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King Fahd University of Petroleum & Minerals



Student Evaluations: A Convolution of Assumptions and Expectations

Junaid A. Siddiqui, Ph. D.
Coordinator, Academic Studies Unit

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How One May Perceive Reality

Adapted from Perry's Theory of Intellectual Development

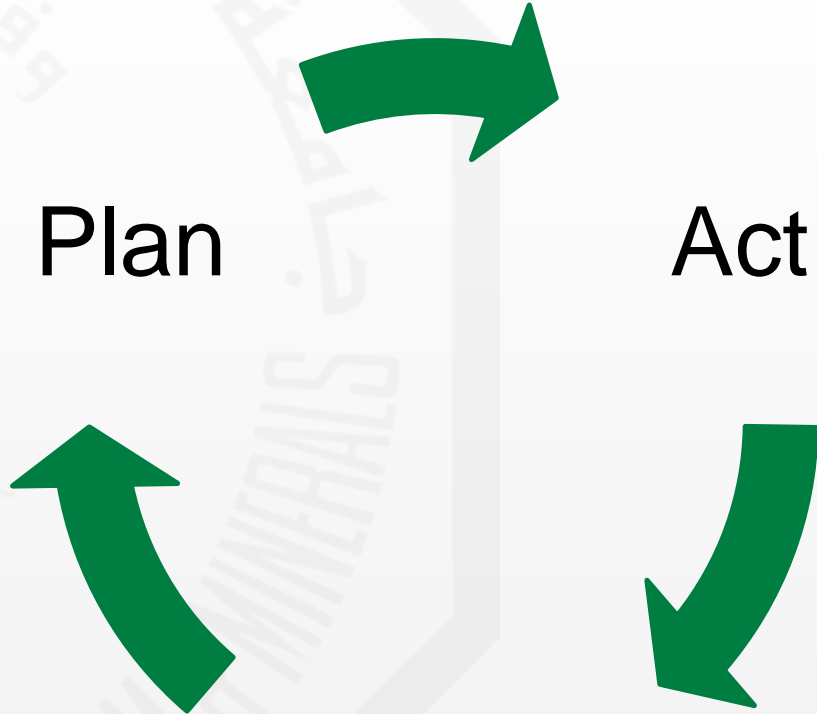
Dualism Right or wrong	Multiplicity There can be multiple possible "correct" answers	Relativism Reasonable opinions relative to point of views Evaluation based on context Willingness for uncertainty	Commitment to Relativism Embracing Uncertainty Constructivist epistemology
Reality Perceived as Absolute Generalizable		Reality Perceived as Relativistic Contextual	

Feedback: Closing the Loop

Plan

Act

Feedback



KFUPM Context & History

- Academic Programs in Engineering, Business Management and Sciences
- Student Evaluation for more than 20 Years
 - Mainly meant for administrative decisions
- Web-based administration since 2004
 - Full migration by 2010
- Revision of Evaluation Forms in 2017

Student Evaluation at KFUPM

- Standardized Form with Rating Scale Items
 - Mean of Student Rating Reported
- A Major Measure on Teaching Performance
 - Faculty Annual Evaluation
 - Faculty Promotion
 - Teaching Award
- Other Uses
 - Feedback for the Improvement of Instruction
 - Institutional KPIs

Faculty Comment: Positive note ...

“Based on my observations ...

I feel that student feedback is very healthy – very stimulating. So there are positive aspects and there are things which can be improved.”

Faculty Comment: Student Response

“There are often outliers among the student responses.

What are the implications of outliers?”

Trends /
Patterns

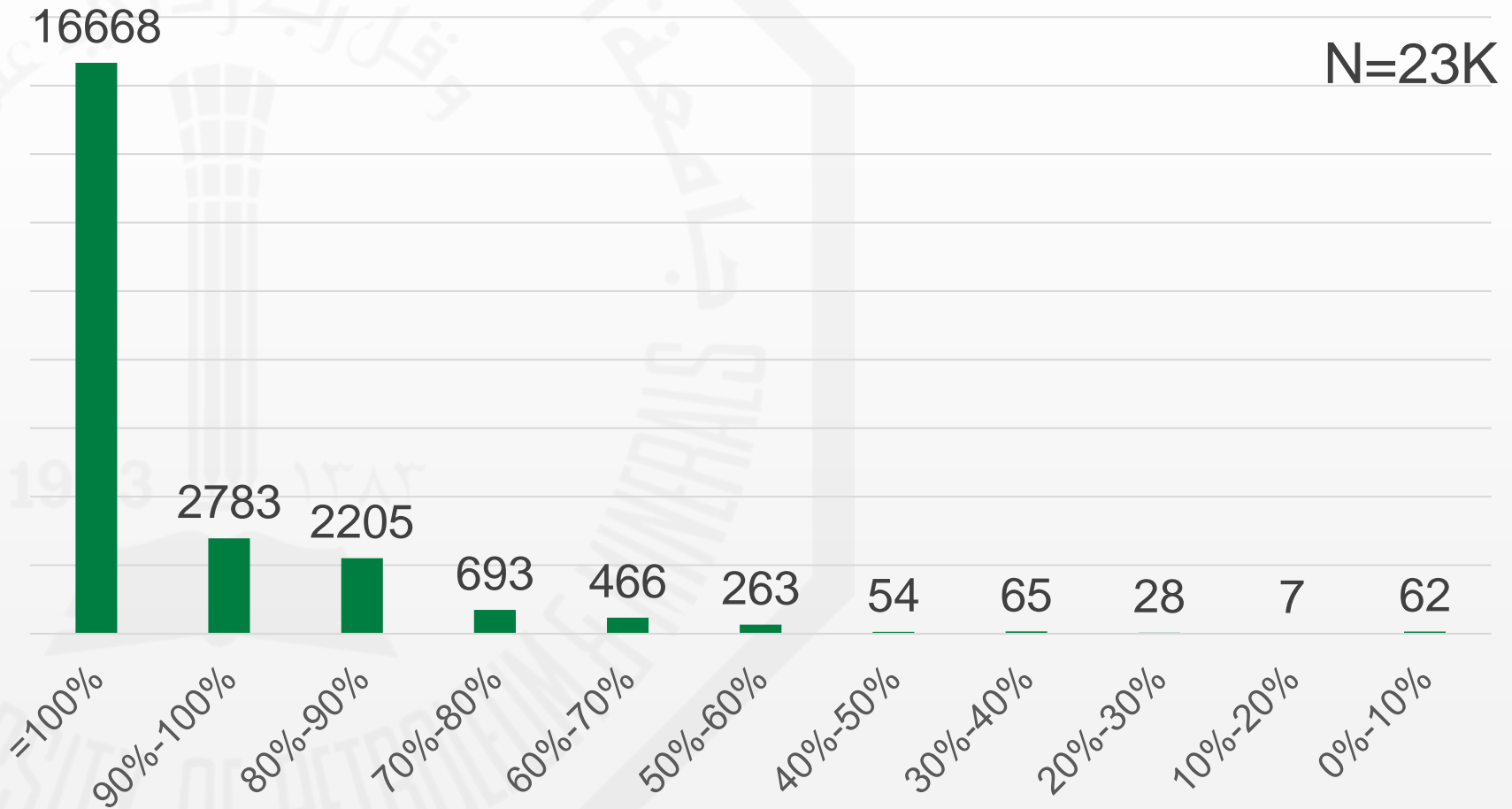


Outliers

Faculty Comment: Student Response

“How it can be that half of the class says instructor comes on time and the other half says he does not”

Percent Students of a Section Agree that Instructor Comes on Time



Literature: Misconceptions

- Demanding teachers get low evaluation
- Bad teachers can get better evaluation
- Students are not qualified to evaluate teaching
- Student evaluation is generally unreliable
- Angry students are more likely to submit
- Student rating led to grade inflation

Benton, S. L., & Ryalls, K. R. (2016). Challenging Misconceptions about Student Ratings of Instruction (IDEA Paper #58). Manhattan, KS: IDEA

Faculty Comment: Student Rating vs Grades

“Most likely the students who got bad grades will give bad ratings

Is there any study about how the low performing students rate the teaching?”

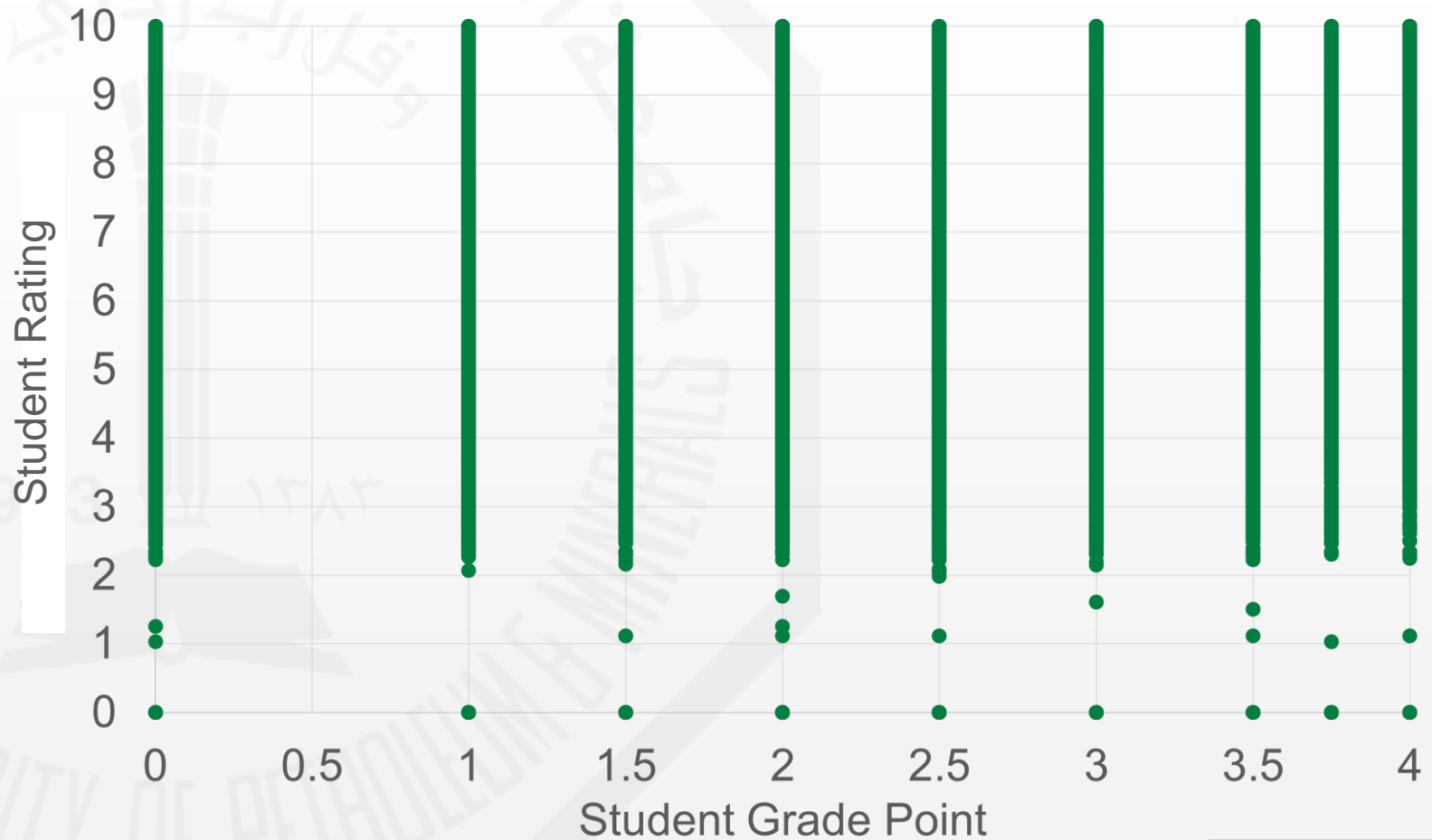
Relationship between Ratings, Grades and Learning: An Assertion

“There should be a relationship between ratings and grades because effective teaching leads to learning that leads to student achievement and satisfaction. Ratings simply reflect this sequence.”

Theall, M. (2006). *Student Ratings: Myths vs. Research Evidence*.
<https://studentratings.byu.edu/info/faculty/fc/ratingmyths.htm>

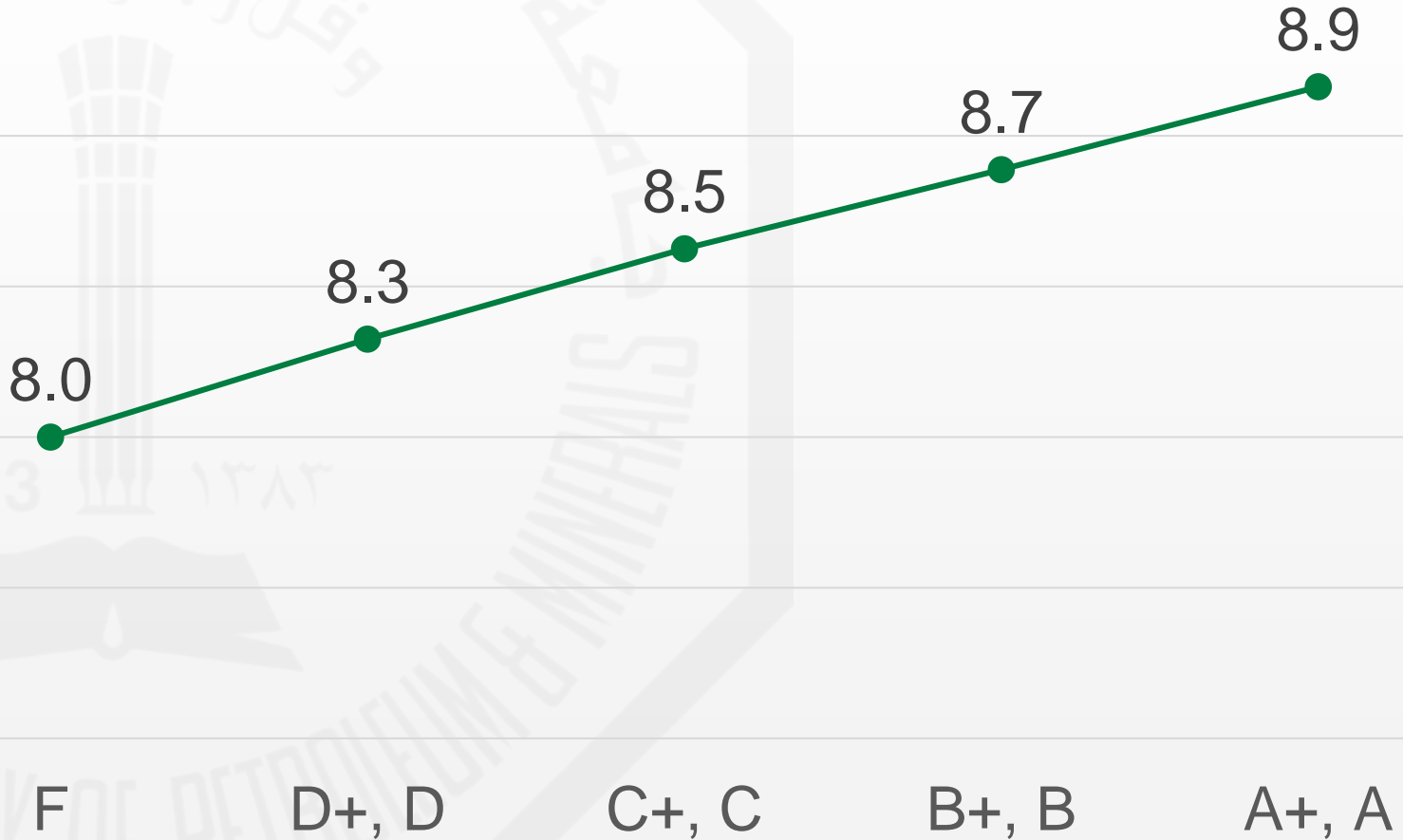
Student Rating vs Grade Point

$R = 0.17$



$N = 247K$

Student Mean Rating vs Student Grades



Relationship between Ratings, Grades and Learning: A Case

“I got very high ratings ... my students end up doing pretty well on the exams ... I started to believe that I was the world’s best physics teacher.

Now that turned out to be **a complete illusion** ... I finally discovered that I was probably one of the worst teachers.”

Prof Eric Mazur; Innovating Education to Educate Innovators (2017).
<https://www.youtube.com/watch?v=DoibiRIDZdw>

Research Study:

Relation of Rating and Achievement

- Highly Cited Multisection Study by Cohen (1981): **$r=0.43$**
- Meta-Analysis by Uttl et al. (2017)
 - Strong study size effect > smaller size reporting high correlation
 - Small to no correlation in large sized studies
 - Accounting for prior learning > No correlation
 - Student ratings account for up to 1% of variance in learning/achievement measures

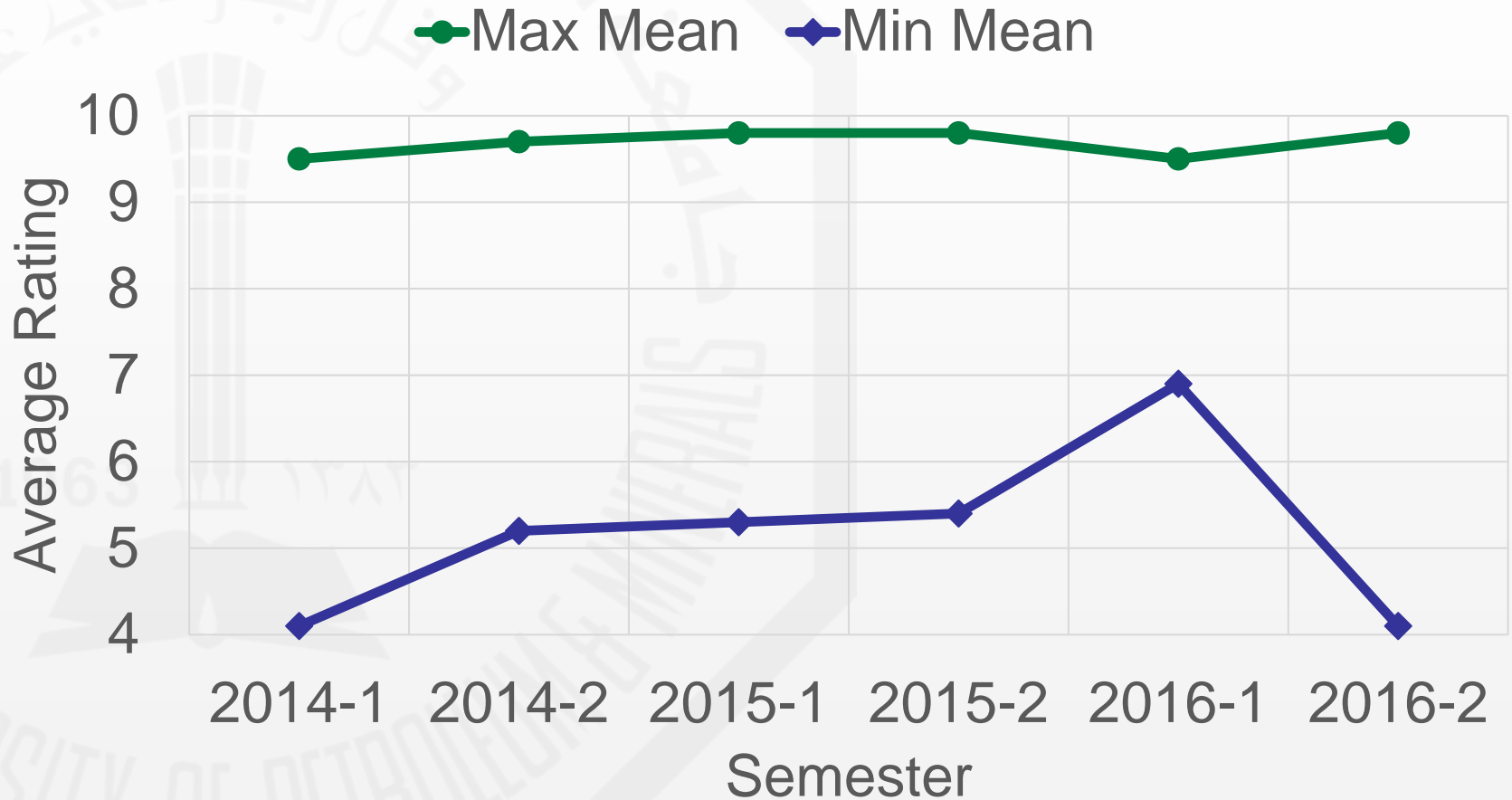
Cohen, P. A. (1981). Student Ratings of Instruction and Student Achievement: A Meta-analysis of Multisection Validity Studies. *Review of Educational Research*, 51(3), 281–309.

Uttl, B., White, C. A., & Gonzalez, D. W. (2017). Meta-Analysis of Faculty's Teaching Effectiveness: Student Evaluation of Teaching Ratings and Student Learning Are Not Related. *Studies in Educational Evaluation*, 54, 22–42.

Relationship between Ratings and Learning: Research Assertion

“Students do not learn more from professors with higher student evaluation of teaching (SET) ratings.”

KFUPM Faculty Rating: Extreme Cases



In Support of Student Ratings

- Students have something valuable to say that can be used by faculty to improve teaching
- Students generally assign higher ratings to teachers who have higher achievement standards
- Provide accountability for faculty as they go about their day-to-day teaching activities

Ryalls, K., Benton, S. and Li, D. (2016). Response to “Zero correlation between evaluations and learning,” IDEA Editorial Note #3.

Learning vs. Instructor Performance

- Student happiness is unrelated to actual learning behavior and academic performance
 - The best predictor of student achievement is how much they engaged in learning
 - Student, for example, may prefer being spoon-feed rather than being left to work things out
- Questions about Course Design and Class Activities Relate better to Student Learning

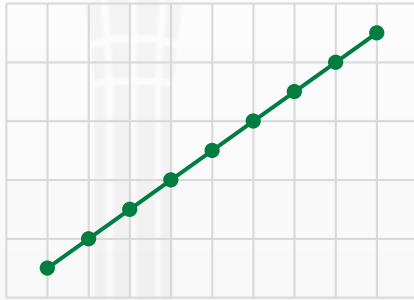
Inge, S. (2018). Student satisfaction 'unrelated' to academic performance – study. *timeshighereducation.com*

<https://www.timeshighereducation.com/news/student-satisfaction-unrelated-academic-performance-study>

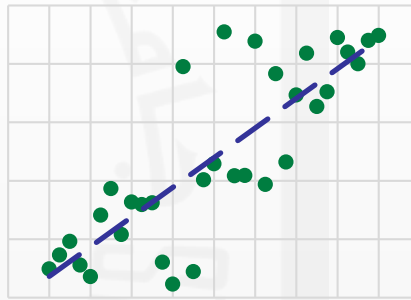
Beleche, T., Fairris, D., & Marks, M. (2012). Do Course Evaluations Truly Reflect Student Learning? Evidence from an Objectively Graded Post-Test. *Economics of Education Review*, 31(5), 709–719.

Student Evaluation: A Complex Phenomenon

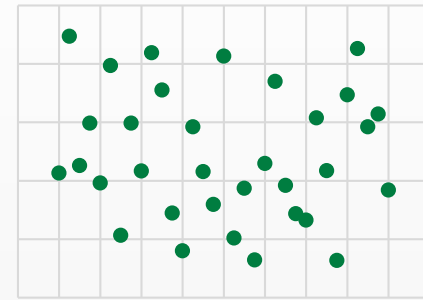
Determinable



Ambiguous



Indeterminable



Student Evaluation an Ambiguous Phenomenon
Shaped by the Context of Students and Teaching

What is the evaluation about? Student satisfaction ...
But student satisfaction about what?

Approaching Student Evaluation

- With Student Evaluation in Current Paradigm
 - How to approach the student evaluation with its ambiguities?
 - What is a reasonable use of student evaluation?
- Or Is There an Alternate Paradigm?

Student Evaluation - Conclusion

Relation with student learning questionable

Only suggestive and not an absolute measure

Likely to be more meaningful if we adopt a

Student-Centered approach

with an interpretive and contextualized perspective

Thank you!

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