

Spring 2020 Data Presentation & Session Recap Report

Saturday Science Academy II
Department of Pipeline and School Partnership Programs
Charles R. Drew University of Medicine and Science

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Spring 2020 – Physical Science, Global Health, and Biomedical Engineering

The Spring 2020 session took place online beginning in April and ending in early June 2020. During this session, the curriculum for students in pre-kindergarten to eighth grade focused on physical science, global health, and biomedical engineering. Students in high school focused on medical simulations with the specifics of their session covered here in this report.

In response to the spread and growing threat of the COVID-19 pandemic in Los Angeles County, SSA II took significant steps to “flatten the curve” and reduce the potential spread of the virus. Following the suspension of the spring session in-person programming, SSA II staff worked diligently to find a platform that would enable the program to continue and reduce learning loss for new and current SSA II students. Of equal importance was providing continuity in STEMM enrichment programming to marginalized communities of color. SSA II usually serves 100-200 PK-12th grade youth in a given session on the CDU campus in South Los Angeles; our goal was to meet and grow these numbers on our new platform.

This report recaps the session, presents session data, and includes a reflection and goals for the next session.

Registration Process

The Department moved swiftly to provide a platform for youth to participate in an online session. Due to the need to quickly register/enroll students, the Department had an unconventional and expedited registration process for the session. As a result, we were unable to capture all of the demographic information usually requested.

Platform

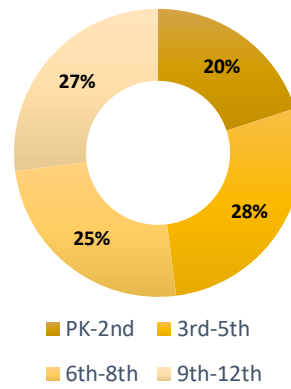
Implementing and utilizing GoogleClassrooms granted us the ability to host live lectures and labs, post pre-recorded lectures and labs, ask reinforcing questions, and have direct and open communication with students and their families. The online classroom—launched with the start of the session on Saturday, April 18—afforded SSA II the opportunity and ability to develop and deliver to our students’ home computers the same quality education received on the CDU campus.

Student Demographics

During the Spring 2020 session, a total of 219 individual students were served. As noted above, our nontraditional registration process resulted in us not collecting pertinent information. The Science Day 2020 report captures demographic information for the event.

Grade Ranges

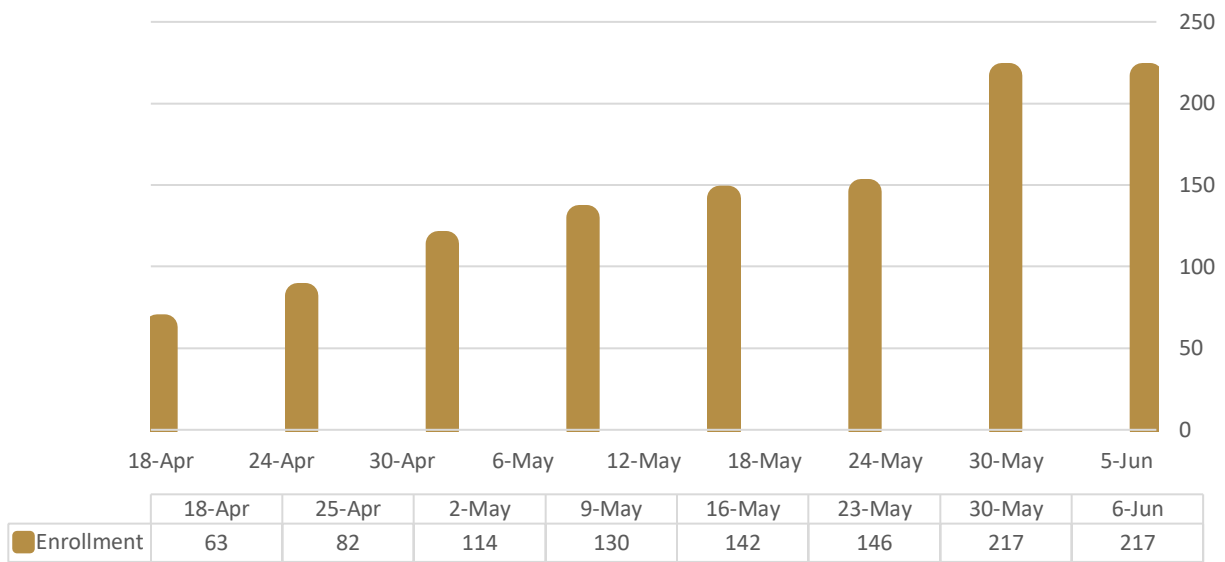
Grade Ranges	No.	Pct.
PK – 2nd Grade	44	20%
3rd – 5th Grade	61	28%
6th – 8th Grade	55	25%
9th – 12th Grade	59	27%



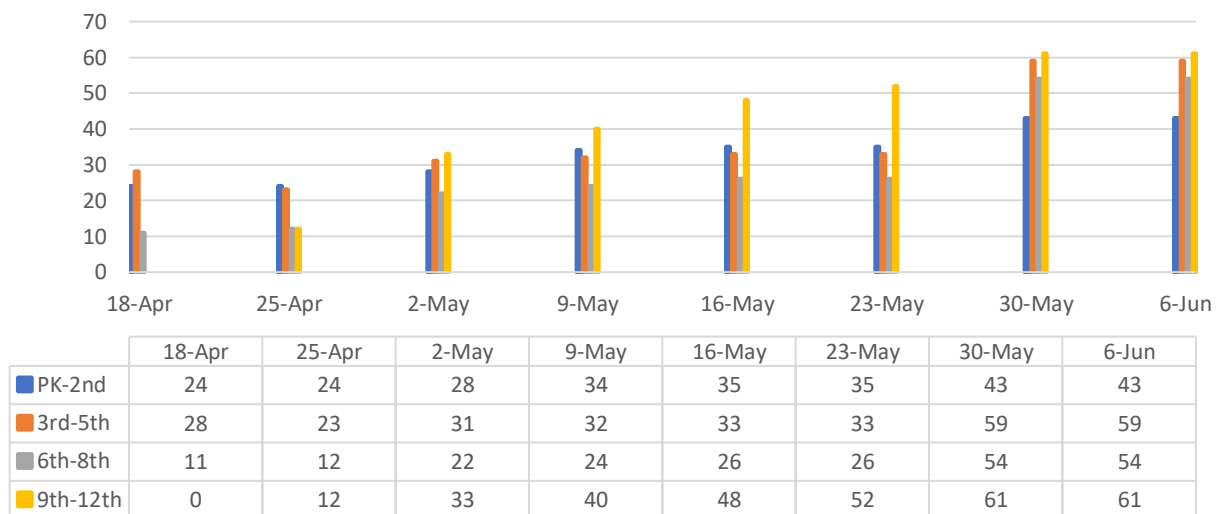
Student Enrollment

Students who viewed/engaged with the content during the week.

Overall Enrollment



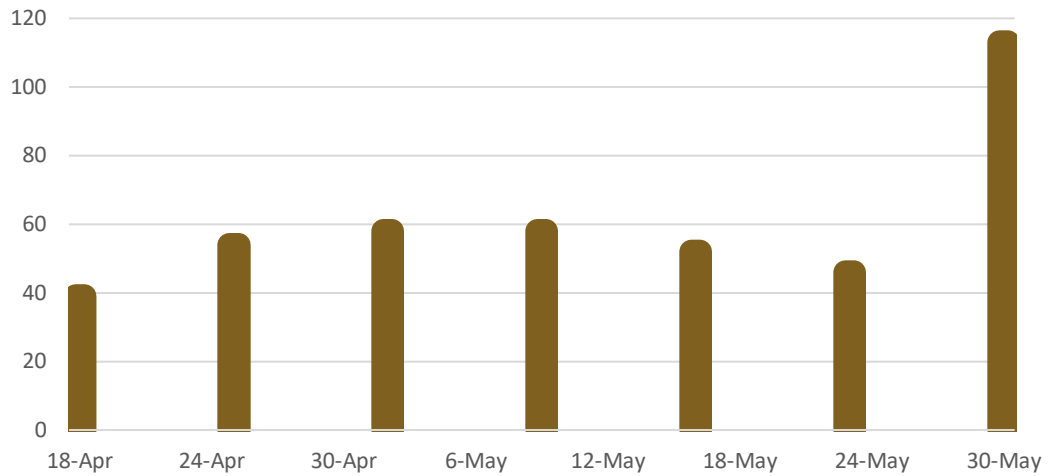
Enrollment by Grades



Student Attendance

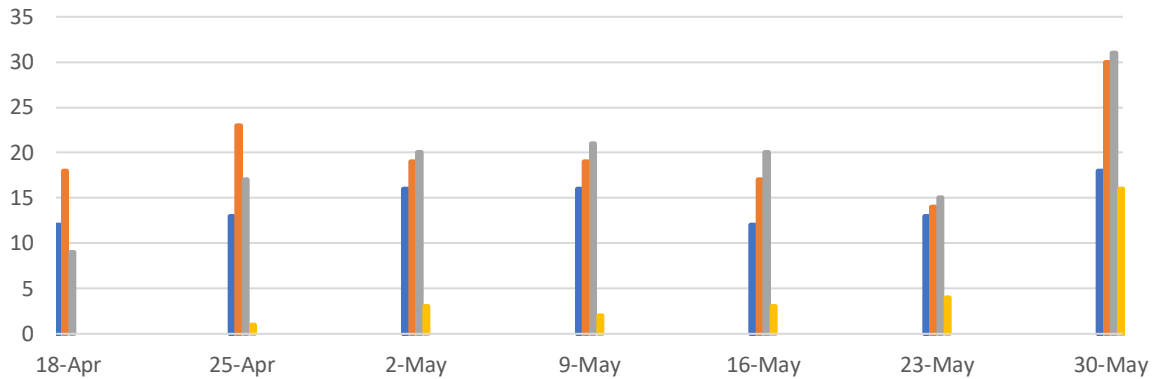
Students who attended the live instruction on Saturdays. These students were counted by our teachers and staff during each respective live lesson. Because week 8 (June 6th) was a self-led virtual field trip, no attendance was recorded.

Overall Attendance



	18-Apr	25-Apr	2-May	9-May	16-May	23-May	30-May
Attendance	39	54	58	58	52	46	113

Attendance by Grades



	18-Apr	25-Apr	2-May	9-May	16-May	23-May	30-May
PK-2nd	12	13	16	16	12	13	18
3rd-5th	18	23	19	19	17	14	30
6th-8th	9	17	20	21	20	15	31
9th-12th	0	1	3	2	3	4	16

Science Day 2020

CDU Science Day is an annual day of explorations in medicine and science for more than 250 elementary, middle and high school youth. While this event is traditionally hosted on the campus of Charles R. Drew University, we had to make the transition to an online platform amid the current COVID-19 pandemic. This year's event is taking place virtually on GoogleClassroom.

With STEMM (Science, Technology, Engineering, Math and Medicine) as the foundation, CDU Science Day features multiple age and grade-level appropriate fun learning labs. At each lab, students engage in instructional and kinesthetic activities designed to increase their knowledge of 1) scientific principles and the fields of mental health, public health, and medicine, 2) the science behind a variety of medical procedures and specialties and, 3) health care professions.

Event Goals

- Advocate for the academic achievement and excellence of underrepresented students of color
- Expose students to the fields of medicine, science, health and the many educational and professional opportunities the medical and health care professions
- Encourage underrepresented students of color to consider/pursue STEMM degrees.
- Provide information and other resources on STEMM-focused college/post-secondary college
- Provide students attendees access and exposure to medical and health care students professionals as role models
- Increase and effectively leverage CDU and community resources and partnerships to underwrite 60% of the event budget
- Increase collaboration among CDU stakeholders in planning, outreach, implementation, and evaluation support for Science Day
- Increase the number of SPA 6 youth participating in Saturday Science Academy II and other CDU pipeline programs
- Conduct a culturally relevant and socially meaningful science and medicine-focused STEMM event
- Significantly increase the visibility and knowledge of CDU, its history, academic, pipeline and community programs, in the local community.

Event Objectives

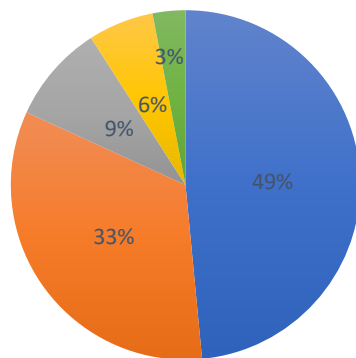
- 50% of Science Day attendees students in grades 8-12
- 50% of student attendees are residents of SPA 6, collected for registered students only
- 20% of student attendees are residents of the Watts/Willowbrook community
- 75% of student attendees participate in 80% learning labs
- 75% of student attendees complete their Science Day Passports
- 100% of student attendees complete the Science Day Evaluation form/questionnaire

Student and Family Demographics

For Science Day 2020, 329 students and families were served. The tables and charts below break down the overall attendance and student demographics by ethnicity, gender, zip code.

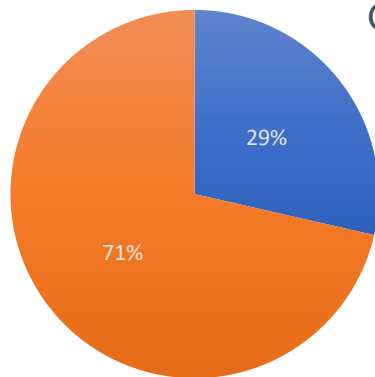
Overall Attendance

Class	Registrations	Total Participation
Community Workshops	19	127
STEMM classes	217	202
Science Day Grand Total	300	329



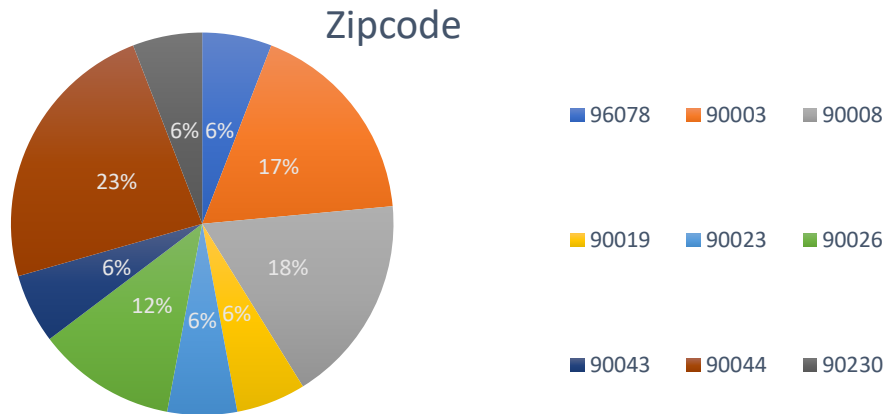
Ethnicity

- African American/Black/Caribbean/African decent
- Hispanic/Latino(a)/Chicano(a)/Brown
- Asian/Pacific Islander
- Caucasian/White/European decent
- Native American/American Indian/Indigenous
- Other



Gender

- Male
- Female



Teacher Profiles

Kindergarten through 2nd

Kyle, a UC Irvine graduate with a Bachelor’s of Science degree in the Biological Sciences and Keonna, an SSA II alumna, LA Harbor College graduate, and CSUDH student, led the activities on Engineering Lung Support for Cancer Patients and Neurology.

3rd through 5th

Austin, Xavier University graduate with a Bachelor’s of Science degree in Biology and Tamyra, CSU Dominguez Hills graduate with a Bachelor’s of Arts degree in Human Services and a minor in Health Science, led the activities Neurology Lab and Drone and Global Health.

6th through 8th

Timothy, an SSA II alum and Morehouse College graduate, obtained a Bachelor’s of Science degree in Biology, and Kristiana, a Los Angeles Southwest College graduate with an Associate’s Degree in Criminal Justice, led the activities Restrictive Lung Disease: Side Effects of Nicotine Use and Brain and Nutrition.

9th through 12th

Albert, Combat Veteran and Army Medic, and Christina, USC graduate, led the activities Prevention: Drug and Alcohol and Ultrasound. Tilo from Enrollment Management led the session for College Advising. Chelsea, Prevention Program Director for the Avalon Carver Community Center, and Albert co-led a session on drug and alcohol prevention.

Community Engagement Workshops

Ju-Jitsu

Gregory, founder and CEO of MobileStemLabs, led a session on Ju-Jitsu. Mr. Hill taught basic Ju-Jitsu techniques and incorporated light-to-medium cardio.

Mindful Breathing

Jasmine led a session on Mindful Breathing. Her techniques help one consider healthier alternatives to cope with stress by incorporating breathing.

Mental Health During COVID-19

Mishka, founder and CEO of Kimball Therapy, discussed the COVID-19 pandemic and its direct impact on mental health in communities of color.

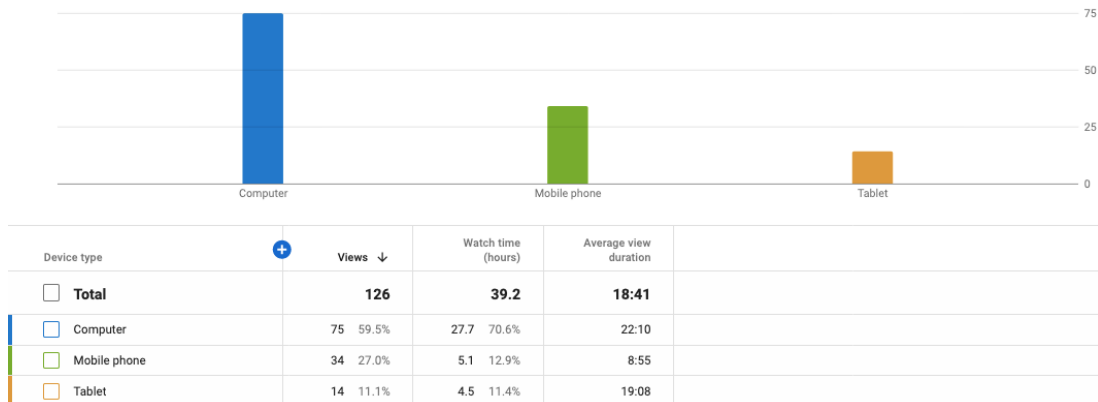
Moving from Adversity to Advantage

Charles, Social Work Department Chair at California Baptist University and CEO of the National Family Life and Education Center, focused on moving from adversity to advantage. Charles helped participants find their own worth, especially during this turbulent time of uncertainty.

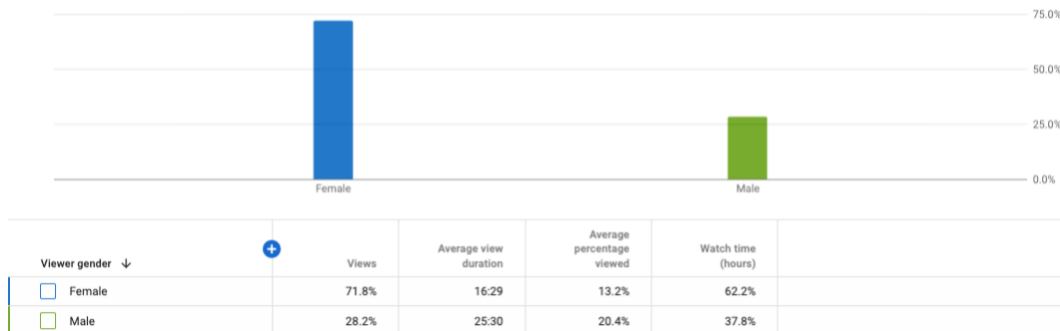
YouTube Analytics - Ju-Jitsu and Mindful Breathing

The stats below break down viewership for the community webinars. It brought to light interesting information regarding our participants, their areas of interest, and their method for connecting.

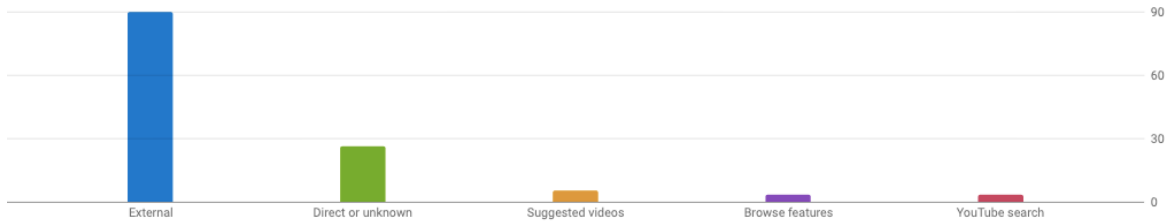
How viewers engaged with the live stream



Viewers by gender



How viewers accessed the video



Registration Numbers vs enrollment numbers



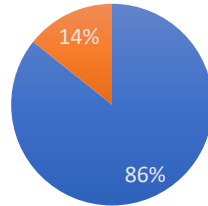
Questionnaire Responses and Reflection

Questionnaire Responses

Surveys were distributed at the closing and families were encouraged to share their thoughts and concerns of the event. Participants were asked to evaluate the labs and their overall satisfaction with the event by responding to several questions.

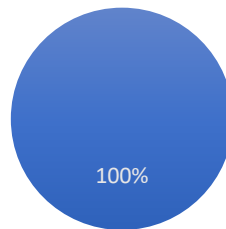
Reflection

Are you more aware of mental health services and resources in your community?



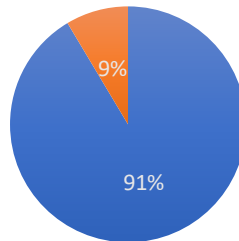
■ Yes ■ No

Do you have a better understanding of health and wellbeing?



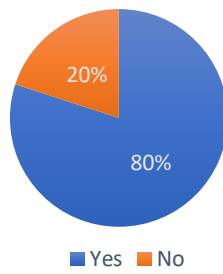
■ Yes

Are you more likely to tell a family member, friend, coworker, or neighbor about mental health services and resources?

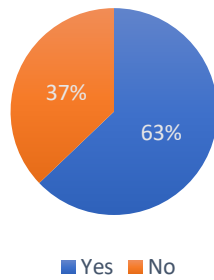


■ Yes ■ No

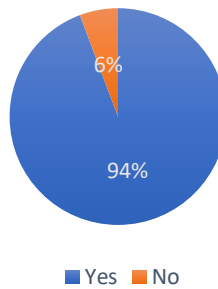
Are you more likely, as a result of this information and/or engagement, to seek out mental health services and resources?



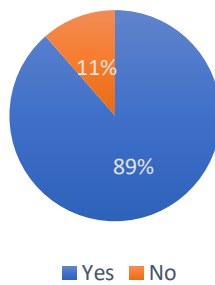
Does your child(ren) have free or reduced lunch?



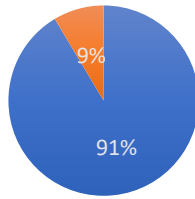
Did you and/or your child(ren) develop capacities to engage in STEMM learning activities?



Did you and/or your child(ren) demonstrate awareness that STEMM and mental health resources is accessible to all?

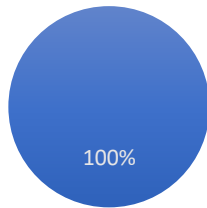


Are you and/or your children more interested in STEMM or public health/mental health professions?



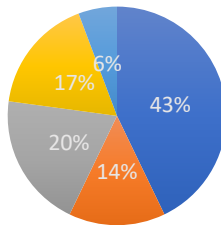
■ Yes ■ No

Did you learn something new?



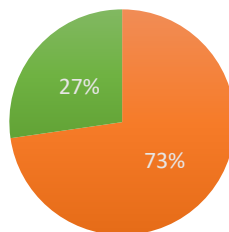
■ Yes

When's the last time you/your child(ren) did a science experiment, activity, or lab?



■ Within last week ■ within last month ■ within last 3 months ■ Within last year ■ Never

Are you more likely to seek out enrollment at CDU after attending Science Day?



■ Yes ■ Maybe

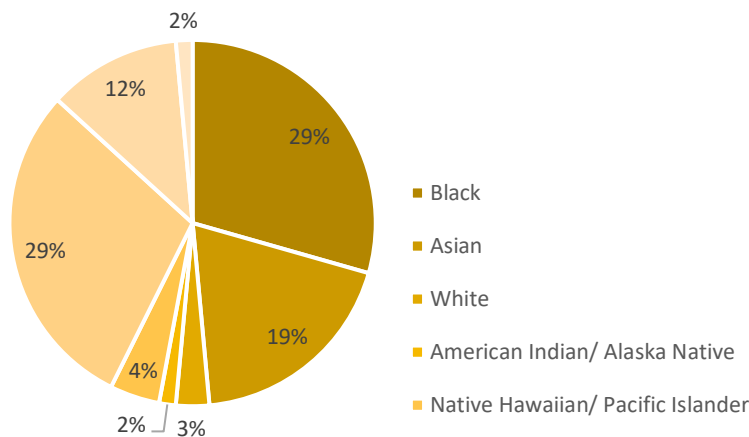
SHPEP College Science Day 2020

Summer Health Professions Education Program (SHPEP) College Science Day is an annual day of explorations in medicine and science for undergraduate students from universities across the nation. This is a collaboration between the Charles R. Drew University and UCLA. With STEMM (Science, Technology, Engineering, Math and Medicine) as the foundation, SHPEP College Science Day features multiple age and grade-level appropriate, fun learning stations and mental health workshops. At each station, students engage in instructional and kinesthetic activities designed to increase their knowledge of 1) scientific principles, and the field of health and medicine, 2) the science behind a variety of medical procedures and specialties and, 3) health care professions. Each learning station has defined student learning outcomes; students document the learning concepts and theories.

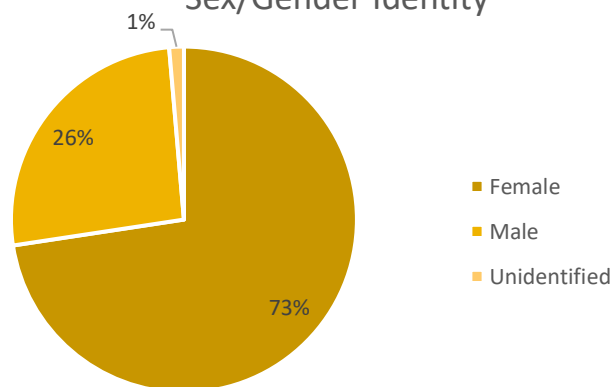
Attendees and Demographics

This event occurred online on July 7, 2020. A **total of 77 students** with diverse backgrounds/identities attended. This section breaks down the demographics of the students served.

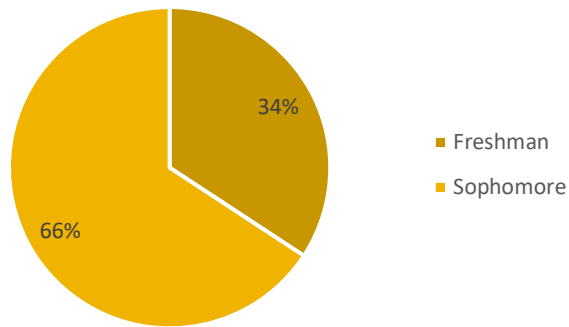
Ethnicity/Cultural Background



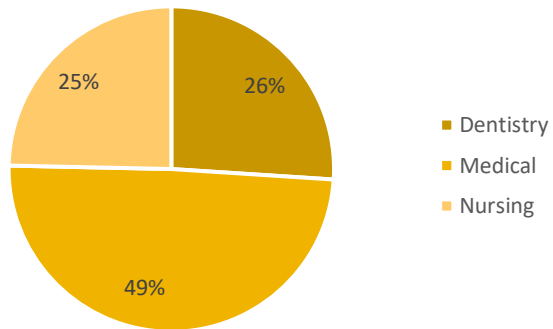
Sex/Gender Identity



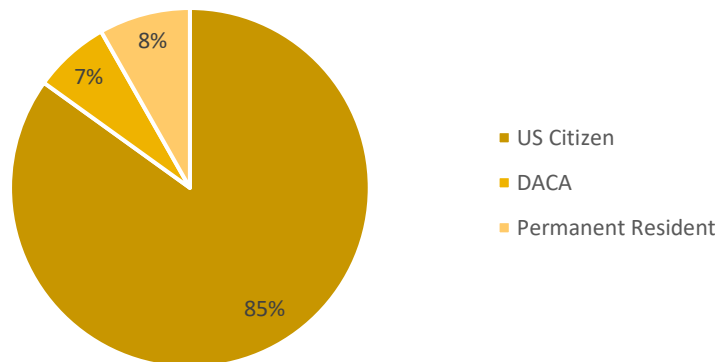
Class Standing (High School)



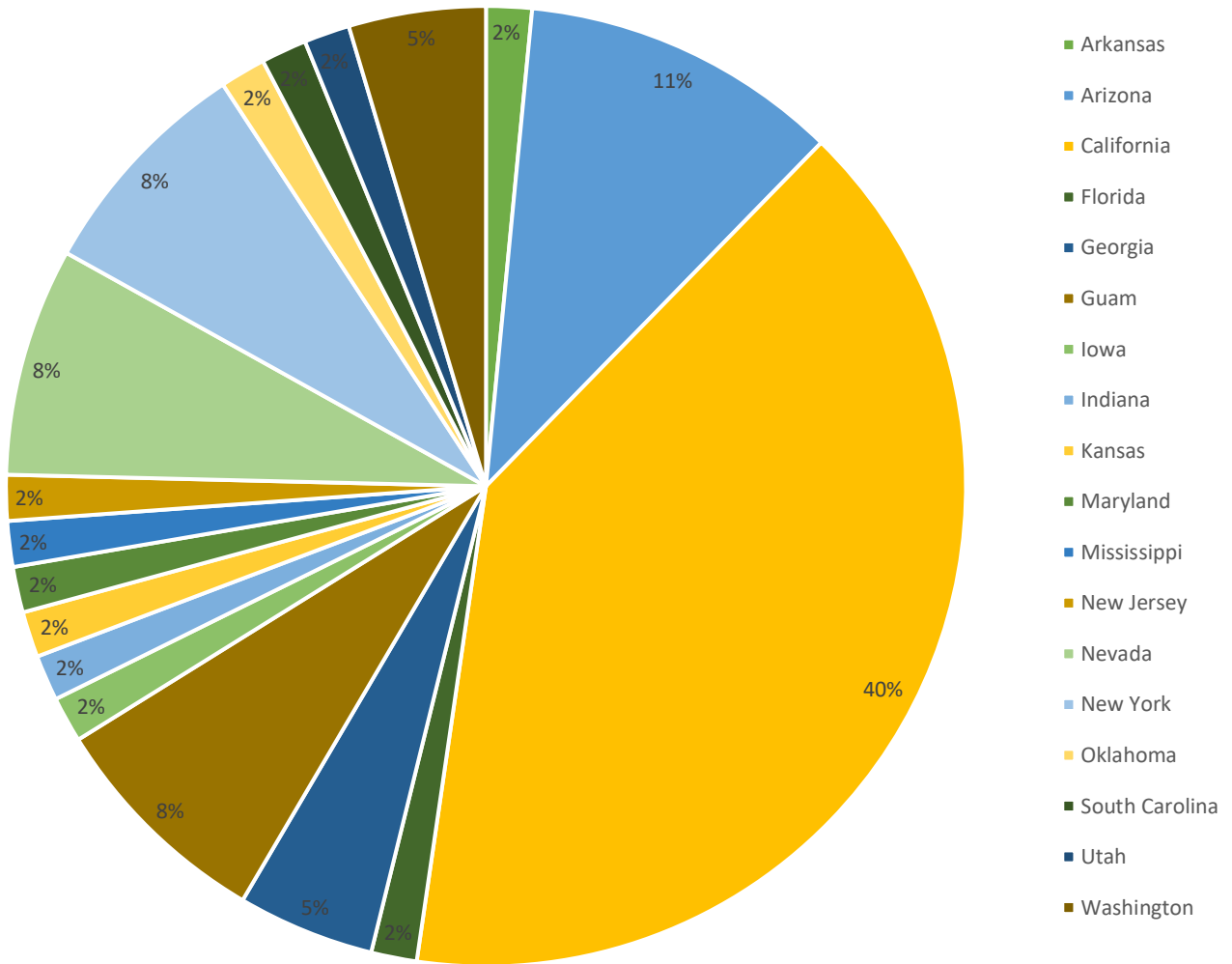
Careers of Interest



Citizenship Status



State of Residence



Next Generation Science Standards Alignment

The curriculum for the spring session labs was designed in-house and aligned with the Next Generation Standards.

Pre-Kindergarten – Second Grade

For this session, our pre-k to 2nd grade students covered several topics and key concepts, including physical science and physical change, engineering, waves, energy, and aerodynamics. They also had exposure to global health through their patient charts. These charts highlighted facts and figures for Uganda and Vietnam.

K-2-ETS1-1 Engineering Design

K-2-ETS1-2 Engineering Design

K-2-ETS1-3 Engineering Design

K-PS2-1 Motion & Stability

K-PS2-2 Motion & Stability

1-PS4-1 Waves and Their Applications in Technologies for Information Transfer

Third Grade – Fifth Grad

For this session, our 3rd to 5th grade students covered several topics and key concepts, including physical science and physical change, engineering, leavers and pulleys, molecules, earthquakes, and aerodynamics. They also had exposure to global health through their patient charts. These charts highlighted facts and figures for Myanmar, Spain, Brazil, and Venezuela.

3-5-ETS1-1 Engineering Design
 3-5-ETS1-2 Engineering Design
 3-5-ETS1-3 Engineering Design
 3-5-PS1-4 Matter and Its Interactions
 3-PS2-2 Motion & Stability
 4-PS3-1 Energy
 5-PS1-1 Matter and Its Interactions
 5-PS1-3 Matter and Its Interactions

Sixth Grade – Eighth Grade

For this session, our 6th to 8th grade students covered several topics and key concepts, including physical science and physical change, engineering, leavers and pulleys, molecules, atoms, and aerodynamics. They also had exposure to global health through their patient charts. These charts highlighted facts and figures for Thailand, Spain, and Ukraine.

3-5-PS1-4 Matter and Its Interactions
 MS-ETS1-1 Engineering Design
 MS-PS1-2 Matter and Its Interactions
 MS-PS2-2 Motion and Stability

High School

Medical Simulations curriculum crafted in-house. Youth actively engaged with their teacher and saw him perform these simulations from their screens. They also had the opportunity to put into practice what they learned with items found at home. Topics covered include: vital signs; sutures; IV; airways; wound care; and ultrasounds.

Pre- and Post-Assessment Outcomes

94% of the students improved on their post-assessment. This is on track with our goal that at least 90% of our student population improves their subject content knowledge. Students scored an average of 60% on their pre-assessment which is a “D-.” They improved to 80% which is a “B-.” That in itself shows that students improve their subject content knowledge on average by 33%, meaning they are 33% more knowledgeable than when they started the session. Please note, this considers data pulled for students who have completed both the pre-assessment and the post-assessment.

Improvement Numbers

Pre-Kinder – 2nd Grade: 11 out of 11 students improved
 3rd Grade – 5th Grade: 8 out of 8 students improved
 6th – 8th Grade: 12 out of 13 students improved; 1 remained the same
 High School: 2 out of 3 students improved; 1 remained the same

Total Assessment Percentages

Spring 2020	PK-2	3-5	6-8	9-12	Total
Total Pre Assessment+	64.27%	55.10%	67.26%	55.17%	60.45%
Total Post Assessment+	88.45%	87.73%	82.30%	62.67%	80.29%

+Data pulled for all students who completed either the pre-assessment, the post-assessment, or both