Youth Education

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CODE 122

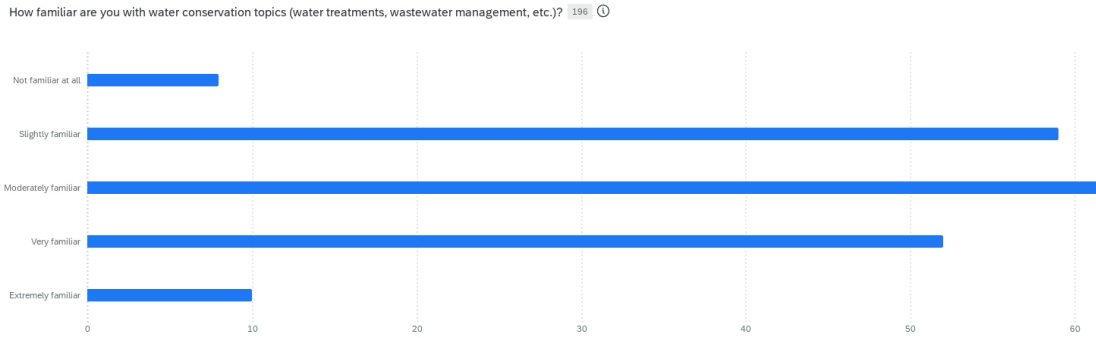
9 March 2025

Teachers' Perspectives on Water Conservation Education

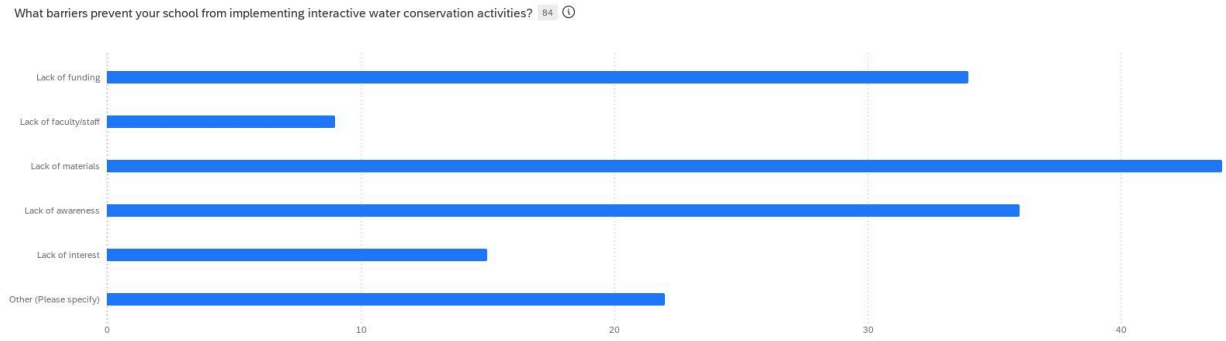
Our survey is mainly for teachers and educators. It was created to learn how educators feel about water conservation in the classroom, giving us a more open understanding of difficulties and challenges regarding water conservation and its importance in the education system. It is meant to educate the youth and upcoming generations on water quality and infrastructure because if the children are educated on these issues and resonate with them, they can ensure a better future.

Our survey has 9 questions and consisted of multiple-choice questions, open ended questions, and "select all that apply". A question we asked was regarding the age group of kids that educators interact with. This would help us better analyze trends according to the demographics provided. In addition, another question we asked in our survey was regarding water topics.

We received 196 total responses. The majority of our responses came from those who interacted with sixth through eighth grade students. These educators think labs and experiments work best for engaging students. Data is evenly divided when asked if they've used interactive activities in the classroom, but the smallest proportions of responses said they were extremely familiar or not at all familiar with these conservation education practices.



For those who answered “no”, we inquired about the barriers that prevented them from these activities. This data was spread evenly as well, but as you can see below, it seems like most teachers need money, materials, and are unaware of the urgency of this issue. Talking to legislators about this during System Day will be beneficial.



We asked if respondents were comfortable sharing where they get their lesson plans from. Most of the respondents said they got their lesson plans online or from textbooks, which will be helpful when we work on Lab #2. Here are a few resources we could use:

The Climate Initiative has a wonderful curriculum that includes water conservation

Magic tools AI (AI for teachers), TPT, a bunch of online groups I am a member of, and our science curriculum.

Phet interactive website
Teks

When building a lesson plan, I utilize a diverse range of resources. First and foremost, I turn to educational textbooks relevant to the subject matter. They offer structured content, well - organized theories, and numerous examples that serve as a solid foundation for the lesson.

Online educational platforms are also invaluable. Websites like Khan Academy and Coursera provide access to a wealth of expert - created materials, including video lectures, practice exercises, and study guides. These resources can be adapted to fit the specific needs of my students.

In addition, I rely on professional teacher networks. Participating in online forums and attending local teacher workshops allows me to exchange ideas with colleagues. They often share unique teaching strategies, innovative lesson plans, and useful teaching materials that I can incorporate into my own plans.

Furthermore, I use government and non - profit organization websites. For instance, in science lessons, I might refer to NASA's educational resources for astronomy - related content, or environmental protection agency websites for topics on ecology and conservation. These sources offer up - to - date, accurate, and reliable information.

Textbook (Savvas Realize), Teachers Pay Teachers, NearPod, ChatGPT

Common threads among success stories involve personal stories from students that led them to learn more emotionally. Other stories consist of high school students doing volunteer work with local nonprofits. Below are a few success stories we found particularly interesting.

Most of the activities I do don't necessarily involve students going out into the community to share what they learned or make an impact on water conservation for the community. I did have a student tell me there were dead fish in the creek next to his house. He asked if we could test the water to see what analysis revealed. As soon as we opened the jar, it smelled (very strongly!) of gasoline. We reported it and it was found that a gas station along the creek had an underground leak.

Sure! One of my students, Lily, was truly remarkable. After learning about water conservation in class, she was deeply inspired. At home, she convinced her family to install water - saving showerheads and faucet aerators. She also set up a system to collect rainwater for watering their garden.

In her neighborhood, Lily organized a small awareness - raising campaign. She created colorful brochures with simple water - saving tips and distributed them door - to - door. With the help of some of her friends, she even organized a community event where they demonstrated how to make a simple rain barrel. As a result, many of the neighbors started to adopt water - saving habits.

Another student, Tom, took his passion for water conservation to school. He noticed that the school's old toilets were using a large amount of water with each flush. Tom wrote a detailed proposal to the school administration, complete with cost - benefit analyses of upgrading to low - flow toilets. Impressed by his research and enthusiasm, the school decided to make the change. Now, the school is saving a significant amount of water every day, all thanks to Tom's initiative. These students not only made a difference in their immediate surroundings but also inspired others to take action for water conservation.

My students in 6th grade hear the story A Long Walk to Water by Linda Sue Park. Most students I teach have no idea where their water really comes from much less that people in other parts of the world do without clean water.
The impact of the story along with our study of water is very impactful.

Students have helped test water quality for community members and their well water which is important in our community due to its frequent water shortage and quality issues.

During our partnership with the city Students on work on project based learning based on home water conservation, they will work on reduce their household water usage

The suggestions portion at the end of the survey was helpful so we have outside perspectives on what they find important. We have been working nonstop on this project for over 6 months now, and we could use the outside opinions on things we may be oblivious to. Examples of their suggestions included documenting water usage in their homes, going on field trips, and incorporating hands-on activities.

We take a trip to a water treatment plant. That helps make a big connection.

I had them track their toilet flushes, shower times, teeth brushing times, etc for their entire family and then calculate how many gallons it was.

Relating the topic to how it directly impacts their lives is always beneficial for learning and scaffolding of topics

- Set up water - filtration experiments. Students can build simple water filters using common household items like sand, gravel, and charcoal. This hands - on experience will not only teach them about water purification but also make them more aware of the importance of clean water.

My students always enjoy speakers, virtual tours, podcasts, labs, etc.

Engaging videos, real world experiences, how it impacts their daily lives, etc

Visit their local aquifer, Lear about their local watershed, water treatment plants, sewer systems (everything local so they can feel more connected)

The overall design of this survey was concise and to the point. Our use of open-ended and closed-ended questions to receive information from educators benefited our results. One way we can improve this survey is by honing in on our subjects, specifically STEM educators and any other science programs. By doing this information collected will be more exact and targeted to what we are doing in the future with JJK. In addition to improving this survey we can focus on

getting a more diverse range of data over multiple student age ranges since most of our data came from school educators.