

# HOW **LEARNERS** **SEE** THEMSELVES

We are part of finding the answers

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BEYOND IMAGINATION

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# We are part of finding the answers.

All over Allegheny County are active learning spaces - classrooms, libraries, and community spaces that encourage learners' independence, interaction, and exploration. These spaces, which house whiteboards, 3-D printers, green screens, computers, and a host of other high- and low-tech tools, are louder, busier, and less structured than traditional learning spaces.

In some cases, the spaces are built specifically for active learning; in most cases, however, the spaces are re-designed and newly outfitted. Educators report learners who are engaged and enthusiastic, but the question remains: how do learners make sense of these spaces?

For two weeks in June 2019, an educational researcher investigated that very question by observing and interviewing learners from kindergarten through high school as they participated in active learning spaces. Despite the diversity of the spaces and experiences, learners agreed about the value of spending time in active learning spaces.



# We are confident.

Three seventh-grade girls who participate in a before-school club that produces a daily news show airing at the start of school, laughed as they described the first time their teleprompter failed.

“I was the on-air talent, and the screen went blank. One assistant in the control area started acting out each story. It was so funny, and if you had told me that was going to happen, I would have panicked. But we got through it!”

Another learner reflected on her first outside weather report. “It’s only 30 seconds or so, and it was going fine, but then suddenly it started to snow, which was really funny because I was in the

middle of saying it was going to be a sunny day. I just gave a sort of shrug, and I guess the whole school laughed.”

One concluded that “doing something that’s a bit scary turned out to be really important to me.” The others agreed.

Fourth-graders in a robotics club described themselves as “Powerful. Smart. Strong!”

“I know I can do anything even when the robots don’t do what we want, I know I can figure it out,” one learner explained. Another added, “The coach figures things out with us, so we are part of finding answers. She always says we’re in this together, but she doesn’t give us the answers or do it for us.”

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## We are creative.

Eighth-grade learners in an elective technology class worked in teams, identified a problem, designed a solution, and then built and tested a prototype. “We sat around and talked about things we always thought would be good to have... We are all gamers, and gamers need something to hold their controllers.” One team set about designing a “controller holder.” Real gamers, they explained, have at least two controllers, so the team designed a box that would hold two controllers, “chargers, a phone, and a snack.” Their initial prototype kept falling over, so they “went back to the drawing board to figure out how to widen the base of the [holder] box.” A teammate added, “We really learned how to work as a team and figuring that out was the best part.” A second team built a device to hold “all the things people need when

watching tv on the sofa. It came to our team that when you sit on the sofa to watch TV, you have so many things to juggle. So we sort of tried a lot of pictures of what it [a device to hold a phone, snack, and soda] might look like. Our first prototype kept falling over. Now we have a solid design, and it is really going to be cool.” A teammate added, “Our first design, well, we made it out of cardboard as a prototype, and it did not work at all so we just started over and got this design.” Another offered, “We’re going to make one for each of us, and we have a list of materials we need, and the tools we will use. Our prototype is now useful. We’re still trying to come up with a name for it, though. ‘Thing to hold your stuff while you’re watching TV’ isn’t a good name.”



# We are collaborative.

In one high school library, educators wanted a space designed to foster creative thinking. Based on design principles, school staff replaced fixed furniture with comfortable and moveable seating and turned the walls into writable surfaces for idea generation. One learner explained, “Our English class came in here, and we started working on haiku poems. We were all walking around the room, adding, commenting, and creating ideas.” Another learner added, “This room

allows us to think together, rather than alone.”

A third commented, “If no teacher is using this room, groups of students can reserve it. We can brainstorm solutions to group projects, write on the walls, and share. No one hesitates to toss ideas. I never thought a space like this could possibly make a difference, but it actually does.”

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## We are educators.

In an out-of-school-time program that meets on Saturday afternoons, children were encouraged to invent their own “Franken-Pet” — a stuffed animal made from the head of one stuffed animal and the body of another. Twenty-five children from grades K through five worked with a guest artist who brought boxes of stuffed animal heads and bodies. Each learner selected her/his materials to create a new stuffed pet. In addition to sewing, learners gave their pets names, decorated them, and drew pictures of and created stories about their new “pets.” A guest artist presented some examples, and most of the older participants got started right away while many of the younger ones seemed uncertain about how to begin. Several of

the older children finished their pets and began helping the younger students to pick out heads and bodies, getting them started on stitching the pieces together, and making up names. A fourth-grade girl commented (about helping a younger girl), “Well, it’s not too easy [to choose the materials], and the stitching is a bit hard. I loved helping the little kids out because I understood what to do.” Another added, “This was fun to make up a pet, and especially thinking of a story about it. But it is also good to help the little guys.”

At a primary school, during a “maker round robin” (kindergarten, first-, and second- grade learners spent time at “maker” stations, learning about science, force, energy, and problem-solving),



a second-grade class managed one station. It was clear that they had been practicing for this event and were patient with their fellow learners, some of whom were also in the second grade. Their task was to lead learners (paired one to one) in creating an iMovie of a tree gaining and losing leaves. After six rotations, they had a chance to discuss their teaching experience.

One learner commented, “I got much better each time I did it [helped another learner create an iMovie].” Another added, “I was pretty tired after all that.” Someone else commented, “I was surprised that some of them didn’t understand

what we were showing them... that we knew all about this, and some of the others had no idea about it. They listened to us! It was fun to teach things to other kids.” The learners concluded that “Teachers really have to work hard. We did this for about two hours, but they [teachers] do it all day!” Overall, the learners enjoyed teaching others and agreed they’d like to do it again.

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## We are problem solvers.

One middle school's media center has become the heart of the school – a place to “hang out, work, and get help with technology.” The “help center” is led by students who have become expert at troubleshooting and repairing schoolmates' Chromebooks. Two students routinely came to the media center during their free time; both had experience with technology and multiple devices at home. “I think it was pretty easy to learn because there are some typical things that go wrong with [the Chromebooks] them. Like, the kids seem to ruin the keyboard[s] often, so I just found a video on YouTube, and then I was able to fix them. We

keep loaners to give to kids if their Chromebook is going to take some time to fix or we need a part.” The other young man said, “Another thing that happens a lot is the trackball stops working. Honestly, I think the kids must pour Coke on their computer[s]! But we learned how to take the back off, and then clean it out and fix it. There is always something to fix, and if we need parts, we just put in a request.”

Also, in the media center at this school is a technology solution desk where learners take turns helping their peers solve non-Chromebook-related technology problems. According to one learner,



“I enjoy working with easy problems like how to prepare an art design, solve a printing problem, or get Word to work.” The other added, “I had one girl today who said she could not find the paper she started writing last night, and another who wanted to make a graph from some statistics, but he didn’t know how...I really like it when someone has a problem I never heard of before because then I get to figure it out. Then I feel smart, and they think I am too!” The other chimed in, “Sometimes I don’t have a clue how to solve a problem, but it is so much fun to try different things and solve it! Of course, a lot of things are pretty easy to do because we have been learning. Kids think we are pretty sharp!” Both girls laughed at that.

At a high school library media center teachers routinely bring their classes in to use the media and maker supplies or work in the audio/video production studios. Some learners work as interns in the lab during their free periods. They report that some of the interns “choose to specialize

in one area, but others tend to be generalists.”

One said, “I really am the one the teachers and students go to for help with the audio production studio and the one-button video studio.” Another young woman shared: “I pretty much help with many things: computers, or research, or video.” The interns expressed a shared love of helping others and especially of being able to be helpful to their teachers. One commented, “It changes the dynamics when I can help a teacher. We become almost like friends, but the reality is that most of the interns really respect the teachers. We know it is hard to do what they do.” One young man added, “I am not sure what I will do eventually, but I know it will be something that helps others and will have to do with production or technology of some sort.”

In one school district, middle and high school students formed a “Student App Inventor” team. The seventh-grade students worked on an app to simplify hall passes, and team members spent part of the summer showing educators how to use the tools they created.

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## We are artists.

In one elementary school, the STEAM program was new, and the learners were just beginning to understand the opportunities available. A grant was awarded to a teacher at the school to support local artists coming in and working with learners. A graphic-designer guided third-grade students in creating graphics and printing them on vinyl key fobs. One learner was having trouble with the computer and program (transition from the iPad to a laptop was a challenge for this grade level) but said, “This is harder than it looks, but I think I have it now.” Another said, “I thought her [the artist’s] graphic was really cool but I am doing my own, and it is coming out good.”

In one afterschool program specifically for young women, a visiting artist who specialized in working with clay began a project that would span three weekly visits. The artist led the learners in the creation of nameplates. Some of the young women got right to work while others expressed

some discomfort with how to get started. Several of the agency’s support staff offered assistance, and the artist was very encouraging to all. One young woman said, “She [the artist] gives me confidence and strategies. Hers was really good, and I did not think mine would be that good. But then I tried something different. I never thought I could do it — hers is so good, but I really like mine.” One said, “Hmm, I think I needed to plan this out a bit better first. I am sort of out of room, and I have a few more letters to put on it! Next time, I think I will draw that first and maybe measure.” When asked what she would do with her nameplate, one girl answered, “I have a little desk at home in my room, and I am going to put this on it, just like my mom has on her desk at work.”

In one primary school, an artist-in-residence spends one day every week at the school. The artist worked with students to design and create four large mosaics (each representing one season), that



will be placed in their school garden. Learners expressed delight at participating in this activity. Several commented:

“ **We are building these together, and all the kids after us will get to see them.**”

“ **I never thought I could do something quite like this, but once the goop [grout] is washed off, these will be beautiful.**”

“ **I just love when we get to work with her [the artist] because it is always wonderful, but this is the absolute best thing ever.**”







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