

# Medical Innovations

## Leveraging community educators in learning

Discover the ways schools are leveraging community educators to deepen learning for students. Community educators include youth-serving professionals and volunteers who leverage their knowledge and skills to support learners and complement professional educators. Below, SPARK School at Kyrene de las Manitas students investigate engineering processes to create personalized, innovative solutions to a medical condition.



Virtual visits



Multiple community educators



STEM | English



Pre-recorded videos

### What it is, and why we love it

Teachers in the fourth, fifth and sixth grade house at SPARK School – recently renamed Kyrene de las Manitas Innovation Academy – kicked off a new genius-hour, project-based learning unit with a driving question for their students: How can I, as a medical resident, understand the medical challenges that those around me face, and use the engineering process to design and propose a solution for my community?

To gain an understanding of a variety of medical conditions and how they affect the people who face them, the fourth-sixth grade teaching team assembled ten community educators – including experts from the medical community and patients living with conditions – to participate in interviews with their students. In order to accommodate busy schedules as well as the number of classes that would need to engage with each community educator, teachers put together a separate list of interview questions for medical experts and patients. All community educators were asked to record a video answering the prepared interview questions asynchronously, allowing students to view the interview during their regular class time.

The graphics below show examples of the topics introduced and which community-educator, video interviews were paired with the week's instruction. This project not only capitalized on science, engineering and english standards, but also provided a space in the curriculum for students to experience empathy for real people living with medical conditions, broadening their social-emotional skill set.

Week 1	Week 2	Week 3	Week 4	Week 5
<b>Background on medicine</b> Community educators: <ul style="list-style-type: none"> <li>• Pediatrician</li> <li>• Anesthesiologist</li> </ul>	<b>Allergology</b> Community educators: <ul style="list-style-type: none"> <li>• Allergist</li> <li>• Patient with deviated septum</li> </ul>	<b>Dermatology</b> Community educators: <ul style="list-style-type: none"> <li>• Dermatologist</li> <li>• Patient with psoriasis</li> </ul>	<b>Orthopedics</b> Community educator: <ul style="list-style-type: none"> <li>• Patient with broken arm</li> </ul>	<b>Ophthalmology</b> Community educators: <ul style="list-style-type: none"> <li>• Ophthalmologist</li> <li>• Patient with vision therapy</li> </ul>
Week 6	Week 7	Week 8	Week 9	Week 10
<b>Neurology</b> Community educator: <ul style="list-style-type: none"> <li>• Patient with epilepsy</li> </ul>	<b>Cardiology</b> Community educators: <ul style="list-style-type: none"> <li>• Dermatologist</li> <li>• Patient with condition</li> </ul>	<b>Research and design</b> <ul style="list-style-type: none"> <li>• Extensive research on choice medical condition</li> <li>• Design of innovative model to support challenge</li> </ul>	<b>Writing</b> <ul style="list-style-type: none"> <li>• Written narrative describing innovative design with filmed presentation</li> </ul>	<b>Optional extension</b> <ul style="list-style-type: none"> <li>• Invite community educators to return as authentic audience members to review innovative designs</li> </ul>

# What's made this program a success



Hearing the patient's first-hand account allowed students to bridge connections to the academic content on a deeper level.

– Lead teacher, SPARK School at Kyrene de las Manitas

## Unit launch

### Preparing students and community educators

- Following a background introduction on medicine, students explored six key topics of medical research for six weeks: allergology, dermatology, orthopedics, ophthalmology, neurology and cardiology.
- Community educators were recruited through personal and extended connections of the teaching team.
- Utilizing asynchronous video apps, the team was able to incorporate many community educators into the unit in order to reach more learners.

## After hearing from the experts

### Exploration and benchmarks

- Students wrote a personal narrative on their (or a family member's) experience with a medical condition in the form of a graphic novel or chapter book.
- Students also wrote an informative essay on understanding a disease (of their choice) and its impact on the community.
- To showcase their innovative solution to one of these challenges, students filmed a presentation of their narrative and the design model.

## Utilizing community educator expertise

### Social capital and impact

- With this background on medical research, students were able to verbally discuss how medicine has impacted some communities more than others.
- For their genius hour project, students chose from one of the six key topics to design and present an original innovation aimed at providing support for patients whom experience challenges due to the given medical condition.

## Lasting connections

### Deeper and personalized learning

- Reports from the teaching team expressed how interested students were in hearing the patient's personal experiences with the various medical conditions. Their testimonials provided students the opportunity to hear first-hand accounts of what living with these conditions was like which deepened their understanding of the content and cultivated a deeper sense of empathy for others.

Impact on learning for students	Invite with clarity	Considerations for implementation
<ul style="list-style-type: none"><li>• Students were able to hear first-hand accounts of what living with these conditions was like which helped make stronger connections to the content.</li><li>• Students voice and choice on culminating projects creates lasting connections.</li></ul>	<ul style="list-style-type: none"><li>• Reach out to multiple community educators; select people with the knowledge and flexibility to suit your students' needs.</li><li>• Discuss the best option for the visit. Virtual visits can aid in schedule conflicts and allow the content to be available any time.</li></ul>	<ul style="list-style-type: none"><li>• When scheduling asynchronous visits, start early to provide ample time for video recording and leave space to review the content before showing it in your class.</li><li>• With your team, determine the best platform for sharing videos that supports all participants' needs.</li></ul>