



Engineering Inquiry for all at Nedlam's Workshop

Brian Gravel, Tufts University



Acknowledgements



Ben Shapiro



Cassidy Puckett



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Elise Deitrick



The students at Malden High School



Puloma Gosh



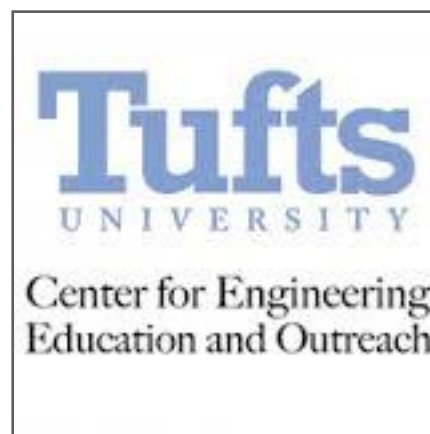
Matt Ahrens



Riley Meehan



Dan Wise



IIS 1450985

How do you empower youth to solve the problems in their lives?

Engineering Inquiry

Engineering Inquiry

to empower

students who are low-tracked

Engineering Inquiry

to empower

students who are low-tracked

to address

“pressure points”

How can a *makerspace* change how people view the resources that *all students* bring to school as academically valuable?



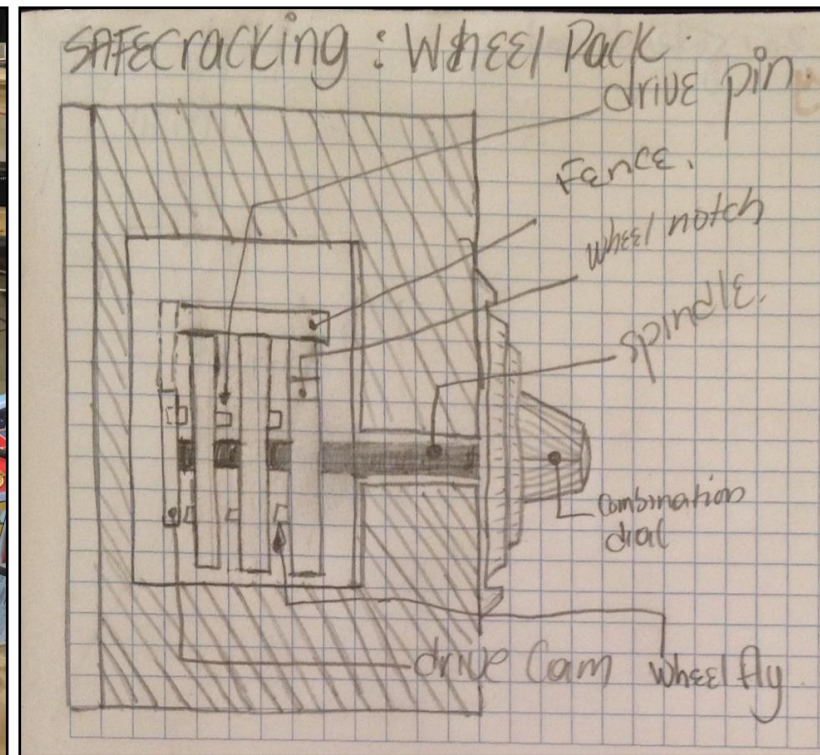
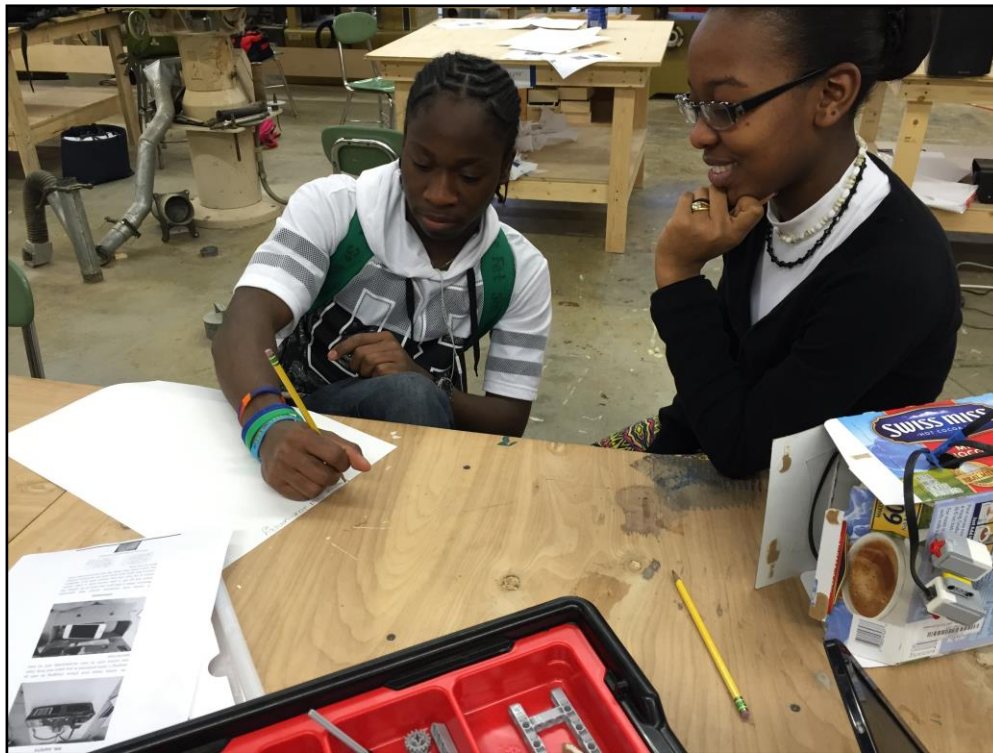


Malden High School's *Wood Technology Shop*



Nedlam's Workshop

Samuel and Fabiola: Charging my cell phone in school



Email from a principal at Malden High School:

*I visited the class yesterday and was so impressed by the level of engagement that you and the teachers have created. One young man [Samuel] said, "**Mr. Lamar, let me show you how smart I am.**" Thank you so much for creating an environment where kids, who may not feel "smart" all the time, can show off how smart they really are! It really is great to see.*

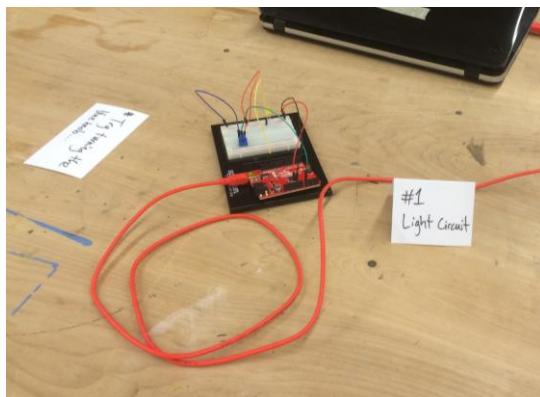
Mr. G



$f(x)$

Mr. G

$f(x)$



Mr. G

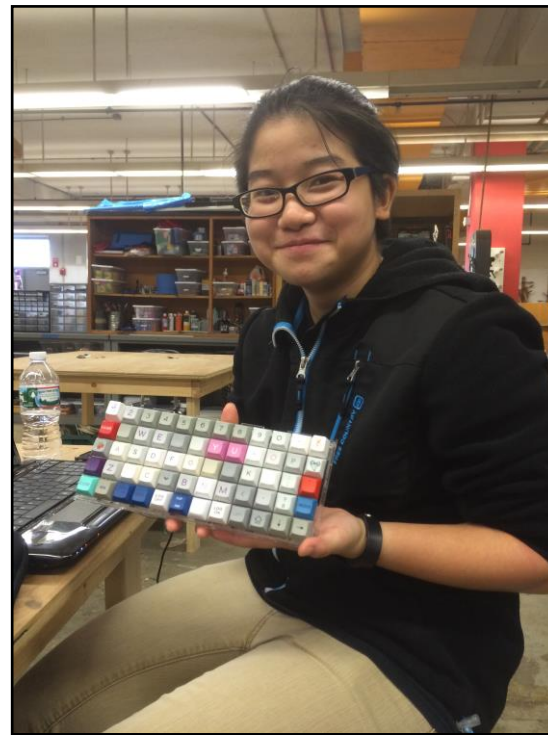
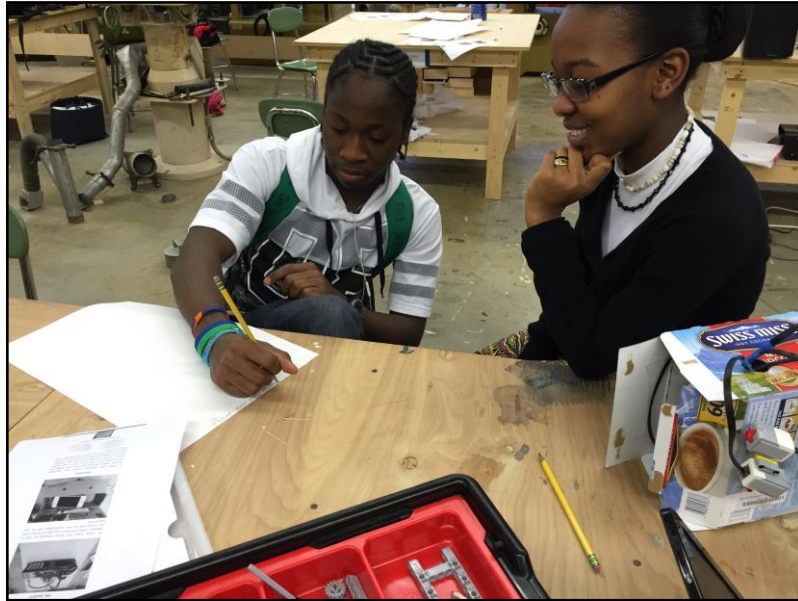
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Leverage students' everyday knowledge of tools

Changing what knowledge "counts" in math class

Seeing low-tracked students in new ways



What we've learned:

Makerspaces provide an opportunity to redefine how we do inquiry in school

Empowering youth to solve problems in their worlds can broaden and redefine participation

Focus inquiry on the “pressure points” of one’s life - understand and address *real* problems

What we need to do:

Provide teachers with opportunities to do inquiry themselves

Develop supports (e.g., problem framing, documentation) for students to solve the complex problems they identify