CODE220 Paper intro

This is important to the St. Louis area because it is located on a flood plain. Not only is this area on a flood plain, it also has a heavily industrial background. The pipes that are underground are deteriorating over time and are not sustainable during heavy rains. Areas in Illinois like Centreville, Cahokia Heights, and East St. Louis struggle with sewage flooding into their yards. The Community-Oriented Digital Engagement Scholars (CODES) at SIUE partnered with HeartLands Conservancy and the Jackie Joyner-Kersee Food, Agriculture, Nutrition, and Innovation Center to look deeper into this issue. We are six students from this organization that works with after-school kids at the Jackie Joyner-Kersee (JJK) Academy in East St. Louis.

After completing intensive research surrounding this wicked problem and truly immersing ourselves into it, we raise this question: Do elementary-age children who receive water conservation education apply water conservation practices at home? We expect the children who receive water conservation education do apply these practices in their homes, and the children who do not receive it, do not apply these practices in their homes. This is relevant to us because we have been working with JJK Academy to implement water conservation in their curriculum. One of our group members, Payton, is working on a water fair toolkit so that other communities can host their own water fair. Another member, Tamiria, is working on interviewing local organizations to get their feedback on water conservation education in the St. Louis region. We are curious about this topic because of the communities we see struggling around us.

We, as young adults, and our exposure to learning about water infrastructure in CODES opened our eyes to further look into what it is and all the different areas that connect to it, as water conservation. That's how our curiosity started growing into our education area, of why we didn’t have class or a curriculum that taught us how to build environmental and sustainable habits around water conservation.

So we started researching and trying to prove that there are many benefits to having a water conservation class, lessons, or curriculum that can change our future by fighting back against climate change and water insecurity in our towns, states, and country.

Introduction

Pop quiz! True or False?

Environmental education is not required in most public schools in the United States.

Many schools do not have the funding for hands-on activities.

There are communities in the United States that don't have clean water.

Think about it for a second

Well, if you said they're all true, you'd be correct!

Our vision is to educate the youth about good water conservation practices so that they implement these habits in their home. Looking at the bigger picture, we want to influence this new generation to be knowledgeable about water and combat climate change. We have orchestrated our own water fair at JJK Academy with students aged 8-10. We had 4 stations that focused on water conservation vocabulary, soil, water runoff, and water filtration. By participating in water fairs, children are exposed to water conservation exercises and will want to take pride in conserving their Earth.

This is important to the St. Louis area because it is located on a flood plain. Not only is this area on a flood plain, it also has a heavily industrial background. The pipes that are underground are deteriorating over time and are not sustainable during heavy rains. Areas in Illinois like Cahokia Heights (formerly Cahokia, Centreville, and Alorton), and East St. Louis faces sewage flooding into their yards. The Community-Oriented Digital Engagement Scholars (CODES) at SIUE partnered with HeartLands Conservancy and the Jackie Joyner-Kersee Food, Agriculture, Nutrition, and Innovation Center to look deeper into this issue. We are six students from this organization that works with after-school kids at the Jackie Joyner-Kersee (JJK) Academy in East St. Louis.

We have conducted almost two years of research about this wicked water equity issue. We have interviewed local educators and organizations, surveyed over 200 educators regarding their part in water conservation education, and learned from SIUE's own STEM Center faculty about what it takes to develop lesson plans. The emerging themes were lack of awareness, lack of funding, and outstanding curriculum requirements, all preventing educators from implementing water conservation into their classrooms. Therefore, we visited the Illinois State Capitol where we spoke with legislators about our findings. We decided to tackle after school programming which has less regulations. Read further to learn about the steps we took to orchestrate our very own water fair!

Media

Introduction goals: Interesting fact/observation, describing a problem

What kinds of media do we want to include?

- Pictures of Cahokia Heights
- Pictures of us at SIU System Day
- Pictures of us at JJK
- Water fair pictures
- Pictures of us in class last semester

Where do we want to include them?


Do we want to use media that doesn't belong to us?
















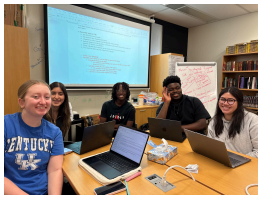


The Magic of Water Filtration - JR

This project was created by Justin Richerson and he had created “The Magic of Water Filtration.” It started when he wanted to make a simple inexpensive project that portrayed an aspect of Water Filtration, when the idea was floated that I should make it about water filtration, after confirming this as a good idea with his peers and the community partners, he had set the research into motion and found several sources detailing the process, using materials such as a soda bottle, sand, pebbles of varying sizes, and cottonballs, it was also preferable that all these items were very inexpensive and easy to find/be supplied with. After the construction of the Simple water filter, it was ready for presentation.

His part of the Water Fair was essentially about water filtration and its effects on the environment. It had been constructed using a simple model of the water filter, using a bottle, and some other relatively inexpensive materials. Then, he decided to make an activity out of it using a large notepad and drew an example of the water filter and had the kids describe each layer of the simple water filter. It was meant for the students to comprehend what they were previously taught and bring their own ideas into it.

While there were some hiccups, Zach and Kurly loved the idea and the execution of it, So I would deem this project a rousing success.

The Dirt Detective - MR

Runoff with Water Knowledge - SS

My name is Sonia Sheryr and I created my lesson plan called Runoff with Water Knowledge. I plan on researching secondary sources regarding rain gardens, pollutants and other obstructions, and runoff water. I will include more evidence in my lesson plan and tailor it efficiently for my specific target audience to help convey the importance of runoff water in water conservation. It is also important to put into perspective how this one lesson plan can help picture the water cycle and runoff while understanding its functions and roles.

Water Word Wonders - AG

Water Words Wonders is a game that I, Alexandra created inspired by a fun and interactive approach to learning terms related to water conservation. When I started my research on water conservation education for young kids, I couldn't find many fun activities to teach them about water sustainability, taking care of water, and key terms related to this topic. So, the idea of making a game that was both fun and low-cost came to mind. After looking into different possible games, I decided on a matching game where kids match a definition to a card that includes a word and a picture. The picture helps kids better understand the words. Another thing I considered is that the game can be easily modified for older or younger kids, but for my version, it was made specifically for 5 to 12 year olds.

Water Fair Toolkit - PP

After our water fair concluded, we were able to dissect what went well and what areas could use improvement. One of our group members, Payton Plummer, constructed a water fair toolkit. This is a guide for other communities to implement similar events. She wanted to analyze the CODES water fair on a bigger scale. She began by brainstorming topics that would encompass our goals but also that would be age appropriate and easily digestible. She created a google doc with different tabs, starting with a "Read Me" file– consisting of an overview and instructions for navigation. Another tab is labeled "Logistics" which covers the planning details it takes to create a water fair. The next tab is "CODES Water Fair" where there is a detailed description of all things that went into constructing the water fair that inspired it all. The remaining tabs are the topics covered: Water Equity, Water Conservation, Water Filtration, Community Gardens, and Flooding. Within each topic, there are four more tabs: Overview, Photos, Instructions, and Materials. Each topic has hands-on activities that would have a lasting impact on the participants and lead them to think more about water. We have been working alongside the Jackie Joyner-Kersee Food, Agriculture, Nutrition, and Innovation Center in East St. Louis, especially with local educators, Zach and Kurly. Zach and Kurly were able to attend our water fair and give us good feedback, which was incorporated into the toolkit also. Payton hopes that this toolkit can be distributed to other communities to raise a new generation of students to make good decisions regarding water.

Org Interviews - TD

Our 2025 Water Fair project was an event cultivated to expose K-8 students with water conservation practices. The goal was to ensure that students could go home with an idea on how to perform these practices. More specifically, my part in this research was to investigate the methods that organizations use to inform the public about water conservation. This process took about approximately a month to interview and decode them. With that being said, I was able to interview 3 staff members in the education department about the methods that they use. They began to explain their relationship between local school districts as it regards teaching science curriculum. Furthermore, staff members shared that they supply teachers with materials such as soil to help immerse students into the learning experience. I was able to create a thematic analysis based off the words that were repeated the most. Just like the National Great River Center, we were able to apply these same engaging techniques to our 2025 Water Fair. We had four stations where students were able to take different things from. Ultimately, the experience allowed for students to take away positive water conservation practice that can be applied to daily life.

Conclusion

In conclusion, we have all played a role in this research building into what is now known as the water fair, giving us the opportunity to teach kids a fun lesson in water conservation that we have created or modified to fit with our partners approach in a fun and interactive way of teaching in their after school program. After being able to try out lessons we were able to learn and understand different ideas and experiences with kids and how we can improve our ways of teaching that improve kids' awareness of water conservation. We as the education research group in water conservation hope to make a difference in kids' lives for the future of water resources.

Final

Pop quiz! True or False?

- Environmental education is not required in most public schools in the United States.
- Many schools do not have the funding for hands-on activities.
- There are communities in the United States that don't have clean water.

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Marques Rutlin, Justin Richerson, Payton Plummer, & Alexandra Guerrero at the Illinois State Capitol

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Justin Richerson teaching "The Magic of Water Filtration" at the Jackie Joyner-Kersee Academy

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***Insert The Dirt Detective - Marques**

***Insert Runoff with Water Knowledge - Sonia**

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***Insert Org Interviews - Tamiria**

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