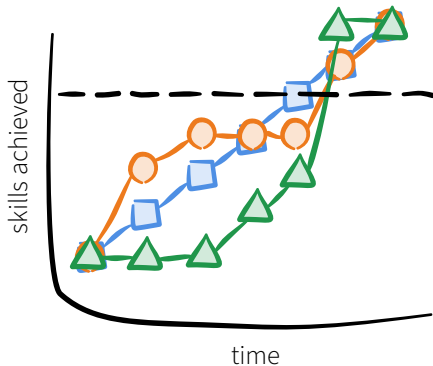


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Final exam 60%

Now: Pass/fail



To pass: evidence 75% of skills
in coursework and in exam

Views on pass/fail:



People might only work hard if they have a chance to get a good mark at the end

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“Exam being changed to pass/ fail [...] feels unfair when previous years have been held to such a high standard”

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“the change to a pass fail is seemingly the best change, as chasing an A will lead to massive amount of stress for students who may be A in general psychology but aren’t as talented in [statistics]”

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“Pass–fail grading can meet several important intended outcomes, including ‘leveling the playing field’ for incoming students with different academic backgrounds [...]. Pass–fail grading also reduces competition and supports collaboration, and fosters intrinsic motivation, which is key to self-regulated, lifelong learning” (White & Fantone, 2010)



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We'll ask the students!



We'll be gathering data about how alternative assessment impacts students' stats anxiety—stay tuned :)

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Thanks—looking forward to our discussion!

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References and sources

- Clark, D., & Talbert, R. (2023). *Grading for Growth: A Guide to Alternative Grading Practices That Promote Authentic Student Learning and Student Engagement in Higher Education*. Routledge.
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- Icons by Streamline: <https://www.streamlinehq.com>