



Popular Engineering in Response to COVID-19

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As the COVID-19 pandemic has ground the wheels of global capitalism to a halt, makers, manufacturers, and citizens around the world joined forces to produce and distribute personal protective equipment and other products to fight the spread of the pandemic.

In this project, students learn from these examples and identify problems in their own lives, home, or community. After brainstorming problems and identifying what can be solved with available tools, students design and document a solution. Finally, students document their process by creating an “Instructable” (that is, free step-by-step instructions available at www.instructables.com) that can be shared widely, exporting their solution globally.

By focusing on authentic problems found in their own lives, homes, or communities, students immerse themselves in the research methods essential to the engineering design processes and. Students then engage in an iterative process to design, critique, prototype, test, and manufacture novel and useful solutions to the authentic problems they identify. Concurrently, students draft, critique, and revise technical writing and curate portfolios of images, infographics, and writing to document their work.

Teacher Reflection

I learned from this project that students have a natural sensitivity to design problems in their own lives. Getting students involved with the design process in a classroom worked best when dealing with authentic problems. When students are at home or in a distance learning context, they are immersed in those types of problems. In some ways, just being able to focus their attention with an academic tool unlocks a world of possibilities when they apply it to where they live and relate with people they are close to.

—*Clayton Evans*