

The Academic Metric Needs a Partner

The case for including an effort metric with student grades

Introduction

How can an effective teacher keep students engaged during academic lessons? How do teachers and students encourage the mind as well as the body to be present? How can educators and families reassure students receiving low grades to persevere?

Learning occurs when students participate in discussions and activities, or sustain focus during classwork. Teachers increasingly find themselves struggling with issues of student engagement and motivation. Recent Gallup surveys of students in grades five through twelve show student engagement dropping from 75% in fifth grade to 50% in middle school, and to about 33% by tenth grade.¹

Academic metrics (i.e. grades) do not tell the whole story. Some disengaged students earn high grades while many hardworking students earn average to low grades. With grades as the sole basis for reporting student achievement, hardworking students who earn low or even average grades can become disheartened. As educators, we must both recognize the engagement of the active learners and encourage all students to participate more.

Creating new ways of defining academic achievement is not the answer. To improve engagement and obtain a better and broader assessment of student progress and performance, the academic metric needs to be partnered with a metric that reports in-class student effort.

Recognizing and scoring students on their in-class effort offers immediate and actionable feedback for students. An effort metric can encourage a growth mindset, increase intrinsic motivation, and reduce behavior problems.



What grades can't tell students, teachers, or families



Most educators would agree that traditional academic grades are incomplete measures of student performance. While they are the principal metric, they only give a partial picture. Grades measure a specific set of skills or aptitudes but students with prior knowledge in a subject area have a head start in learning the content and earning the grade. Student grades (high, middle, or low) do not reveal student engagement.

Students who repeatedly receive low grades often feel frustration and disappointment that expresses as anxiety or apathy. Poor academic grades can lead to a decrease in motivation causing students to engage halfheartedly in new learning activities, or to reject them altogether. Students who are disengaged are more prone to behavioral issues in and out of class. For these students, minimal learning is taking place and academic failure—even dropping out—becomes a real possibility.²

Adding a second metric

To mitigate the reliance on a single, imperfect metric, one solution rises above others: stop relying on it exclusively. Instead, create a more inclusive system where traditional grades are not the sole standard for measuring and reporting student achievement.

A second metric is needed, one that would be used in conjunction with grades. To be most effective, this “partner metric” must be considered of equal importance by students, families, teachers, and administrators. It would measure what grades can't, and it would give students a more complete way to demonstrate their overall performance.

The case for the effort metric

Introducing an effort metric into overall student assessment makes sense based on what is known about feedback and motivation. An effort metric gives the teacher and the student a broader picture of student success and potential. It may also be used to promote executive functions and reward soft skills such as teamwork, work ethic, and positive attitude.

Why effort?

Of all the factors that could be measured in a classroom, effort has the strongest link to achievement.³ Educators already know, through studies as well as through daily teaching experience, that engagement in class is a strong predictor of academic performance and genuine learning. Clearly, when students are paying attention in class, more learning occurs.⁴

One of the goals of education is to prepare students to become economically self-sufficient. In national surveys, Americans are five times more likely to rank “being hardworking” as more important than “intelligence” when selecting a new employee.³ As more young people join the “gig economy” or become entrepreneurs, their ability to generate initiative and self-direction will be even more critical to their financial success.

Engagement and behavior are also closely linked, both positively and negatively. Student who are disengaged in class are much more prone to act out and behave in ways that further impede their own and others’ ability to learn. A sustained focus on effort encourages the kind of engagement that prevents disruptive classroom behavior.⁵

Unlike with grades, prior knowledge in a content area is not an advantage when measuring effort. A student’s effort score is based on their diligence during a learning task or activity. Effort scoring allows for a fresh start with every new activity. To obtain a high effort average, however, students will need to consistently “bring it.” Teachers should modify effort scoring based on individual abilities. Most students will have similar effort benchmarks, but some students should be scored based on what strong effort looks like for them.

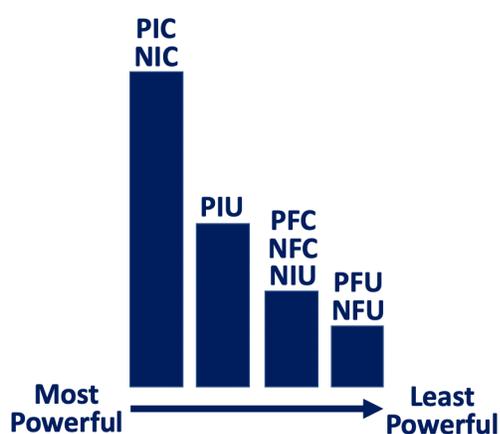
Along with perseverance, a focus on effort also encourages a growth mindset. In the groundbreaking work of Carol Dweck, researchers found that students who were praised for their ability (“*You scored really well! You must be really smart!*”) often turned down more challenging tasks when offered. Meanwhile, students who were praised on their effort (“*You scored really well! You must have worked really hard!*”) were willing to take on more challenging tasks in order to learn more. In other words, praising students for being smart promotes a *fixed* mindset, while praising them for their effort promotes a *growth* mindset.⁶



The effort metric is more immediate

The *effort measure can be immediate*. Feedback isn't delayed as it is with traditional measures, where learning is assessed days or weeks later through a project or test. In effect, effort is a *leading* measure that provides opportunity for immediate change. By contrast, grades are often a *lagging* measure, only reflecting what has already happened in each student's learning.

This immediacy is where the real power of the effort metric lies. In their book *Performance Management*, Aubrey and James Daniels explain their findings after studying the relationship between behaviors and their consequences. They looked at three pairs of characteristics of consequences: Positive vs. Negative, Immediate vs. Future, and Certain vs. Uncertain. They then measured the impact each type of consequence had on reinforcing a desired behavior.⁷



As demonstrated in the bar graph, the types of behavior consequences that are most powerful are Positive, Immediate, and Certain (PIC) or Negative, Immediate, and Certain (NIC). Consider an example from social media: the behavior of a teenager checking their phone to see if anyone has liked their Instagram post or viewed their Snapchat story. If someone has, then the consequence of checking their social media has been Positive, Immediate, and Certain (PIC). This makes the teenager happy and they will likely feel the urge to check again later. If no one has liked or viewed their social media, that is a NIC. *Ugh, they think, better check again later.*

What does this mean in a classroom setting? For students, the *behavior* is their response to the teacher's instructions. Are they paying attention, putting in effort, and completing the assigned task? The desired *consequence* is that student learning progresses. When is this consequence evaluated under the grade system? Not immediately, but rather during a future assessment. Therefore, grades are PFC or NFC (see graph), which is much less effective.

How does student behavior change with an effort metric in place? Considering the Daniels' findings, one of the most powerful things teachers can do is to provide immediate and frequent feedback during learning activities and class discussions. So frequent, in fact, that students know there is a high probability that their efforts—or lack thereof—will be noticed. Since effort is needed for learning⁴, an established effort metric provides teachers with a means for scoring student behaviors as PICs (high effort scores) or NICs (low effort scores).

"A small immediate consequence that is certain to occur [effort scoring] is much more powerful in the behavior change process than large consequences [grades] that occur in the future."

- Aubrey Daniels

Does adding an effort metric inhibit intrinsic motivation?

A line of thinking exists among educators that employing the kind of extrinsic consequences described above does nothing to encourage what we ultimately hope for our students: to become *intrinsically motivated* to learn. When we measure effort, some say, we are just forcing outward compliance with a set of behaviors.

In fact, researchers have found that this kind of frequent and immediate rewarding of behaviors does *not* decrease intrinsic motivation. Rather, studies have shown that some forms of reward, such as verbal praise, actually *increase* intrinsic effort.⁸ Introducing an effort score, for example, can increase time on task which accelerates learning.⁹ Social cognitive researchers and self-determination theorists “concur that under proper provision, extrinsic rewards may in effect ignite intrinsic motivation and therefore reinforce learners’ participation and deep learning.”¹⁰

How to measure effort in a classroom



Measuring effort is not a new idea. Many teachers have incorporated some form of “effort grade” into their existing systems. To encourage participation and engagement, some teachers draw popsicle sticks with student names to randomize which students they call upon in class. Others have included a participation score in their quarterly grades. Still others walk around the classroom with a clipboard, trying to record effort and other behavioral evidence of student engagement.

Meet Elizabeth Klinkner

As a middle school Spanish teacher, Elizabeth Klinkner knows just how important engagement and participation are to learning. She also knows the frustration of trying to increase that effort in her classroom, especially for some students. Klinkner sees the limitations that traditional grades have in providing the big picture of student success.

“Traditional grading doesn’t allow for kids who don’t test well or who don’t have support at home for doing their homework,” says Klinkner. She often has students who are in transition, staying home to care for siblings, or struggling with an undiagnosed learning disability.



“They try hard but have pockets of missing information. They can’t compete because there isn’t a level playing field.” Klinkner adds, “Many of them feel that long before 8th grade.”

To create a broader assessment, Klinkner did what many teachers do: she added a participation score to her quarterly grades. With participation now making up 30% of their grade, Klinkner’s

students worked to earn points by using flashcards, spending time on a language app, and other learning activities.

She also gave students 20 points each month that she could adjust as-needed, although she admits that this was an imperfect system. “I tried to be objective about it instead of subjective,” recalls Klinkner, “but adjusting the 20 monthly points always made me a little nervous that it was pretty subjective. How many points do you lose if you don’t bring your iPad to class, for example?”

The need for a better system

For educators like Klinkner, who see the need for an effort metric to measure student performance, motivation, and engagement, one big challenge remains: finding a system that works.

What exactly should be measured? How does the teacher record what’s measured in an efficient manner? How are these assessments communicated to students and families?

Clearly, popsicle sticks, participation points, and clipboards aren’t doing the trick.

For the effort metric to be an effective partner with the academic metric, students, families, teachers, and administrators must give effort and grades similar status. This is more likely to happen when teachers are provided with an effort-metric system that:

- ◆ **Is easy to use** and has been **classroom-tested**
- ◆ **Measures different types of effort** such as paying attention, time on task, readiness for class, and behavior
- ◆ **Integrates naturally with classroom practices** allowing frequent opportunities for the teacher to **recognize good effort**
- ◆ **Balances student participation opportunities** to involve all students not just the willing volunteers
- ◆ **Reports effort measures immediately** – during learning events and discussions
- ◆ **Ties effort scoring to learning goals** and teacher expectations
- ◆ **Allows teachers, students, and families** easy access to student effort data
- ◆ **Encrypts student data** and complies with applicable privacy acts (e.g. FERPA, COPPA, etc.)

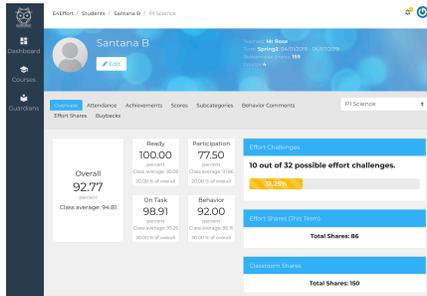
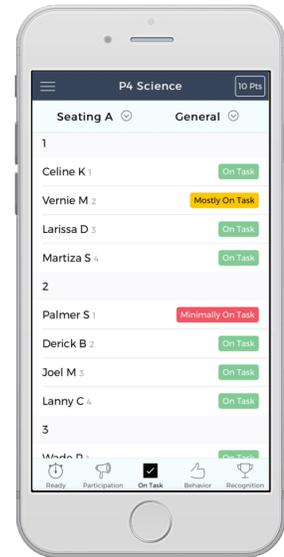
Introducing E4Effort

E4Effort is the partner metric needed for measuring student effort. Created by a veteran middle school teacher, E4Effort is a system that emphasizes student effort, thereby improving student engagement and raising outcomes. E4Effort includes a teacher scoring app, individual student portals, and a teacher dashboard. The E4Effort System compliments grades by providing the other side of the student performance picture: in-class effort.

The E4Effort System has three main parts:

1. Teacher Scoring App that provides:

- ◆ Four different categories to measure effort:
 - ◆ **Ready:** arriving on time and bringing required materials
 - ◆ **Participation:** paying attention in class
 - ◆ **On Task:** staying focused on the assignment or activity
 - ◆ **Behavior:** proper conduct based on class and school expectations
 - ◆ For all categories except Ready, teachers can create subcategories – e.g. a teacher who wants to be more specific about a particular behavior might create a **Behavior Subcategory** titled “*Verbally Appropriate.*”
- ◆ A **Recognition** category for selecting gold, silver, and bronze **Effort Award Winners**
- ◆ The capability to send behavior comments to individual student portals
- ◆ iOS or Android, phone or tablet, compatibility



2. Individual Student Portals that provides:

- ◆ Easy access to eight types of effort data
- ◆ Tracking of **Effort Shares and Achievement Badges**
- ◆ Effort Shares that can redeemed for privileges, supplies, or bonus points
- ◆ Family members to be added as guardians to view their student’s progress

3. Teacher Dashboard that provides:

- ◆ Monitoring of individual and whole-class trends
- ◆ Editing of student scores
- ◆ Formation of Course, Student, and Term features
- ◆ Adjustable **Category Weights**
- ◆ Capability of sending individual comments to student portals or the same comment to multiple student portals
- ◆ Creation of **Buyback** offerings to allow students to redeem their Effort Shares for privileges, supplies, or bonus points
- ◆ Organization and fulfillment of student Buyback redemption requests

First Name	Last Name	Overall %	Ready %	Participation %	On Task %	Behavior %	Actions
Tabatha	A	95.9 %	97% ¹	96.0 %	93.8 %	98.0 %	[Edit]
Santana	B	92.8 %	100.0 %	77.5 %	98.9 %	92.0 %	[Edit]
Doris	B	93.9 %	98% ¹	93.8 %	95.4 %	94.5 %	[Edit]
Natasha	E	87.5 %	81.8 %	85.0 %	88.0 %	92.5 %	[Edit]
Marissa	C	96.8 %	100.0 %	93.0 %	98.0 %	98.0 %	[Edit]

Teacher-tested and transformative



When Elizabeth Klinkner began using E4Effort in her 8th grade Spanish classroom, she quickly saw results. One of her favorite categories to use is Participation, which can reward students for their ability to repeat the question back to the teacher without having to know the ‘right’ answer.

“E4Effort eliminates bias and the students no longer feel like the teacher is picking on them,” says Klinkner.

Students are excited to be recognized for good behavior and to cash in the Effort Shares they’ve earned. For Klinkner’s students, “their favorite reward is to pick their seat for the term.”

Klinkner has seen E4Effort level the playing field, too, “especially for students who breeze through the academic stuff but need to work on their effort and other soft skills.”

Klinkner also recognizes how E4Effort encourages growth and motivation for those who haven’t been academically strong. She recalls one student who earned a 100% for effort (while earning a C- grade.) “He was so proud!” she said. “He was showing off the score to his parents and grandparents.”



For more information about E4Effort, go to: <https://e4effort.com>

About E4Effort

E4Effort, designed by a middle school science teacher with over 25 years of classroom teaching experience, allows teachers of grades 3-12 to recognize and measure student effort during in-class learning events. From their smartphone or tablet, teachers can assign scores in four effort categories (plus teacher-created subcategories). Tested by experienced elementary, middle, and high school teachers, the system includes a teacher scoring app, individual student portals, and a teacher dashboard. Teachers also have access to a library of help videos and tutorials at e4effort.com.

References

1. Hodges, Tim. "Not Just a BUZZWORD: Using Survey Data to Foster Engagement among Students, Parents, and Teachers." *Principal*, Vol. 98, no. 1, Sept. 2018, pp. 10–13.
2. Poorthuis, Astrid M. G., et al. "Do Grades Shape Students' School Engagement? The Psychological Consequences of Report Card Grades at the Beginning of Secondary School." *Journal of Educational Psychology*, vol. 107, no. 3, Aug. 2015, pp. 842–854.
3. Duckworth, Angela. *Grit: The Power of Passion and Perseverance*. Scribner, 2016, p. 23, 39-51.
4. Willingham, Daniel T. *Why Don't Students Like School?: A Cognitive Scientist Answers Questions About How the Mind Works and What it Means for The Classroom*. Jossey-Bass, 2009, p. 54-55.
5. Wang, Ming-Te, and Jennifer A. Fredricks. "The Reciprocal Links Between School Engagement, Youth Problem Behaviors, and School Dropout During Adolescence." *Child Development*, vol. 85, no. 2, Mar. 2014, pp. 722–737.
6. Dweck, Carol S. *Mindset: The New Psychology of Success*. Ballentine Books, 2008.
7. Daniels, Aubrey C. and James E. Daniels. *Performance Management*. Performance Management Publications, 2004, pp. 41-47.
8. Cameron, Judy, and W. David Pierce. "Reinforcement, Reward, and Intrinsic Motivation: A Meta-Analysis." *Review of Educational Research*, vol. 64, no. 3, Fall 1994, p. 363.
9. "Time on Task: A Strategy that Accelerates Learning." *Florida Education Association*. <https://feaweb.org/time-on-task-a-teaching-strategy-that-accelerates-learning>. Accessed May 15, 2019.
10. Rassuli, Ali. "Engagement in Classroom Learning: Creating Temporal Participation Incentives for Extrinsically Motivated Students Through Bonus Credits." *Journal of Education for Business*, vol. 87, no. 2, Mar. 2012, pp. 86–93.