



Meeting the Needs of the Community

The vision for the first-of-its-kind Interactive STEAM Development Center at Dos Pueblos High School came from the desire to meet three distinct needs identified in the community.

Evidence (data/information) is provided in support of each of these three distinct needs.

1. *There is a need for the DPEA to be able to meet the demand for more high-quality STEAM opportunities. The DPEA is viewed as a leader in STEAM education and receives a multitude of requests to offer substantive educational opportunities in STEAM in Santa Barbara area and beyond.*

- Locally, the DPEA fields approximately 275-300 applicants each year for the 104 incoming freshman that the program can accommodate.
- DPEA Open Houses consistently draw over 300 participants of all ages. Many families with elementary age children come to these events and find the interaction with the current DPEA students so compelling that they inquire when they can return to track the progress of the students and their exhibits.
- We host elementary school students multiple times each year for educational field trips in which they interact with the older DPEA students and their exhibits. The elementary students are excited by their experiences with the tools and machines, and their teachers ask us when they can return for more opportunities to further their engagement with the students and the DPEA environment.
- We partnered with the Santa Barbara Museum of Art when we showcased a large installation called the *Carousel of Physics*. Over a three-month period, we hosted several elementary school classes each week. They learned about elements of art and design, engaged with the Carousel exhibit, and then created an original 3-D artwork to take home. The teachers and students expressed enthusiasm and appreciation for the field trip and asked if we could provide more opportunities like this in the future.
- Each year, DPEA students and teachers showcase our program and student work at the Bay Area Maker Faire attended by over 120,000 people. Parents who live in that region and encounter the DPEA exhibition ask if the DPEA accepts boarders and/or if we offer summer camp opportunities that they can consider for their children.



- Throughout the year, DPEA staff receive countless inquiries from families with elementary-age children asking for suggestions about STEAM educational opportunities in town such as after-school programs and summer camps. They say that their children are very interested in STEAM and they are seeking project-based enrichment opportunities for them because they are not offered in school. These parents express frustration about the limited and sub-par opportunities offered in Santa Barbara and continue to ask the DPEA to get involved in addressing this issue.

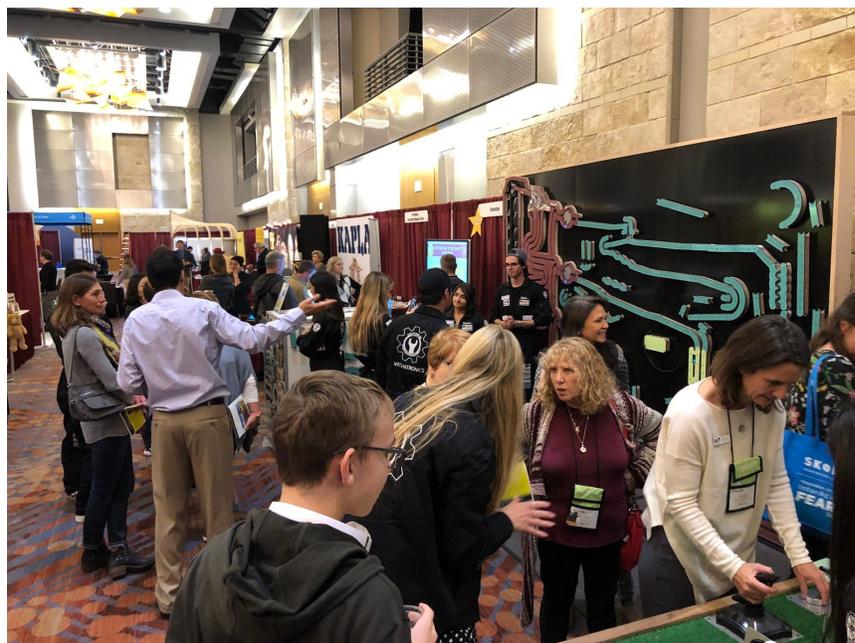
2. ***There is a need for the DPEA to increase capacity to produce museum exhibits.***

- Museum professionals are impressed by the quality of the exhibits created by DPEA students and staff and the engagement of visitors who interact with them. This video highlights the reactions of museum professionals at the DPEA exhibition tent at the Bay Area Maker Faire in May 2018: <https://youtu.be/fLnMtYUgyrw>
- Annual participation in the Bay Area Maker Faire led to our partnership with exhibit designers at the Exploratorium in San Francisco. We have been working with them to develop the *One-Calorie Workout* as part of a series of exhibits related to energy. When they debuted this series, we were there with our students to showcase our exhibit alongside those created by the Exploratorium’s team of professional designers. The *One-Calorie Workout* was well received. This video captures the positive response of Exploratorium exhibit designers and executive leadership: <https://www.youtube.com/watch?v=XF7h2HGidNc&feature=youtu.be>

- Our partnership with MOXI has already yielded great results. MOXI Director of Exhibits Sean O’Brien is interested in cultivating this partnership over the long term: *“Students and teachers alike have shown an incredible amount of commitment to this partnership and a clear dedication to deliver the best results possible. They have been extremely open to any and all feedback our exhibits team has provided. From MOXI’s perspective, the inclusion of DPEA’s exhibits into our space has been a wonderful way of rotating through new and compelling experiences for our return guests.”* Recently, after witnessing a 3rd grade elementary school class at the DPEA interacting with our students, exhibits, tools and machinery, Sean said, *“I think you are onto something magical.”*



- We are engaged in conversations with a variety of museums interested in commissioning exhibits and/or working collaboratively with the DPEA students and staff to develop exhibits. These include MOXI, Chabot Space and Science Center in Oakland, the Santa Barbara Maritime Museum, CuriOdyssey in South San Francisco, Kidstream in Camarillo, and the San Francisco Sailing Science Center.
- Western Center Academy is a Charter School that is co-located on the site of the Western Science Center. Their school leadership and teachers visited our program last year because they are interested in our curriculum. Prior to their visit, they were unaware that we create museum-quality exhibits with our 12th grade students. When they learned about our plans to create a museum school they were intrigued, excited, and hopeful. They are in the very early stages of creating a successful STEAM program. Their school is a perfect candidate to pilot replication should we succeed in our efforts.
- Chabot Space and Science Center in Oakland has expressed significant interest in learning how to establish a strong museum/school partnerships similar to what the DPEA has established with MOXI and the Exploratorium. Their museum and the Oakland Unified School District already have an institutional relationship and they are in very close proximity to two high schools in the district. Their museum professionals are consulting with us about how to collaborate more effectively with school leaders and educators to create more meaningful opportunities for students to create exhibits and participate as docents and leaders in museum activities and events.
- DPEA made its debut as a professional exhibit developer and fabricator at a vendor booth in the ACM Marketplace at the Association of Children's Museums (ASC) in Denver, CO, in May 2019. Staff and students shared the story of the DPEA program and their experiences designing and manufacturing exhibits to inspire young people and teach them about physics phenomena. Over 30 museums from across the country signed up to find out more about what we do and how to partner with us.



3. There is a need for the DPEA to be able to provide professional development opportunities and replicate its program. We have not formally promoted our interest and willingness to replicate our program, but our successes have precipitated a certain level of notoriety and visibility and we regularly receive inquiries to provide support, advice, guidance, and mentoring. Evidence is included below.

- In the past two years, the DPEA has provided over 50 in-depth tours to over 100 visitors from school districts across the nation, many of whom returned for multiple days or weeks and paid consultation fees for the professional services of the DPEA.
- Each year at the Bay Area Maker Faire, attendees who are K-12 educators as well as university professors are astonished by what we have accomplished and seek our guidance as to how they can create similar opportunities at their own institutions.
- DPEA staff are contacted regularly by educators and educational leaders from all over the country who are inquiring about visits, training, and consultation opportunities. They discover the DPEA via a variety of sources such as Amir's wikipedia page, the DPEA website, LinkedIn, various professional interviews of Amir available online, the NOVA special *Schools of the Future*, youtube highlight reels, the Bay Area Maker Faire, word-of-mouth recommendations, social media posts, etc.
- A university in Brazil has sent staff to visit the DPEA on multiple occasions and is interested in creating a DPEA in Brazil in connection with their university.
- Example testimonials from two of our visiting schools:

Brigitte Sarraf from Mountain View Los Altos High School District:

"Thank you so much for taking the time to introduce me to your wonderful program. 'Being Impressed' does not do justice to how I felt seeing, observing, and hearing you tell me how your program has evolved over the years. It is truly one of the finest programs I have seen so far."

Jason Gomez, Deputy Superintendent, from Terrell Independent School District, Texas:

"The trip to DPEA was definitely a highlight of our trip to California. I am very grateful for the hospitality that was shown to our group. I love the model that your team has created and want to send a couple of teachers there in the fall for more in-depth study and shadowing."