

The glaring exception to this is in how we teach our kids. Somehow, we've allowed education to become increasingly centralized, where we let public officials say that children will be pumped out of the school machine at age 18 knowing the same facts and gaining all the same skills. Learning standards reflect the uniform expectations our governmental agencies have of all children of a certain age. Teachers are preparing them for a world that none of us want to live in, and one that doesn't exist anymore. We know that all kids are individuals, and yet in schooling, our public officials and administrators expect them all to be the same. Arguably, the diversity of educational options was greater two centuries ago than it is now.

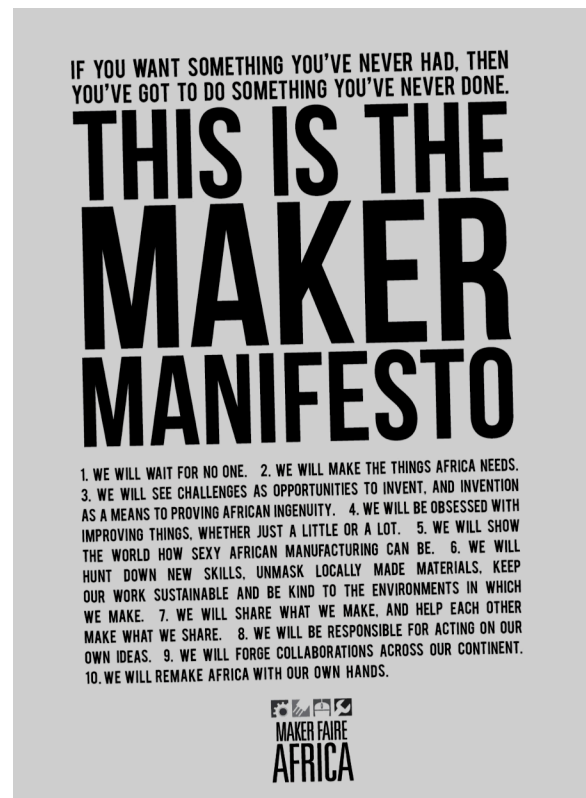
Our kids can be learning more efficiently—and as individuals. We imagine that schools can become places where students learn to identify their own challenges, solve new problems, motivate themselves to complete a project, engage in difficult tasks, work together, inspire others, and give advice and guidance to their peers. We see all that happening already in the Maker community. And, increasingly, we recognize there is a real hunger for the resources and infrastructure for kids and adults to be spending more time making, too.

We're working to support that hunger for making in several ways. Makerspace is one initiative. Through it, Young Makers (a club-based program), and other efforts, we seek to develop self-motivated, self-directed learners. We aim to help the youth of our nation regain the spirit of innovation, ingenuity, and curiosity that has been dormant until recently.

State-of-the-art technology has changed the way we make and also how we learn. In the 21<sup>st</sup>-century classroom, we can better enable, motivate, and inspire all students—regardless of background, languages, or disabilities—to achieve as never before.

Part of our goal with Makerspace is to help teachers match what and how we teach with what people need to know, how they learn, where and when they will learn, and who needs to learn. We hope to leverage the power of technology to provide personalized learning instead of a one-size-fits-all curriculum, pace of teaching, and instructional practices.

When running a Makerspace or a class that uses a Makerspace, you may find it daunting to stay ahead of your students. Let it go. The most important thing to know is how to help your kids find answers and connect with expertise. That's not always so simple, either, but just be reassured that nobody expects you to be an expert in everything.



## A Makerspace Manifesto

Part of having your students be a part of a Makerspace is to invite them to participate in the Maker movement and adapt some of the liberating philosophy many Makers share. This is illustrated in the Maker Manifesto put together by Maker Faire Africa, right. But what would we put in a Makerspace Manifesto?

There are a few fundamental understandings that we'd want any student participating in a Makerspace to come away with:

- Everyone is a Maker.
- Our world is what we make it.
- If you can imagine it, you can make it.
- If you can't open it, you don't own it.
- We share what we make, and help each other make what we share.
- We see ourselves as more than consumers—we are productive; we are creative.
- Makers ask, "What can I do with what I know?"
- Makers seek out opportunities to learn to do new things, especially through hands-on, DIY (do-it-yourself) interactions.
- The divisions between subjects like math and art and science dissolve when you are making things. Making is an interdisciplinary endeavor.
- It's all right if you fail, as long as you use it as an opportunity to learn and to make something better.
- We're not about winners and losers. We're about everyone making things better.