Career Awareness and Exploration in Museum Youth Programs
Session Goals
Share and learn program development strategies

Agenda
Welcome and (harmless) centering activity
Institution introductions
Career awareness & exploration in our programs
Group conversation
Make a group of 3

● Are you in the career field you intended to be when you completed high school?
● Did you have a role model in the STEM field growing up?
● Can you recall a “light bulb” moment when you decided that you wanted to go into a field in the STEM community?
California Academy of Sciences

Explore, Explain and Sustain Life
About the Academy

- Founded in 1853
- 1.4 million visitors per year
- 46 million specimens
- Rainforest, planetarium, aquarium
- >50 educators and scientists, >100 research and field associates
Youth Programs

California Academy of Sciences

Careers in Science Interns

teen think tank

California Academy of Sciences

TASC: Teen Advocates for Science Communication

SCIENCE ACTION CLUB
Careers in Science Internship Program

A program where underrepresented high school youth:

● Learn Science
● Teach Science
● Conduct Science
Careers in Science Internship Program

- Workforce Development- Paid Internship
- Interns work directly with Academy Scientists
- Exposure to career pathways
Career Awareness & Exploration

- Interns are mentored by Academy scientists
- Interns learn about STEM careers from Bay Area professionals
- Interns receive career awareness training, college application help, and financial literacy support
Obstacles & Challenges

- Recruitment
- Program commitment
- Diversity of STEM role models
- Collaboration with busy scientists who know how to work with youth
In a recent survey of alumni,

- 93% said participation in the program increased their interest in science.
- 82% continue to keep in touch with their peers/colleagues from the program.
- 95% agree with the statement “I feel like a scientist at heart.”
- 93% agree with the statement “I have the ability to become a scientist.”
Successes & Positive Impacts

Higher Education

98% of alumni enrolled in a college or university after high school. 90% of alumni earned a college degree. Of those who graduated college, 61% graduated with a STEM related major.

Alumni are nearly 3x more likely to declare a STEM major than the national average for all STEM majors.
successes & positive impacts

stem careers

of the alumni who are post-college, 70% have or have had a stem related career.

19% medicine
28% research
25% applied science
28% science education

stem industries breakdown
Institutional Context

- More than 400,000 people visit annually and over 8 million have experienced it since opening in 1992.
- Serves 90,000 students on school sponsored field trips annually.
- Broward County has the 6th largest school district in the US.
- Private, non-profit museum governed by a Board of Trustees.
- Located in the heart of downtown Fort Lauderdale Florida's Arts and Science District in the 17th most populated county in the US.
- 120,000 square feet packed with dynamic science exhibits, learning labs, café, store and grand atrium.
- 300 seat AutoNation IMAX® Theater featuring both 2D and 3D films, with the only Certified Giant Screen in South Florida.
- $7.5 million annual operating budget and over $4.3 million endowment.
Youth Program

Title: App-titude Internship

Program Overview:

- APP-titude advances the skills of academically minded students in grades 11 and 12 in Broward County. The multi-year project provides students with the opportunity to:
  - Earn college credits through dual enrollment at Florida Atlantic University's College of Engineering.
  - Earn volunteer hours while advancing their knowledge in STEM education and careers and learning applied skills such as teamwork, communication and decision-making.
  - Earn a $300 stipend at the end of each year.
  - Create a mobile app for the Museum.

Funding Structure:

- Entirely funded by United Way of Broward County.
Career awareness & exploration

Participation

● 1 Saturday per month at the Museum (9-3) during Junior Year.
  ○ Learn every facet and every job responsibility of the Museum.
● 1 weekday night per month at the Museums (5:30pm-7:30pm).
  ○ Meet and greet with STEM industry leaders.
● Monthly Homework assignments correlating to app development and STEM careers.
● Summer Dual Enrollment class at Florida Atlantic University between Junior and Senior year
● Invitations to various STEM Consortiums throughout South Florida.
● 9 Saturdays per month at the Museum.
  ○ Showing visitors how to use the app they created on the Museum floor.
  ○ Spending time in the Museums Computer Lab vetting their apps and showing visitors around the 3D printing lab.
Obstacles & Challenges

- Brand new, one of a kind program.
- Finding 40 high school juniors each year willing to participate in a 2 year program.
- Finding 8 STEM professionals within the community to speak for free each year.
- University Partnership.
- Coordination of roughly 80 high school students.
- Keeping the interns wheels turning.
- Building onto the app each year.
Successes & Positive Impact

- Participants come from over fifteen different high schools within the county each year.
- Furthers the interest of the students in STEM education while providing first hand experiences.
- Cultivating a deep seated interest in STEM into a life-long passion that will one day allow them to leverage their skills to benefit the Broward County community, South Florida and the nation as a whole.
- Learned customer service skills.
- Students within the community are making an app for the museums that would normally be outsourced to an established company.
- Make lifelong friends.
Institutional Context

- Founded in 1907
- Includes a 10,000-square-foot temporary exhibit gallery, five permanent galleries, 10 acres of outdoor exhibits, and an Imax Convertible Dome Omnitheater
- We impact over a million people from around the world every year
“Empowering Youth to Change Our World Through Science.”

Engages youth long-term; eligible youth are ages 11-25

Participants are primarily youth of color, low-income youth and girls

Focus is on learning STEM by using it as tool for social justice

Provides career & professional development opportunities

Funded through endowment, large & small grants and donations
Career awareness & exploration

E³ - Acknowledging 21st century skills they already have
Sharing professional skills with peers and adults
Awareness through exposure - workshops & field trips
Obstacles & Challenges

Pathway not pipeline - choice and patience

Takes significant time and resources - fitting it into existing program

Staff continuity - AmeriCorps led work

Youth in our program for more than several years wanting new experiences
98% of our high school participants have graduated high school on time since we started tracking in 2010

83% of our high school participants enrolled in a college program directly after graduation

Longer term impacts
- 5 KAYSC staff members are alumni
- 4 alumni are working elsewhere in museum as coordinator or higher up
Institutional Context

- 140,000 visitors annually and 1.7 million visitors since opening in 2004
- Host over 350 field trips with almost 20,000 students and chaperones annually
- Part of the Cultural Arts Department of the Town of Normal and a 501(c)3 with a foundation board
- The Children’s Discovery Museum is the cornerstone of the Uptown redevelopment project that started 13 years ago and continues today
- 34,000 sq ft, Leed Certified, with over 22 interactive exhibits
- $1.5 million annual operating budget with additional administrative and facility support from the Town of Normal
- Target Audience: 3 month - 13 years
Youth Engagement

● Teen Volunteer Program
  ○ Receive job preparedness training
  ○ Experience with engaging visitors in exhibits
  ○ Classroom aides in programs offered at the Museum

● Volunteer Program
  ○ Illinois State University (ISU), Illinois Wesleyan University (IWU), local businesses

● Internship Program - partnerships with ISU & IWU serving 3-7 students annually

● Innovation Institute Program
  ○ Grant Funded through State Farm (corporate office is in Bloomington/Normal, IL)

  ○ Serves Youth (K-5th grade) through weekly hands on STEAM Programing

  ○ Serves Teens (6th - 12th grade) through weekly program where youth partner with ISU pre-service teachers to design and implement science activities in a fair like setting

● Programing
  ○ children ages 3 months - 13 years old and their parents
Career awareness & exploration

- **Volunteers and Interns**
  - Participate in our programs as assistants and instructors
  - Meet community partners/experts through our programs
  - Participate in Museum Education as a STEAM Based Career

- **Programs**
  - Inspire love of learning through play
  - Hands-on, problem based learning
  - Develop skills crucial for success in STEAM careers
    - Problem Solving - See failure as learning
    - Teamwork - Seeing others as resources
    - Critical Thinking - Evaluate what you learned from an experience
    - Inference - Using one's experiences to guide future decisions
Obstacles & Challenges

● Challenging negative views on self-efficacy in areas of STEAM for children as early as 2nd and 3rd grade
● Finding community experts comfortable talking to young children
● Helping children clearly tie skills they develop with future careers
● Changing the idea of what a scientist, engineer, artist, mathematician, etc. look like
● Broadening the idea of STEAM careers to jobs that don’t require a secondary degree like mechanics, electricians, contractors, etc.
Successes & Positive Impact

● Teen Volunteer Program: annual
  ○ 1,626 hours
  ○ 130 students

● Volunteer Program
  ○ 6,732 hours
  ○ 465 individuals

● Programs
  ○ 250 programs
  ○ Serving approx. 30,000 people

● Families engagement
  ○ Develop STEAM skills,
  ○ Appreciation of need for these skills

● Community partner engagement
  ○ Teaching individuals to share their skills and expertise with students
  ○ Sharing unique local jobs with area students
Table Conversations

Learn more about our specific projects

What stood out to you?

What questions do you have about our programs?

How do you balance STEM career development and general career skill building?

What career awareness and exploration strategies do you utilize in your work?
Contact Information

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