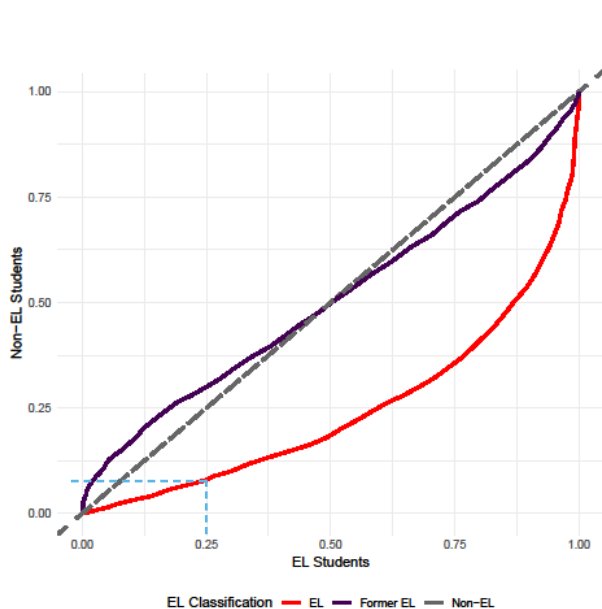


Despite great interest in differences between student groups, achievement gaps are measured and reported inconsistently. Because different methods for measuring and reporting gaps are used, the size and even the presence of gaps are often misunderstood.¹

The good news: Well established effect size (ES) methods express group differences using a common scale, can improve interpretation of gaps, and can reduce subjectivity. Here, we feature an ES method that displays achievement gaps across the entire score distribution, not just at a single score value (e.g., the proficiency cut-point). Methods that consider the whole distribution are an important adjunct in evaluating group differences in achievement.

The challenge ahead: Promoting broader understanding and use of objective methods of examining achievement gaps are important steps in understanding achievement differences among student groups.

Reading Achievement across the Entire Score Distribution for Students who are Current EL, Former EL, or Non-EL.



- The figure (known as a ROC curve) shows the cumulative frequency distribution (CFD) of students who are English Learners (EL; red line) and former EL (purple line) on the X-axis, and the distribution for non-EL students (dashed black line) on the Y-axis for the Arizona state reading test.
- If equal cumulative proportions of students in each group receive the same score, their purple or red line will coincide with the dashed black line. If a lower proportion of students achieve a particular score, their colored line will descend to the lower right; if higher, their colored line will ascend to the upper left. The distance between the colored and black dashed lines shows the size of the achievement gap at each point in the CFD comparing percentile ranks across groups.
- The difference in proportion of students receiving a particular score across groups can be seen by tracing a value on the X-axis to intersect a colored line and then tracing to the left to the Y-axis value for the non-EL students (see blue dashed lines). For example, for the point in the CFD where about .38 of the EL students score, only about .13 of non-EL students have the same score.
- Note that former EL students perform better than non-ELs at low score levels as indicated by the purple line being above the dashed line in the bottom left quadrant.

¹ For more information, see:

Stevens, Anderson, Nese, & Tindal (2017). Using Effect Size Measures to Estimate and Report Achievement Gaps, paper presented at NCME; available at our website: www.ncaase.com and the free software called *esvis* that produced the figure. Also see three earlier DYKs concerned with ES, DYK [No. 1](#), [No. 3](#), and [No. 4](#), and our [In-Brief on ES](#).

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