

If you can't say for sure what good work is, how can your people do good work? If you can't all agree on what a flaw is, how can your people avoid them? We ask for good work; we say that quality is job one and that mistakes must stop. Sadly, these words have no real meaning and do more harm than good. Let's see why.

Take the phrase "do a good job"; what does it mean? If I asked you to clean a floor, would you know how to do it? Is a clean floor the same in a hog barn, a hospital, a kid's room, a saw mill, or a semiconductor factory? OK, maybe it's the same in the hog barn and your kid's room, but in general, how do you know if the floor is clean enough? Would three people clean the floors just as well? Would two inspectors both agree? Would they agree today AND tomorrow? What is good work when it comes to cleaning a floor?

In the same way, what is improved quality; what is a flaw? Unless you can all agree on this, you will look at the same piece of work, and not be able to agree. How do we get together on this? How do we stop this confusion? With a free and simple tool for improving your daily work - operational definitions.

An operational definition describes a feature of something in terms of a test. The feature could be colour, shape, piece count, anything. The test is set up so anyone, at any time, will get the same results. The test is used to judge the feature, and decide whether it passes or fails. Pass or fail must be based on rules that match the needs of the customer. The test is a clear guide that everyone - suppliers, workers, inspectors and customers - can agree on. The operational definition lets all agree on what makes work "good".

There are three parts to an operational definition:

- The Test, a specific procedure that says which tools to use, what method to follow, and even what skills the tester must have.
- The Criteria, a set of rules used to judge the results of the test.
- The Decision. After the test, use the rules to decide if the test results meet the criteria. Does the feature pass or fail?

As an example, let's count some cookies. We all know how to count, and we all know cookies, so this should be easy.

The photo shows the daily output of our cookie shop. How many cookies did we make today? At first glance you might say five, until you see that one is broken in half, and one has a chunk missing. Do you include those or not? Or, if we're making chocolate chip cookies, does the one at the right count, since you can't see any chips in it? Or, if we're thinking about how big the cookies are, maybe the bottom left cookie isn't good, since it's less than 6 cm, while the others are bigger. If we've got some really hungry kids as customers, maybe we've got six cookies, counting the broken one as two. Or maybe even seven, eight, nine, or ten, since we could break the other cookies in half too. Or if we can only sell round cookies, how many are round enough to sell? You can see that even with something as simple as counting our output, it's hard to agree on what "good" means.



Since we're on the topic of food, and it's almost lunch time, let's think about pasta. In the pasta industry, it's common to use colour as a way to grade pasta - good spaghetti is deep amber or golden colour. But, how do you agree on what deep amber or golden is? Look at the following test for grading pasta, ignoring the technical details and seeing how the test tries to get rid of the need for opinion, and get consistent results each time.

1. Attach a 5cm wide band of uncooked spaghetti 5cm long to the center of a 15cm square piece of white cardboard using double-sided tape (standard sample and test conditions)

2. Use a Minolta CR-310 series ChromaMeter and the CIELAB Method to measure the Lightness, Red-Green and Blue-Yellow Chromaticity (standard tool and test method)



3. Calculate the colour score from 1 to 10 using [a company-specific formula] which compares the measured colour to that of a master target sample (standard way of comparing)

4. The higher the score, the more favorable the color with values more than 8.5 being #1 grade-A premium pasta (standard rule for decision).

With such a test, two people are much more likely to agree on the pasta's grade than if you just asked them to look at the colour. Not all operational definitions need to use machines or instruments though. For example, instrumented colour tests of textured or grained products (i.e. patterned vinyl, wood, fabric) often give inconsistent results because of the grain and natural variation. In this case, the human eye is a better judge.

An operational definition for using your eyes to compare the colour of two items might use some steps or rules like this:

1. By a person with proven 20/20 vision, either natural or with corrective lenses.
2. By a person who is not colour-blind (as tested with the Farnsworth-Munsell 100 Hue Test)
3. Using two sample pieces, 6 inches square, one of each colour.
4. On a level white background (painted using minimum 2 coats of Brand X paint, colour chip #ABC) large enough to surround both samples with at least 8" of white background on all sides of both samples (for adjacency effect - different colour appearance due to surrounding colours)
5. Once, with F2 Cool White 4100K light of [specified] lumens at the background, measured with a Technika Light Meter Lux 840006.
6. A second time, using D65 Daylight 6500K light, same intensity (for metamerism - different colour appearance due to light source.)
7. With 15 sec. breaks between, eyes closed (for after-image effects)



8. With both test pieces oriented so their grain, texture and pattern run in the same direction (for geometric metamerism – different colour appearance due to pattern)

How far do you go? How detailed do your operational definitions need to be? That depends on how big a deal it is if you don't all agree on this feature? How much does the variation of this feature affect your success, or the happiness of your customer?

To prove that someone has 20/20 vision, you might also define that proven means a standard eye test from a licensed eye doctor. Then you might go on to define what the standard eye test is, or even what a licensed eye doctor is. How far you go is up to you. If you go too far, you might get a Big Boring Procedure Manual that nobody will really use in their daily work. If you don't go far enough, you'll end up with a lot of confusion, disagreement and chaos.

In any case, the goal is to have the decision be the same for all people at all times. Without operational definitions, there is an illusion that we are all working to produce good work when in fact we aren't. Operational definitions help us all see things the same way; help us all go in the same direction. And isn't that the whole point of leadership, management, and work?



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