# Mastery versus Averages Facilitator Cheat Sheet

## Consider the example of a car trying to make its way uptown through New York City as a metaphor for student learning.

## A car is trying to make its way uptown through New York City.

Finally, we arrived at 86th Street.

Next time we checked, we were at 34th and stopped for 20 minutes.

We left from 28th Street.



Later we made it to 59th Street but waited in traffic for 10 minutes.

## First, the car leaves from 28th Street and drives uptown, stopping at 34th Street for 20 minutes. Next the car drives from 34th all the way to 59th Street, where it waits in traffic for 10 minutes. The car continues and arrives at 86th Street, which is its final destination. The journey led the car from 28th Street to 86th Street.

## Read the following three reports of the car’s journey. What does each tell us? What does each leave out?

1. On average, the car was at 52nd Street.
2. By the end of the trip, the car made it to 86th street.
3. The car made two lengthy stops—one for 20 minutes and another for 10 minutes—that exceeded the estimated time it should have taken.

## If we think about the car’s journey as a metaphor for a student learning of a particular skill during a unit, which of the following do you think provides the best report on that learning “journey”? Why? Would you describe it in a different way?

1. On average the student earned a 52% on all assessments on a particular skill.
2. By the end of the unit on a particular skill, the student demonstrated mastery with an 86%.
3. It took the student longer than expected to demonstrate that he learned the skill.

## Sample Analysis of the Metaphor

## Key Idea: *When grades are assigned based on students’ mastery of learning goals, those grades communicate more about their learning than an average or grade based on time spent on task.*

## Just like the metaphor of a car moving uptown, experiencing slowdowns as it makes it to its destination, a student’s learning journey over the course of a unit, a semester, or even a school year is not always linear or evenly paced. And yet, when that student arrives at his “destination,” having mastered a skill or a set of knowledge by the end of the unit or semester, the grades he receives don’t always reflect that mastery. Instead they may show an average of all of the work completed or reflect how much time it took him to master the skill throughout the unit. In this way, a grade does not convey exactly what that student knows and can do, but rather penalizes him for the fact that he moved through a nonlinear learning process.

## When thinking about each of the descriptions of the car’s journey as a metaphor for a student’s learning, each one focuses on a different aspect of that journey. Each one tells us something important about that journey but may leave out other meaningful details.

1. **On average, the car was at 52nd street**. *By focusing on the average street, the description neglects to highlight the fact that the outcome of the journey was that the car reached its destination. In a similar vein, if students are only graded based on the average of their learning journey, the grade does not tell us about how well they’ve mastered key skills to prepare them for what comes next.*
2. **By the end of the trip, the car made it to 86th street.** *If this were a description of student learning, the focus on the destination (or the skills and knowledge mastered in the case of student) would allow us to get a sense of what a student knows and can do. However, it leaves out information about the journey itself that can be important for supporting the student in the future—where did the student struggle? Which tasks require more targeted support?*
3. **The car made two lengthy stops—one for 20 minutes and another for 10 minutes—that exceeded the estimated time it should have taken**. *When students are graded based on how quickly they can complete tasks, the emphasis is on how much a student is doing rather than how much they are learning. Although this description does tell us that the journey was a long one, which can be an important piece of feedback for a teacher and a student, it does not tell us much about the outcome itself.*

**Connection to Mastery-Based Learning:**

A mastery-based learning and grading system, developed by researchers and education innovators, offers an alternative to more conventional grading systems which tend to reward students based on measures such as attendance, quantity of tasks completed, or low-level thinking focused primarily on students’ recall and rote memorization. Central to a mastery-based system is a focus on whether and how students are progressing toward mastery of meaningful learning goals rooted in essential skills and knowledge. Key to that is communicating grades transparently so that students know where they are and where they are going in their journey toward reaching those goals.