Demystifying Standards, Part III: Grading and Trend Analysis

The last letter discussed cut points and how they're used in a traditional versus standards-based system. In this letter we'll consider the traditional act of averaging scores versus the standards-based practice called trend analysis.

Again, we arrived at this practice through an intensive study of the research, including Robert Marzano's book Transforming Classroom Grading and with guidance and facilitation from The Mitchell Institute.

Trend Analysis

All schools use some system to take a collection of students' grades and calculate those grades in order to demonstrate whether learning has or has not occurred. While averaging is the traditional method, trending is the way of calculating students' grades in a standards-based system.

When you think about trending think about a light bulb model of learning. The idea is that whenever you're just starting to learn something new (say you're learning how to fly fish) you might have a hard time, at first, showing to the outside world that you're learning though you are. Someone gives you lessons on how to cast using a fly rod. For a week or more you have no ability to show that you're learning during the lessons, but in that time you are figuring it out, putting together the motions and requirements to cast, studying so that there is a lot going on in your brain though you haven't put it all together yet. Then, one day, the light bulb goes on for you and you think (or say), “ah! I get it.” Suddenly you can show your progress and soon are becoming a better and better fly fisherman.

Trending would not penalize you as heavily for your early mistakes as would a traditional system that uses averaging. Instead, trending looks for the steep increase in learning that happens once the light bulb goes on. Teachers in this system want to see the trend of that learning and show, through the grade your earn, that in the end you did learn the knowledge and/or skill. If the early mistakes counted as heavily as your final demonstrations of learning, you could still fail even though you had mastered the skill by the end of the experience. You might be an expert at casting a fly rod, but the teacher in the traditional system would fail you because your final success wasn't enough to balance out those early failing grades. Trend analysis would instead give you a very good grade because the calculation would detect the trend of your learning and would see that in the end you did master the art of casting a fly rod and would not count as heavily your early learning mistakes that are, in truth, a natural part of the learning process.

Imagine you were learning your multiplication tables. On the first day of class the teacher gave you a test, on which you scored a zero. Four more assessments occurred on the multiplication tables between then and the last day of school in June. Here are your scores: 0, 40, 60, 80, 100. In a traditional system that averages scores, you would have a 56 and would fail, though in the end you had perfect knowledge of your multiplication tables. In trend analysis (assuming this particular standards-based system was for some reason using a 0 – 100 scale) you would score nearer a 90. Again, what real learning occurred and which system better measured it? Like with the fly fishing, you struggled early on to learn the idea and pattern behind multiplication, but once the light bulb went on your scores quickly increased. Trend analysis cares about that learning pattern and that in the end you knew your stuff. Averaging doesn't

care. It weights each score equally ignoring the pattern of mastery you exhibited.

To some extent it comes down to what theory of learning you believe in, but research strongly suggests the light bulb theory behind trend analysis is how a human being truly learns, so we think that our grading practices should reflect that.

The process of trending suggests teachers use an assessment pattern of more frequent checks on student learning around any particular learning goal and/or skill, versus a less frequent, “high stakes” pattern (only giving a few assessments). Teachers want to assess often enough to detect the learning pattern and record it. At the end of this process of more frequent measurement a high stakes test then becomes a fair way for a student to demonstrate they've learned.

Searsport District High School uses trend analysis to measure progress toward meeting all standards.