

When Preparation Changed Everything

by dottysplace



This supply table was set up during a STEM challenge. While working, students grabbed supplies, as needed.

For a long time, I made STEM harder than it needed to be. I held really big aspirations. I also felt the need to make it look perfect. In my mind, I knew that wasn't possible. But, I couldn't erase my beliefs about what STEM activities should entail.

The realities that hindered me were often things that were out of my control.

1. **Materials.** I felt like I never had the right materials. And even when I did, I often didn't have enough. I worried that my lessons would be unsuccessful because I didn't have enough equipment or supplies. I believed that I should have the required amount of things for every student or every group. Without enough, I felt that some lessons weren't even worth starting.
2. **Students.** Other times, it was the group I was working with. Like most teachers, I had years when my students were well mannered and focused. Other years, my students needed greater supervision. Those were the years when I was constantly scanning the room, measuring my words, and having to make decisions on the fly. The balance was always delicate and instruction suffered, as a result.
3. **Time.** Some years, I didn't have enough time. I would find myself experiencing intense pressure, as I couldn't make my schedule line up. I would have all of these worries in the back of my mind, while still trying my best to teach. I struggled when this was the case. Sometimes I would choose not to start major projects, when I knew I wouldn't be able to finish them.

Those were the outside issues. Inside, I struggled with something much deeper.



When Preparation Changed Everything

by dottysplace

The Part I Didn't Say Out Loud

I didn't have much confidence. Even now, I'm hesitating, as I make this confession. I don't want to discount all the ways that I have grown, throughout the years. But honestly, Science was never my strongest subject.

I hadn't taken many advanced Science classes. And I was overwhelmed by the thought of offering activities in disciplines, like Physics or Electronics. I guess, I carried this quiet belief that if I opened the door to STEM too wide, my students would expect me to be an expert.

I knew I wasn't the person who had mastered everything. I knew I couldn't live up to that image. And while that fear never fully disappeared, what changed over time was how I faced it. I learned to give myself grace. And, I stopped seeing myself as the person who needed to have all the answers.

Instead, I treated myself, in the same way I would treat my students. I began to expect that I would sometimes fumble. I gave myself room to fail and keep going. I started measuring my success by whether or not I was doing my best. I allowed myself to learn.

That's what led me to a major decision. I decided that I would begin to take more chances. I knew that though I may never reach perfection, I could still do my best to create conditions that cultivated learning.

Before I could begin though, I needed to embrace one simple fact. My students didn't need me to know everything. I didn't have to have a wealth of knowledge or experience to pass down. Instead, what they needed was for me to guide them; to model curiosity and help them find answers. Once I embraced that shift, much of the stress I carried began to lift.

This was around the time that I learned about purposeful planning.

Seeing STEM that Actually Worked

The change toward better planning didn't happen overnight.

I had to read books and see examples from several classrooms. What amazed me was how incredible these learning spaces appeared. I was drawn to how everything seemed to run so smoothly. Hands-on learning appeared to be happening effortlessly.



When Preparation Changed Everything

by dottysplace

I wanted that for myself. But I questioned if what I was seeing was real. I wondered what happened in those classrooms when there were no visitors. Was I seeing the norm or was it the exception? I was skeptical. And I made statements like, "Sure, this teacher is doing it. But she doesn't have to work with my students...my demographics...my conditions." To me, those exemplar classrooms felt a little too ideal.

Finally, there was one teacher, who particularly stood out to me.

I noticed her behind the scenes work and had the opportunity to question her about it. What stood out about this teacher was how she didn't just prepare lessons. To me, it looked as if she was preparing an experience. Her materials were ready, before students ever walked in. Her transitions were smooth. Her students were a lot like mine. But they knew exactly what was expected of them.

I was impressed by how she wasn't stopping mid-lesson to look for supplies or decide what to hand out next. It was all there. And she handled classroom management with expertise. I guess, watching this teacher made something click.

I realized that polished STEM lessons didn't require more time or better students. What they all had in common was a more thorough preparation.

The Power of Grouped Materials

One of the first things I changed had to do with my supplies. I realized how much instructional time I was losing just passing things out.

Five minutes here.
Ten minutes there.

My students would start out excited, then slowly grow anxious as they waited. Even when I tried to involve students, I was still pausing the lesson and opening the door to possible disruptions. I came to understand that those breaks mattered more than I realized. Once my students lost their focus, it was usually difficult to bring it back.



When Preparation Changed Everything

by dottysplace

My solution was to start preparing large supply baggies. They were usually 2 gallon bags that I prepared for each table or group. Inside each bag were the materials my students needed for that activity. They weren't fancy. My goal was to make them intentional. They were usually the perfect size to contain everything that was essential. Sometimes, they even held all the materials for an entire unit. Supply bags were easy to grab and easy to store. They were big enough to hold unfinished work. And they made STEM experiences mobile. We could go outside to do observations, or sit in the sun, when the weather was nice. They proved useful when lessons needed a pause or we were ending that activity for the day. Supply baggies made it easier to pick right back up and continue the next day, without creating chaos. Even when I had students on the spectrum, it made it easier for them to transition from one activity to the next. The ability to see their supply bag, became an assurance that they could later return to their work.

My switch to supply baggies made a difference that was almost immediate. Instead of spending time distributing materials, I could hand each group their bag and begin.

Designing the Room to Do Some of the Work

Supply baggies were a real game changer. But over time, I realized that I needed something more. I realized that my supply baggies would work better if they were part of a bigger system.

One that would solve some of the issues I had begun to run into. For instance, sometimes my baggies weren't big enough. Not everything could fit in them. And then there were the instances where I just did not have a big enough supply of materials for each group. Other times, projects required crucial tools or supplies that were needed for other periods of the day. I was not able to set aside some supplies, for the life of the project.

That's why I began designating specific places around the room for shared supplies. For example, I might place trays of STEM or recycled materials in different areas to regulate traffic. Maybe I was using scales or hot glue guns, and there weren't enough to support each group. I'd spread supplies around the room, at various points, so everyone wasn't crowding into one spot. My students would take turns sharing or grab what they needed, as they worked.



When Preparation Changed Everything

by dottysplace

For some materials, they remained in a fixed location. And I put rules and a structure in place to ensure that my students knew how to get their own supplies and return them when they were finished. In my mind, this was similar to how a lot of teachers manage pencils and paper. I simply extended it to other materials. I provided different types of paper, and bins that contained supplies like, rulers, glue bottles, scissors, and more.

For me, it was an entirely new way of looking at storage and supply dispersal. This approach carried several benefits. There were:

- smoother transitions
- fewer interruptions
- greater student independence

And as an added bonus, these changes extended beyond STEM and into other subjects. My students became more responsible for their own learning. They knew how to access what they needed. And that took a lot of the pressure off of me.

It allowed me to monitor from a distance, keep an eye on the room, and step in when needed. I didn't have to hover. And I wasn't sporadically halting their work.

The Benefit I Didn't Expect

I set out to make my instruction look more polished. I wanted to improve the flow of delivery and increase efficiency. But unknowingly, I found that I was also reinforcing classroom management. My attention was no longer being pulled away to pass out supplies. That meant that my guard wasn't down and I could curtail behaviors before they were able to surface and build traction. Suddenly, I was no longer turning my back to address one student's behavior, only to embolden several others to misbehave.

By preparing materials ahead of time, and designing a clear dispersal system, my attention stayed where it belonged. I could scan the room, catch small issues early, and keep the momentum going. I have to admit, planning didn't eliminate every classroom management challenge. But it did help me prevent small things from spreading.



Examples of Storage in Action



P8130356.JPG



P8130355.JPG



P8130354.JPG



P8130353.JPG



P8130352.JPG



P8130351.JPG



P8130350.JPG



P8130349.JPG



Here are a few examples of STEM prep and storage. In the early years, I stored STEM toys next to more traditional play toys. Students were free to openly explore. Later examples show an Arts and Crafts supply kit, a supply baggy for exploring different ways to clean and polish rocks, and a supply table set up with random STEM supplies. In each case, items were placed in locations where students could easily access them.

When Preparation Changed Everything

by dottysplace

What Planning Gave Me

Preparing materials ahead of time made my job less stressful. I would pack my supply baggies during lunch or after school. I could play my music and enjoy the process. And, it was less cumbersome because I wasn't managing a room full of students. That alone made a huge difference.

When it came to the actual delivery of my lessons, my mental energy could now be fully shifted towards the presentation. Instead of worrying about logistics, I could:

- observe how my students were thinking
- offer encouragement and feedback
- pull students briefly for one-on-one tutoring
- stay present

I found that planning ahead didn't make STEM rigid or scripted. It actually made it possible.

A Quiet Reframe

I used to think planning was about control.

Now I see it as a support. Not only for my students, but also for myself.

When my environment was ready, learning had room to happen.

