

MARLBOROUGH, NATICK

Young inventor takes his responsibilities seriously

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It doesn't take long to realize Max Wallack isn't a typical 12-year-old.

Never mind that he is a high schooler, attending a Marlborough charter school, who hasn't yet hit his teens. Ask the Natick youth what he's done in the past few years and he can tick off a book-length list of achievements - though he offers them only after inquiry and with humble matter-of-factness - that range from inventions to prize-winning poetry to a nonprofit organization that he founded and manages on his own.

Wallack's latest accomplishment - a \$10,000 prize for designing a dome-shaped shelter made of plastic-foam packing material, recycled plastic shopping bags, and wire clothes hangers - comes six years after his first invention, a portable booster step that enabled his great-grandmother to climb in and out of the family's minivan. And that one netted the then-6-year-old an award too.

His successes, while indicative of what one boy with intelligence and empathy can do, are also examples of what can happen when gifted children are given challenges that test their abilities.

In explaining Wallack's trajectory, he and his family point to the Davidson Institute for Talent Development, a Nevada-based nonprofit organization that serves children with IQs in the 99th percentile. The Wallacks became involved with the institute when it was only a couple of years old, developing a close relationship with one of the cofounders, Jan Davidson. She and her husband, Bob, had pioneered educational computer software, including the Math Blaster and Reading Blaster series, and launched the institute with the proceeds from their company's sale in 1997.

When Wallack was 5, he said, Davidson told him that possessing great intelligence wasn't enough to truly succeed.

"I can remember her telling me if you have the ability to help others, then you have the responsibility to help," Wallack said. Though he was pint-sized at the time, the advice sunk in, and he's used it as a guiding principle for all that he's done ever since.

Last month, Wallack learned that he won first place among about 1,000 entries in Trash to Treasure, a contest sponsored by the By Kids for Kids Co., the Intel Foundation, and a PBS television show, "Design Squad," that challenges children to turn discarded materials into practical inventions.

Wallack's inspiration came from a trip to Chicago years ago. As he and his family navigated a street populated with homeless people, Wallack was struck by the urgent need for readily available and cheap housing.

For the contest, he decided a dome would best serve his vision of an easy-to-build and efficient housing model, and researched different architectural forms. Using the Mongolian yurt as a guide, he figured out a way to make bricks of compacted foam peanuts covered by plastic grocery bags. The bricks are attached to a frame made from wire hangers, and secured using the bags' handles.

"I was really excited because I finally found a way to help people that was really practical," said Wallack.

He plans to use the \$10,000 prize to support his other ventures, and will have a full-scale version of his design built by Continuum Inc., a consulting firm in West Newton.

Wallack's dome housing is just the latest in a string of ideas he's explored in response to needs he observed, either in his family or in society. After the booster step, he designed and built a portable cane and seat combo - the Walk and Wait Cane - that allows people who use canes to sit down intermittently while out and about.

When his grandmother was diagnosed with carpal tunnel syndrome, he designed a padded guard made of bubble wrap and cloth to cradle and support her wrist. The Carpal Cushion last year won him third place in the national Bubble Wrap Competition for Young Inventors, and a patent is pending, he said.

And he branched into a different type of philanthropy last year with Puzzles to Remember. Wallack's great-grandmother, who lived with him and his family for several years, had Alzheimer's disease before her death in 2007. Because of his experiences living with and caring for her, Wallack researched Alzheimer's and learned that doing puzzles helps slow the disease's progression.

He decided to set up puzzle collection bins at area libraries and schools, and write to manufacturers to request donations. Now, thanks largely to the weekly collection route that his mother drives him on, Wallack has been able to distribute more than 800 puzzles to nursing homes, hospitals, and Alzheimer's organizations.

Wallack's family saw that he was gifted early. There was the time the family was driving along the street and Wallack, not yet 2, pointed out a sign for pizza. When his father asked him how he knew the sign said "pizza," he replied, "because there are two Z's together." Within a year, he was reading books, and eventually skipped kindergarten and fifth grade. He now attends the Advanced Math and Science Academy Charter School in Marlborough.

Intelligence can be just as much a liability as other more widely acknowledged special needs, however, if it doesn't get the attention it deserves, say people who work with gifted children.

According to the "Handbook of Gifted Education," a resource for professionals, as many as 20 percent of high school dropouts are individuals with high intelligence or other advanced attributes who quit largely due to boredom.

Boredom is exactly what the Davidson Institute for Talent Development seeks to remedy. As part of the foundation's outreach, each family is assigned a counselor who can help children find avenues for their intelligence while helping their families navigate the difficulties and situations that can arise with gifted children.

"All along they've been supportive of him, helping him find different competitions," said Wallack's grandmother, Nancy Minkoff. "Any time he has something he needs to discuss about anything, he tells them and gets their opinion."

Wallack's family says they strive to reinforce Jan Davidson's message of using potential to improve the world, emphasizing the importance of hard work and good will over innate intelligence.

"If everybody tried to reach more with what they've got, then that's more important than someone who may have a lot and doesn't use what they have," said Minkoff.

But she also stressed that the bulk of Wallack's work and inspiration is self-initiated.

That's why on any given day, Wallack, who is pondering a career as a biomedical engineer or a geriatric psychiatrist, can be found after school doing science labs just for fun, participating in four extracurricular clubs, preparing another contest entry, working on Puzzles to Remember, going to Home Depot to buy supplies for a project, or writing logic puzzles, three of which have been published as Bogglers in Discover magazine.

Wallack attributes his achievements to simple hard work, shunning the suggestion that he is exceptional.

However, there is one key to his success: "I don't waste time." ■