

Percentage Mastery Formula for New Learning

Step 1: Percentage Mastery Score

Determine the percentage mastery for your most recent group of students. For example, if 60 percent of students were at or above mastery, then the percentage would be 60.

You could also calculate percentage mastery from the average of a two- or three-unit instruction period. For example, percentage mastery for the last three units of 50 percent, 60 percent, and 55 percent would equal an average score of 55 percent.

Step 2: Discrepancy Mastery Score

Subtract the percentage mastery from the maximum possible score (typically 100 percent). In this example, the calculation for a one-unit score of 60 percent would be:

$$100 \text{ percent} - 60 \text{ percent} = 40 \text{ percent}$$

Thus, 40 percent would be the discrepancy between the most recent level of performance (60 percent) and the ideal level of performance (100 percent).

Step 3: Realistic Percentage Mastery Score

Although the ideal performance mastery is for all students to meet or exceed mastery, achieving 100 percent participant mastery, in most instances, is not realistic. Thus, a rule of thumb estimate is to divide the discrepancy score (40 percent) by half.

$$40 \text{ percent} \div 2 = 20 \text{ percent}$$

This yields a more realistic, achievable percentage mastery goal to be employed over three to four units of instruction.

Step 4: Annual Percentage Mastery Score

Divide the realistic percentage mastery score from step 3 by either three or four units, depending on the time frame allocated for achieving improvement in percentage mastery. For example, using a three-unit period, the calculation would be:

$$20 \text{ percent} \div 3 \text{ units} = 6.33 \text{ percent (or 6 percent) growth in mastery per unit}$$

If the goal is achieved, then the results would be similar to the following example.

- Ideal mastery score: 100 percent
- Beginning mastery score: 60 percent
- Discrepancy mastery score: 40 percent
- Realistic percentage mastery score: $40 \text{ percent} \div 2 = 20 \text{ percent}$
- Per unit percentage mastery score: $20 \text{ percent} \div 3 \text{ units} = 6 \text{ percent per unit (rounded)}$
 - Unit 1: $60 \text{ percent} + 6 \text{ percent} = 66 \text{ percent}$
 - Unit 2: $66 \text{ percent} + 6 \text{ percent} = 72 \text{ percent}$
 - Unit 3: $72 \text{ percent} + 6 \text{ percent} = 78 \text{ percent}$