



Pragmatic Measurement

BALANCING BREVITY AND PRECISION

Motivate Lab

Because researchers can't directly observe students' thoughts and feelings, they measure it by asking many different questions in surveys. The problem is that completing long surveys can take up valuable time that could otherwise be spent on instruction or other types of enrichment.

EXAMPLE 1: EDUCATION



More questions



Takes longer to complete



Better information

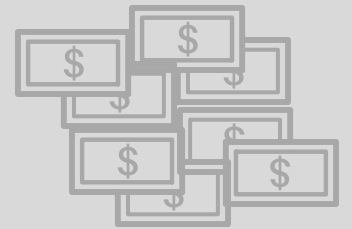
A teacher wants to survey his students in order to better understand their motivation. He can either distribute a short survey that won't take up much class time, but won't lead to a deep understanding of their motivation OR a longer survey that will provide more in-depth insights into his students, but will take 30+ minutes of class time to complete. He wants to know what motivates his students, but he can't give up valuable class time.

EXAMPLE 2: HEALTHCARE



Blood Pressure

Pulse



EKG

Ultrasound



If your doctor wants to know if you have a healthy heart, he or she could take your blood pressure and pulse. Although these measures are less expensive and time consuming compared to an EKG or ultrasound, they are not as good at detecting serious issues. The more costly measures take much more time but produce more focused and precise information about your heart.

The pragmatic measurement approach tries to strike a balance between the brevity of short measures and the precision of longer ones by systematically identifying items that best represent an overall scale. Items are often selected because they are most strongly related to outcomes or sensitive to change. For instance, we created a 10-item scale of students' expectancy, value, and cost that could be administered to middle school students in under seven minutes. Pragmatic measurement can help make surveys more realistic to implement in real-world settings and help us draw valid conclusions.

WANT TO LEARN MORE?

CONCEPTUAL OVERVIEWS

Yeager, D., Bryk, A., Muhich, J., Hausman, H., & Morales, L. (2013). Practical measurement. Palo Alto, CA: Carnegie Foundation for the Advancement of Teaching, 78712.

Kosovich, J. J., Hulleman, C. S., & Barron, K. E. (2017). Measuring motivation in educational settings: A Case for pragmatic measurement. To appear in K. A. Renninger and S. E. Hidi (Eds.), The Cambridge Handbook on Motivation and Learning (pp. 39-60). New York, NY: Routledge.

EMPIRICAL EXAMPLES

Kosovich, J. J., Hulleman, C. S., Barron, K. E., & Getty, S. (2015). A practical measure of student motivation: Establishing validity evidence for the expectancy-value-cost scale in middle school. Journal of Early Adolescence, 35(5-6), 790-816.

Krumm, A. E., Beattie, R., Takahashi, S., D'Angelo, C., Feng, M., & Cheng, B. (2016). Practical measurement and productive persistence: Strategies for using digital learning system data to drive improvement. Journal of Learning Analytics, 3(2), 116-138.