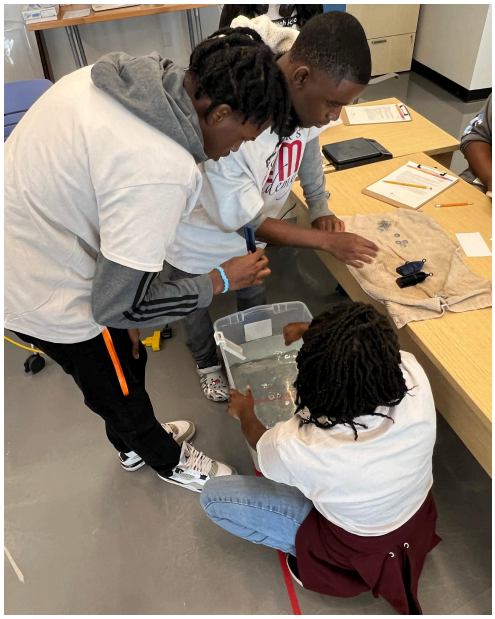
Ryan Jackson
9/30/24
Cyse 368

Reflective Journal 2

Innovation Lab Visits - September 30th

For this reflective journal, I will focus on one specific day, as it provides insight into Lab visits. The overview of the day had key themes and activities planned for 8th and 9th/10th graders. All of the students will engage in hands-on activities designed to introduce core STEM concepts and skills. The visits aim to expose students to potential career paths in STEM fields, including IT, coding, welding, robotics, and more. Problem-Solving & Design Thinking: The students will face real-world challenges requiring them to design and test potential solutions.



For the 9th & 10th Graders, we focused on buoyancy, boat design, and 3D printing. The activity was called "Carrying Cargo". It challenged the students to design and 3D print a boat that meets specific criteria for carrying capacity, efficiency, steering, and stability. In order to do this, we used Tinkercad for 3D design and printing. For the 8th Graders, their focus was IT, coding, welding, and robotics. I personally worked with the 9th/10th graders, so I know significantly less about the 8th-grade activities. I know that it utilized Tinkercad and Scratch. Tinkercad and Scratch are two user-friendly platforms entirely designed to help beginners learn important skills in technology and design. Tinkercad is an online 3D design and modeling tool. Its sole purpose is to allow users to create 3D models, electronic circuits, or even code. Users can create objects by combining basic

geometric shapes like cubes, cylinders, spheres, and more. It is ideal for students and educational institutions. It has a simple interface, which makes it great for beginners. Scratch is a visual programming language tool. It is designed to teach children and beginners the basics of coding through drag-and-drop code blocks. Instead of typing code, users can snap together blocks that represent different programming commands. They also learned about welding and participated in a hands-on welding challenge. Lastly was the robotics portion. They built and programmed VEX robots in order to interact with their environment using sensors. The 9th and 10th graders spent the entire day on the "Carrying Cargo" activity. The 8th graders rotated through stations. Overall, this particular Innovation Lab visit provided students with engaging, hands-on experiences that bring STEM concepts to life and open their eyes to exciting career possibilities.

The ODU Brooks Crossing Innovation Lab hosts a variety of Makerspace events, including Family Makerspace Nights, Open Makerspace sessions, and a Winter Craft Fest. This event in particular is simply a field trip visit from a nearby school. Each of these events is in some way designed for the exploration of STEAM (Science, Technology, Engineering, Art, and Math) concepts. These events feature themed stations with activities appropriate for all ages. Activities may include 3D printing, laser cutting, robotics, and more. These events are also free and open to the public, sometimes upon registration.