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# Open Exploration in a Makerspace: What it is and Why We Need It - Renovated Learning

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4–5 minutes





In a thriving makerspace, there is a balance. [Design challenges](#) allow students to work together on a similar theme coming from a design prompt. The challenge creates constraints, but not necessarily structure. **Workshops** are focused more on learning a specific skill. Usually everyone makes a similar project. There is more guidance and structure to these activities, much like [guided projects](#). **Open Exploration**, on the other hand, is a time with little structure. Students can express their voice in choosing what tools and materials they use, what they want their projects to be. What they make could be practical or whimsical. It could be for a class or it could be a way to express their fandoms. Ideally, a makerspace should have a balance of open exploration, workshops and design challenges, although the proportions of each can and should vary depending on school culture and programs.

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## What does Open Exploration look like?

When you give students free reign in your makerspace, it will look

different every time. One student might want to tinker with LEGOs. Another wants to create an obstacle course to drive a robot around. You may have students that have a project idea for class that they want to work on. And there may be a student who is getting ready for a ComicCon and wants to build part of their cosplay costume. Open exploration is just that – open.

### **When does it happen?**

Open exploration can happen anytime in a makerspace, but it works best during times that are naturally unstructured anyway. During lunch, club periods, before or after school are all fantastic opportunities if they work within your school schedule. In middle and high school, I've found lunch times very effective as students want to hang out in the library anyhow. At my previous school, I encouraged teachers to use library passes to send students to the makerspace. I'd often have students come who had finished work early. Other teachers would give students free time in the makerspace as an incentive. At my current school, we have "Open Make" time during our afterschool Maker Mondays about once a month. This year, I'm starting up Open Maker Lab times every Friday afterschool.

Within a class structure, I would think of Open Exploration like Drop Everything and Read. It can be a specific time within a class where the focus is on making whatever the students are interested in.

### **How do you support Open Exploration?**

Part of allowing for successful Open Exploration time is developing student skills beforehand. Workshops and Guided Projects can

allow students to learn new tools and techniques. They can refine their techniques before trying them out on their own projects. Creating a regular or on-demand maker workshop schedule can help students to prepare ahead of time.

Organization of supplies and tools is also critical for open-ended time in a makerspace. If students don't know where to find a specific item, it can stall their making. They might ask you or another teacher, but they also might just abandon their projects. Make sure that things are clearly labeled and easy for all students to access. For more details on the logistics and best practices for an effective open exploration experience, **check out Part 2 next week.**

*Do you have Open Exploration opportunities in your makerspace?  
What kinds of project ideas have students come up with?*



If you liked this post, you'd probably also like my book, [Challenge-Based Learning in the School Library Makerspace](#) . Along with my co-authors [Colleen Graves](#) and [Aaron Graves](#), we cover everything from getting started, building a maker culture and setting up the physical space of your makerspace to organizing global collaborations, partnering with

maker experts and documenting learning with maker journals. We go into detail about how to create design challenge prompts that will spur on creativity in your students. The book includes grade-level specific sections for elementary and secondary that offer curriculum connected challenges and activities.





# OPEN EXPLORATION IN A MAKERSPACE *Best Practices*



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In *Open Exploration in a Makerspace: What it is and Why We*

*Need it, I explored why having open exploration time in your makerspace is an important part of the learning ecosystem. In this post, I dig more into the practical stuff – how to actually make this work in your space.*

Open-exploration in a makerspace is a time when students can freely explore different tools and materials with little to no structure and minimal supervision. In a library makerspace, this often coincides with walk-ins, where students freely come in during the day to work in the makerspace. Of course, this doesn't mean that the makerspace is available for open-exploration 24/7. Setting procedures and logistics will help students to know when it is available. You could allow for drop-ins only during certain time periods (before school and during lunch). You could incorporate open-exploration into what would usually be a more structured time, like an [afterschool Makers Club](#). Like most things with makerspaces, there isn't necessarily a right and a wrong way to do things. It's about trying stuff out, experimenting, iterating and figuring out what will work best for your school and your students.

That being said, there are best practices you can put in place that will help things to run more smoothly.

## **Tools and Materials**

Look for tools and activities that can support multiple students at once without a lot of guidance. LEGOs, K'nex and other construction type tools are fantastic for this. Keva planks can also work well and are great because they are impermanent. This means students won't become too attached to their creations. A [LEGO wall](#) supports a creative space that needs no instruction. A

[whiteboard wall](#) and tables provide spaces for doodling, drawing and brainstorming.

[Perler beads](#) can be good, but they can also be messy and need a bit of supervision. Plus, you have to iron them once they're done. You can create a system for this where students leave their creations and come back and pick them up once they're ironed.

Robots can be good if you have student helpers who can assist students – otherwise you'll have to spend time showing students how to use them. The disadvantage with robots is that they mostly have a one-to-one ratio – generally, only one student can control them at a time. *For the purposes of open exploration, it's best to avoid tools that can only be used by one student at a time.* This isn't to say that you couldn't have a 3D printer running during open exploration time. But watching it slowly print something out is only interesting for so long.

## **Storage and Organization**

If you want students to explore your makerspace in an open, unstructured way, you need to have the tools and materials *easily accessible* and *out in the open*. There's lots of fantastic [makerspace cart](#) options out there. Carts with open bins that let you see the tools, such as [Copernicus carts](#), can work great for this. While carts with closed bins are good for overall makerspace storage, they don't generally invite students to go digging into them. If you're thinking about an item that you need to secure, it might not be the best option for an open exploration time. You want everything to be accessible without having to worry about damage or theft.



Another good idea is to create [an intuitive organization system](#) so that students know where to put things back when they're done. Labels and signage are crucial for this – try to use words and pictures when you can to help your ELL or early literacy students feel included. Organizing by color works especially well with tools that are already solid colors like LEGOs or K'nex.

## **Maker Culture**

A big part of the success of any open-exploration program in a makerspace is creating and having a [Maker Culture](#) in your space. It's important that students respect each other, the space and the tools. This is something that is a constant mission in the space. It starts with setting the tone at the beginning of the school year and it requires maintaining that tone throughout the year.

## **Slightly structured open exploration**

Completely wide-open and unstructured open exploration might not work for every school. It's okay to add in a bit of structure if your school needs it. The main thing is to make sure that within that structure there's still student voice and choice.

## ***Passive design challenges***

Design challenges are generally activities done with a group of students all working on a common challenge or goal. A passive design challenge on the other hand, is asynchronous. By posting the challenge in the space for a set amount of time, students can come and work on the design challenge in their own timeline. For instance, you could post a passive challenge in your LEGO area to

build a model of a rocket ship that could take a LEGO minifigure to Mars. One advantage of passive challenges is that they can be optional – if a student would rather build a forest of LEGOs, they can do that. But if they're struggling for ideas or inspiration about what to build, the design challenge will help them get started.

### ***Center-style stations that connect to curriculum or standards***

Many school librarians, especially those who have worked in elementary schools, will be familiar with the concept of centers. Creating center-style stations, where students rotate through different guided activities, can be a great way to bring some structure into your makerspace. It can be tricky to design these stations in a way that still allows for student choice, but it can be done. The key is to make sure that the activity isn't so regimented that there's only one solution. While this wouldn't necessarily fit the exact definition of open-exploration, it can work well for many schools. This is especially useful if your school places a heavy emphasis on curriculum and standards

## **Logistics and Procedures**

You want to make sure that you setup your logistics and procedures for your space early on. This includes deciding on logistics for open exploration time. Many of these logistics are also things you should decide for your makerspace as a whole.

[When is the space open?](#) ***How will students know when it's closed? –***

More than likely, your makerspace won't be available for open exploration all day every day. Some days you might have a class

in the space. Other days you may have to close for special events. Create a signal – maybe some signage, or having colorful lights turned on, that lets your students know when the space is and isn't available.

***How much supervision do you plan to offer? Are there student helpers or even a secretary who can oversee the space when you're teaching classes/working with a student/checking out books, etc?***

The answers to these questions will vary greatly from one school to the next. You want to make sure you have a plan. Some schools are fine with very little supervision, while others prefer to be more hands-on. Some librarians have lots of help to run the library space while others are solo. Find what works for you.

***Will students need a pass that specifically states what they're doing?***

If you want to make sure that your teachers continue to support the makerspace, you want to know that students using were actually intended to be there. It's tempting for students who were only sent to check out books or use a computer to drift over to the makerspace and lose track of time. So find a system that works for you. It could be laminated passes on a lanyard (like bathroom passes), or a specific box that teachers can check off on paper passes

***Can students save their projects to work on later, or will they be taken apart?***

*Can they take projects home (i.e. Perler beads or origami)? This*

might depend on the activity, but it's important to make sure it's clear early on. Some projects might always come apart afterwards (like Keva planks), while others might be saved (K'nex or LEGOs). Some craft projects could be make-and-takes while others might be things you want to keep and display in the library. Whatever it is, add some signage to make things clear. Mention it to students when they first start the activity.

*Do you have Open Exploration time in your makerspace? What are some strategies you've found to help it run smoothly?*