

Testimony by
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In support of GRF 200597 as part of H.B. 64
“Education Program Support”

FIRST (For Inspiration and Recognition of Science and Technology)

Chairman Smith, Vice Chair Schuring and members of the committee. Hi. I’m Jonah Stuber. I’m a junior at Bexley High School and am the Bexley High School *FIRST* Robotics Team Captain.

Just as Liz learned by doing, so have I. As a high school student I am learning technical skills such as python programming and pneumatic system control as well as general engineering principles like power and weight distribution, however, more than that I am learning leadership skills that see application outside the tech-room where we build our robot each year.

Specifically I am talking about my mentorship of a Lego League team. Where I helped a team of ten 4th-6th graders build a fully autonomous robot out of Legos, and then program it with a Lego Mindstorm. These Mindstorm programs exhibit many similarities to real world programs. For instance they use the same logic system as formal reasoning and other programming languages use. When I took AP Computer Science it took my class two and a half weeks to get every student to fully understand the logic operators of AND, NOT AND, OR, and NOT OR, within four days nine of the kids understood them and by the end of the week the other kids had brought the 10th on board. Not only did these kids all grasp how to use the logic operators faster than my high school classmates but they also worked, on their own, to teach the final kid about them outside of standard meeting times. This isn’t because I had an AP class full of idiots or that the 4th through 6th graders were all Einsteins (though they were a smart bunch) but because, for the kids, there was an exact purpose and reason for they to know it, outside of “it will be on the test.”

During the process of teaching them this, and other things, I encountered many times where it would have been simpler, easier, and faster to just give them the answer and move on with the design, however, by instead teaching them how to come to the answer on their own, I ended up learning just as much about mentorship and leadership as a whole as they did about engineering. After having taught them, most of the things they learned they could not get enough of, for instance, one of the kids, Franklin, built a gearing system out of Legos such that you needed pliers to turn it but it spun the wheel on the end so fast its axle was warm to the touch.

This passion for their new knowledge applied to the logic operators too – by which I mean, that there are 10 kids out there who will, in casual conversation say to one another, “A NOT OR B AND C” . Should you meet one, tell them Jonah said hello.

I hope that you will approve the state funding for support of more *FIRST* teams in the state. It is a wonderful and live changing experience.