NEWBERRY COLLEGE

Informal Education is Essential, Not Supplemental

Olivia Lawnick

NSF Award : **DUE-0934802**

Building Beyond Blocks and Legos

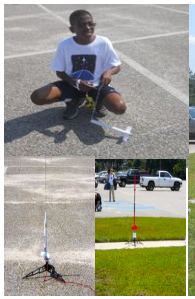
Campers get hands on with ROBOTS! During the special Robotics Camp, children build several different types of robots. The one pictured above comes with two building options, the Junglebot can either climb a rope like a monkey or walk on the ground like a gorilla. Campers chose to build one way, and learn how to later break apart and rebuild the other way. Campers can assemble their motors to turn their gears to move their "limbs". Consensus is that it is more fun to watch and do then to hear and read.

MORE Robot Fun!

Campers also built robots whose movements seemed random, until they reasoned it out. The robots have a hollow sphere that they use to roll, and inside the sphere the motor rotates a weight around a planar circumference. The direction of the weight dictates the direction of the robot. It is the same principle that the robotic vacuums use. So when the campers' robots bumped into something, it cause the weight to shift and thus shift direction. Not only did campers build these "bumper robots" but they also built an obstacle course for them too!

CHALLENGER LEARNING CENTER: Summer Camp 2012

This summer Newberry's REMAST interns were privileged to be part of the Challenger Learning Center for Science and Space Education's first summer camp program. The camp was very successful in engaging, entertaining, and educating children through tactile means. This summer camp experience exemplifies and emphasizes the importance of informal education in children's educational career. It is imperative that education centers such as this one be utilized and incorporated into standard curriculum. Further emphasis and effort should be put forth to include these education centers as well as their teaching methods into everyday education. This type of education is essential, not merely supplemental.

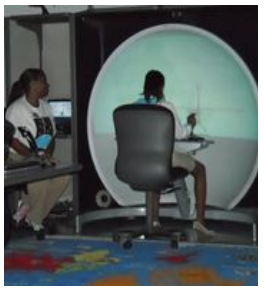


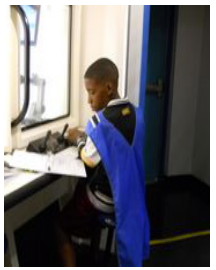
NASA's director, Charles F. Bolden, Jr. came to the camp this summer and helped the children launch rockets they had built themselves. What a great example of NASA's 2012 Summer of Innovation!

Children also built water bottle rockets. Using a bike pump to increase the pressure inside of the bottle, campers used this built up pressure to launch their rockets! Campers also learned about drag and wind resistance, they had to make sure to tape their wings and nose cone flush to avoid air pockets.

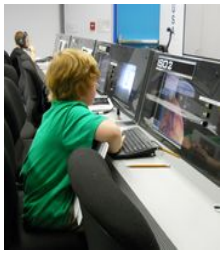
Technology Isn't Just Behind Screens

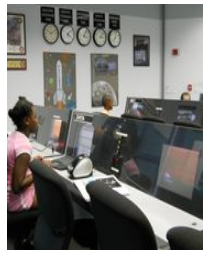
Campers learn throughout the program that science and technology education go beyond screens and computers. The center has a Aeronautical Education Lab, which is filled with flight simulators. Children learn about the basics of flight and aeronautical engineering and then can apply their understanding of pitch, roll, and yaw(the three planes on which a airplane flies) on a flight simulator.





The Challenger Learning Center is also equipped with its very own Mission Control Computer Lab and a Mars Space Station! Here large groups of children are divided up into two teams. Together they work from Mission Control and within the Space Station to complete tasks necessary for the overall mission. Roles include Navigation, Life Support, Probe, and Communications. This interactive roleplaying is certainly fun; it is also encouraging to children to explore and participate in science, space, and teamwork.





This particular experience at the Challenger Learning Center was the highlight of this summer's REMAST internship. It was the most enlightening and beneficial aspect to me as a future educator. I refuse to leave hands-on activities and interactive education in learning centers such as this, or rather I refuse to leave children in classrooms without these educational opportunities.