

CLEARWATER HIGH SCHOOL

Piedmont, MO

Clearwater High School's CTE Makeover Challenge makerspace project, "Transforming Library Space for School and Community Engagement", presents a flexible, mobile makerspace as the means for collaborative work between the school and community. Students and community members will work together, sharing knowledge, resources, and career networking. Students will be motivated with access to a wide variety of lab stations, allowing application of academic skills and development of creativity and innovation, while engaging in purposeful projects that solve "real world challenges" within the community. The makerspace will serve as a launchpad into high tech careers, introducing students to robotics, computers, engineering/electrical design, video/audio editing/production, graphic arts, and other creative processes.

Meet the Makers at Clearwater High School

July Update

1. How is your vision for a makerspace innovative?

- The space is both flexible and mobile
- The space has a strong collaboration with the community
- Creative stations will be used to develop real world solutions to real problems, meeting the needs of both the school and surrounding community
- An entrepreneurial component for sustainability will address product development, marketing, public relations, and economics

2. What are you most excited to get started on this summer?

It is difficult to pinpoint one thing as it is thrilling to be a part of the whole Maker Movement and, specifically, the CTE Makeover Challenge. However, as our school has never had access to any 3D printer nor video production facility, these components are especially exciting.

August Update

3. Can you describe the types of people who have been involved in your build out?

Educators of many disciplines and grade levels as well as technical professionals in the community have been involved in creating the Clearwater High School Makerspace, but perhaps the most interesting assistance has come from a gentleman from Bogota, Colombia. He is a former graduate of our high school, now living and working in South America. He was visiting family in the United States and volunteered not only his professional expertise in the area of videographics, but also donated the first piece of equipment for our new video production studio.

4. What has been the most challenging part of the summer build out thus far?

Time is the most challenging element. There is a tremendous amount of research involved in selecting just the right products with specifications for our needs and then finding just the

right vendor at the best prices, so that our budget is spent most effectively. These tasks are made more difficult by adding the element of a time crunch, as the video walk-through deadline looms on the horizon in September. Shipping times for equipment have been several weeks in some cases. We were tempted to opt for different specifications on some items based on what was in stock, but we remained patient. We feel that patience and planning will serve us better as we focus on the makerspace and its service in the future of our students and community.

5. Have you made adjustments to your original plan since starting your build out? If so, can you describe how you have changed your plan and what sparked the change?

We had planned to purchase a Mac Pro for video production and a MacBook for graphic design, having separate stations for each within the Makerspace. In speaking to industry professionals, it was necessary to revise our plans. Rather than splitting our funds into two different computers, we decided to purchase one powerful Mac computer that would better handle our video production needs, as well as be useful for graphic design projects.

September Update

6. What advice do you have for other schools developing making programs?

Don't let lack of funding postpone the development of your makerspace. Start small. Gather materials from a variety of sources via a school/community drive to let folks donate unused and left over supplies such as scrapbooking materials, wallpaper, tools, electronics, Legos, magazines, etc. A deconstruction zone to take apart appliances and electronics costs nothing. (Safety tip: Cut the electrical cord on equipment before disassembling it, so that it can't be accidentally plugged in to a power source). Let students experiment. Allow them to be a driving force in growth of your makerspace.

7. As you reflect on your progress, of what are you most proud?

We are most proud of the way our students have taken the initiative to jump into the makerspace and begin creating.

The contemporary issues class has begun to produce a news show they intend to broadcast weekly. Students are creating graphics, learning video editing software on their own, working through their lunch hours, asking to stay after school.

One of the seniors planning to major in engineering has been given the responsibility of being an assistant in the makerspace. When approached with the opportunity, tears came to her eyes. Asked if we made her day, she said, "Mrs. Bangert, you made my life!"

8. What else do you have in the works for this fall?

The robotics team has new leaders from both the school and community. Once we receive the materials to build the new robot, the team will begin building, programming, and competing in challenges.

- One teacher has offered digital sewing machines to be added to the makerspace.

- Once the space is more complete, an open house is planned to invite the community to share in the makerspace excitement.

9. Now that school is back in session, have there been any surprises about how the space has been used?

We had planned to divide the space into work areas, with video production in the back of the room, a deconstruction zone adjacent to that, and mobile carts housed in the front of the space. The thought was that only a few individuals would be using the video area at a time. However, an entire class is already involved. We are delighted to accommodate so many students, but have to rethink how our space should be organized.