

A)

The stretch mistakes

Stretch mistakes happen when we're working to expand our current abilities. We're not trying to do something incorrectly, but instead, we're trying to do something that is beyond what we already can do without help, so we're bound to make some errors.

Stretch mistakes are positive. If we never made stretch mistakes, it would mean that we never truly challenged ourselves to learn new knowledge or skills. Sometimes when we're stuck making and repeating the same stretch mistake, the issue may be that we're mindlessly going through the motions, rather than truly focusing on improving our abilities. Other times the root cause may be that our approach to learning is ineffective and we should try a different strategy to learn that new skill.

If we feel stuck, one thing we can do is adjust the task, decreasing the level of challenge but still keeping it beyond what we already know. Our *zone of proximal development (ZPD)* is the zone slightly beyond what we already can do without help, which is a fruitful level of challenge for learning. When we make stretch mistakes we want to reflect, identify what we can learn, and then adjust our approach to practice, until we master the new level of ability. Then we want to identify a new area of challenge and continue stretching ourselves.

The sloppy mistakes

Sloppy mistakes happen when we're doing something we already know how to do, but we do it incorrectly because we lose concentration. We all make sloppy mistakes occasionally because we're human. However, when we make too many of these mistakes, especially on a task that we intend to focus on at the time, it signals an opportunity to enhance our focus, processes, environment, or habits.

Source: blog.mindsetworks.com, taken from a blog entry titled "Mistakes Are Not All Created Equal", posted by Eduardo Briceño on January 16, 2015.

B)

The aha-moment mistakes

Another positive type of mistake, but one that is harder to plan for, is the *aha-moment mistake*. This happens when we achieve what we intend to do, but then realize that it was a mistake to do so because of some knowledge we lacked which is now becoming apparent. There are lots of examples of this, such as:

- *When we lack the content knowledge:* e.g. not finding water, we try to extinguish a fire with alcohol, which we didn't realize is flammable.
- *When we find there is more nuance than we realized:* e.g. in our painting, we color a sun near the horizon as yellow, and later notice that the sun does not always look yellow.
- *When we make incorrect assumptions:* e.g. we try to help someone else, thinking that help is always welcome, but we find out that the person did not want help at that moment.
- *When we make systematic mistakes:* e.g. a fellow educator observes us doing a lesson and later points out, with compelling back-up data, that we tend to call on Caucasian girls much more often than we do other students.
- *When we misremember:* e.g. we call a friend for their birthday on the right date, but the wrong month.

We can gain more aha moments from mistakes by being reflective. We can ask ourselves: *What was unexpected? Why did that result occur? What went well and what didn't? Is there anything I could try differently next time?* We can also ask people around us for information we may not be aware of, or for ideas for improvement.

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C)

The high-stakes mistakes

Sometimes we don't want to make a mistake because it would be catastrophic. For example, in potentially dangerous situations, we want to be safe. A big mistake from the person in charge of security in a nuclear power plant could lead to a nuclear disaster. We don't want a school bus driver to take a risk going too fast making a turn, or a student in that bus to blindfold the bus driver. In those cases, we want to put processes in place to minimize *high-stakes mistakes*. We also want to be clear with students about why we don't want the risk-taking behavior and experimentation in these situations, and how they're different from learning-oriented tasks.

Aside from life-threatening situations, we can sometimes consider performance situations to be high-stakes. For example, if going to a prestigious college is important to someone, taking the SAT could be a high-stakes event because the performance in that assessment has important ramifications. Or if a sports team has trained for years, working very hard to maximize growth, a championship final can be considered a high-stakes event. It is okay to see these events as performance events rather than as learning events, and to seek to minimize mistakes and maximize performance in these events. We're putting our best foot forward, trying to perform as best as we can.

In a high-stakes event, if we don't achieve our goal of a high test score or winning the championship, let's reflect on the progress we've made through time, on the approaches that have and haven't helped us grow, and on what we can do to grow more effectively. Then let's go back to spending most of our time practicing, challenging ourselves, and seeking stretch mistakes* and learning from those mistakes.

**Stretch mistakes are a different type of mistake, which will be explained by group/pair A).*

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