

Why it is Better to Lead Than Lag: Leading and Lagging Indicators for Education

by Jordan Horowitz

Imagine being made to follow the speed limit, but denied access to a speedometer – only learning how fast you are going after the police officer pulls you over and gives you a ticket. And when you protest, you're told you should have been watching your gas gauge. That's how it is in education.

We post the signs for what we want performance to be and publicly report offenders, but do not provide educators with the right gauges for monitoring needs and providing timely responses. Drivers of education need indicators they can respond to in time to make a difference for students.

Leading and Lagging Indicators Defined

Why is it so hard to make a difference in outcomes? The problem could be the kind of indicator we are expected to use. Typically we use lagging indicators. Lagging indicators are our big goals, the long-term impact we hope to achieve: graduation rates, persistence to degree. These are important, but it is difficult to affect these indicators directly in any meaningful way. What educators need are more leading indicators. Leading indicators are in our control and lead to our hoped for success. Leading indicators are actionable for the target population we're dealing with at the time.

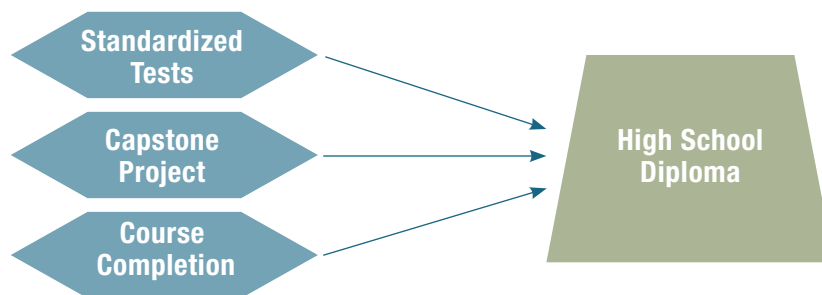
Some leading indicators for education include attendance, grades in subject areas or courses, and formative assessments. Knowing the outcomes for these metrics helps us to determine the interventions and supports that students need to be successful. After all, if a student fails a subject or a course, they may not be on track to matriculate to the next grade level or graduate.

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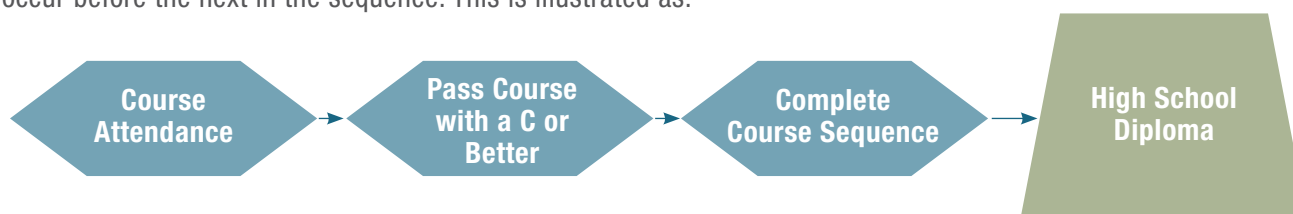
Lagging indicators, our big goals, are affected by what we do to influence our leading indicators.

The Relationship Between Leading and Lagging Indicators

Leading and lagging indicators can be related in two key ways. First, a group of leading indicators can be related independently to a lagging indicator. This is illustrated as:



Alternatively, a group of leading indicators can relate to a lagging indicator sequentially. One leading indicator must occur before the next in the sequence. This is illustrated as:



Disaggregation

It also is important to disaggregate leading indicators so we can identify students or groups of students who are underperforming and at risk of academic failure. Research has identified a number of characteristics of students who are at risk. Disaggregation by demographic variables (e.g., gender, ethnicity) and status variables (e.g., English learners, eligible for free-and-reduced meal programs, special needs) allows us to compare these students to benchmarks we've set and ensures all students are provided with the supports they need to succeed.

Summary

Lagging indicators, which are our big goals, have been the primary focus for education to monitor effectiveness because they are typically required by legislators and funders for compliance reporting. However, lagging indicators do not provide us with the actionable information we need. Leading indicators provide the right people with the right information at the right time. And leading indicators, when properly disaggregated, can shed light on underperforming students and student groups so we can address risk of academic failure with changes to instruction, supports, and policies.

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