Organization Name: University of Florida Board of Trustees (for the Florida Museum of Natural History)

Organization Info

Year Established:
Most Recent 990 Year:
Total Revenue:
Total Expenses:
Philanthropy Hub Profile Created: No

Program Snapshot

Program Name: Inside Out! Expanding Florida Museum Science In-reach and Outreach to Underrepresented Youth
Contract Number: 11567
Award Amount: 40163
Expenditures through 9/30/20: %:
Extension Requested: No
Type of Program: Out of School TIme/Youth Development
Program Summary: Summer camps for youth enrichment activities
Target Population: School-Age: 6-18
Program Staffing:
7 Positions:
7 Counselors

Program Site(s):
Girls Place (2101 NW 39th Ave, Gainesville, FL)
YMCA (5201 NW 34th Blvd, Gainesville, FL)
Boys and Girls Club (2661 NW 51st St, Gainesville, FL)
I Am STEM LLC (virtual – open to all Alachua County)

Partner(s): BOOST Alliance (Girls Place, I Am STEM LLC, Boys and Girls Club of Alachua County, North Central FL YMCA)

To be completed by the Providing Agency

How much?	Actual	How well ?	Actual	Anyone better off?	Actual
Expected # of children to be served: **100** **Intensity of Services:** **On-going engagement (weekly sessions)** **# of youth attending camp**	81 4 Weeks (1 week per organization) 81	% of youth attending camp	100%	% increased interested in STEAM careers from participants % increase in natural conservation knowledge % of minorities and underserved served by museum	• The outreach camps did not significantly change participant inclination to tell friends about the camp or learn more about science/photography careers. Furthermore, participants' interest in science/photography decreased significantly ($p < 0.01$) after completing the outreach camp. We believe this is due to a combination of the delivery format of the camp (virtual) and the hardships participants were facing because of the pandemic and beyond. Under the conditions we were in, it was very difficult to influence attitude change, in a setting that is less empowering and new to these students. • Participants' technical skill levels significantly increased ($p < 0.01$) after completing the outreach camp. They felt more comfortable in using photographic tools and techniques. • This program was successful at targeting children historically underrepresented in museum programs. This program allowed the museum to reach a diverse audience, one in which at least 60% were African-American, which is a dramatically higher percentage than the data we have collected for the visitors that come through our doors (7% in 2019). We also had many participants that identified their racial identity as more than one or other (20%), which is also much higher than the visitors we usually receive (4%).

Project Narrative:

Describe what has been accomplished year-to-date.
Include any adjustments due to COVID-19 or any other helpful information

Please see the attached final report.

Evaluation Report: Inside Out! Expanding Florida Museum Science In-reach and Outreach to Underrepresented Youth

Application ID: 153994, 12-18-2019

A. EXECUTIVE SUMMARY

Background

Alberto López, author of this evaluation report, conducted an evaluation of the Florida Museum of Natural History's 2020 virtual Summer Outreach Camp. Camps kicked off July 6, 2020, broadcasting live to three* partner community centers and directly to participants' homes† twice a day for each week-long session. These camps were originally scheduled to be held in person, but due to the COVID-19 pandemic the program transitioned to virtual. Over the course of four weeks, we reached 81 kids ages 8 to 12. We worked with North Central Florida YMCA*, Woodland Park Boys & Girls Club*, Girls Place, Inc.* and I Am STEM Camp† to virtually provide Nature Photography Camp.

The evaluation included both the Next Generation Scientist Survey and the use of a formative program evaluation. A total of 55 participants submitted data for the Next Generation Scientist Survey, and 28 of those participants fully completed the formative program evaluation.

The Next Generation Scientist Survey, was developed to examine science interest, capital, habitus, and career aspirations of youth. This would provide some baseline data for our community, beyond school performance statistics, and help us measure some of the intangibles involved in increasing the science capital of underserved youth in Alachua County. This survey also served as a tool to collect demographic data of participants. The survey was disseminated on the first day of outreach camp.

The Formative Evaluation, was performed to receive feedback from participants that helped us determine what aspects were implemented successfully and unsuccessfully. Activities to inform the evaluation included: 1) disseminating pre and post evaluation forms on the first and last day of the camps respectively; 2) gathering feedback from the counselors at the partner institutions; and 3) Examining student portfolios that were created as a part of the program.

In addition, the Florida Museum implemented the photography camp virtually with its traditional audience independently, as a fee-based program. The Florida Museum has offered photography camps for many years now and the outreach camp was developed in hopes of offering this same experience to underserved communities at no cost. The fee-based camp was only used as a comparison group to see if there are differences in implementation between both audiences. The fee-based audience in its majority was Caucasian (73%) and female (82%). A total of 11 participants submitted data for the Next Generation Scientist Survey, and 3 of those participants fully completed the formative program evaluation.

Outreach Camp Key Findings

Next Generation Scientist Survey

- The majority of participants identified themselves as female (84%).

- The majority of participants identified themselves as African American/African (60%).
- Participants' lowest science capital score was in the "Science Experiences" category.
- Participants highest science capital score was in the "Family Science Achievement" category.
- Participants from the Florida Museum's fee-based camp had significantly higher science capital scores in all categories when compared to the outreach camps participants.

Formative Evaluation

- The outreach camps did not significantly change participant inclination to tell friends about the camp or learn more about science/photography careers. Furthermore, participants' interest in science/photography decreased significantly ($p < 0.01$) after completing the outreach camp. We believe this is as a result of the delivery format of the camp (virtual) during the hardships participants were facing because of the pandemic and beyond. In addition, this may also be a result of the active learning methods that were implemented, which may be new to some participants and might pull participants out of their comfort zones and make them feel like they have to work harder to complete their assignments.
- The majority of the participants enjoyed collaborating with camp staff (86%), enjoyed using the resources provided by the camp (76%) and felt that collaboration was helpful to achieve their projects (66%).
- Participants' technical skill levels significantly increased ($p < 0.01$) after completing the outreach camp. They felt more comfortable in using photographic tools and techniques.
- Participants did not perceive a significant change in their communication skills or ways to improve their photographic skills.
- Participants' science and photography knowledge significantly increased ($p < 0.05$) after completing the camp. Participants were better able to list photography terms, careers in science and photography, and reasons why/how photography is important for museums and other scientific fields.
- The majority of participants (68%) submitted work and actively participated in the program. The picture portfolio produced by the campers demonstrated very well the skills they obtained and understanding of the concepts that they were assigned.
- One of the four partner institutions offered the camp virtually, with participants in their homes. This brought an onset of challenges that we did not have with the institutions that held the camps in person at their locations. Adult supervision and support for these independent campers was lacking in comparison, and this was mainly reflected by lack of participation in the program. The 32% of campers that didn't submit picture portfolios were from this remote camper group. In contrast, 100% of our Florida Museum campers that participated from their homes submitted work. This means that there are some variables in play that affected participation. The difference in science capital is one of these variables that we were able to measure, but there are probably many more.
- Partnering organizations (100%) agreed or strongly agreed that the program met their expectations.

- Partnering organizations (100%) agreed or strongly agreed that they would participate in this program again.
- The majority of the partnering organizations felt neutral or strongly disagreed that they would be able to provide this camp on their own (86%).
- Partnering organizations (100%) agreed or strongly agreed that participants enjoyed the program, learned new skills, improved their communication skills, raised STEM and photography career awareness.

Key Recommendations

- Counselors from partnering institutions and parents should participate in trainings to better engage participants during virtual outreach programs. Alternatively, sending trained Florida Museum staff members (if allowed) to support counselors would also help engage participants. This program in its original concept had professional development for partners and an in-person presence, but because of the pandemic and short turnaround time to launch the program, this was eliminated.
- If permitted, this program should be delivered face-to-face rather than virtually. This is especially true during and after pandemic times, as students have been overloaded with screen-based programming. Instructors also gain many advantages like being able to read their audience better and help troubleshoot issues more easily.
- If virtual programming is the only option, screen time should be reduced, more independent/team tasks/activities should be added that don't rely on being in front of the screen, and focus should narrow to one or two main subjects vs. multiple subjects.
- Programming for underserved audiences need to be tailored to the needs and conditions that participants face on a daily basis. We had good intentions in offering the same experiences to these audiences as we offer to our more privileged audiences, but this ultimately could have been one reason some campers didn't participate in the program. It seems we should plan for less adult support, for example, and take into better consideration the difference in science capital between these audiences.
- Even though active learning, hands-on experiences may pull participants out of their comfort zones and may make them feel like they have to work harder, we still recommend implementation of future programs using these methods. The data we collected demonstrated that participant skills and knowledge increased significantly, but we also saw that attitude changes towards science and photography took a hit. That said, we feel confident that we would have seen an increase in positive attitude changes towards science and photography if the program had been delivered in person and with field trips as originally proposed, or if we reduced the amount of total screen time and focused on fewer subjects.

B. INTRODUCTION

The Florida Museum teamed up with county organizations, Woodland Park Boys & Girls Club, Girls Place, Inc., North Central Florida YMCA and I AM STEM Camp, to bring virtual nature photography outreach camps to 81 children ages 8-12 in the month of July with all supplies provided thanks to funding from the Children's Trust of Alachua County.

The goals of the outreach camps were to contribute to community efforts to provide better "out of school time" experiences for youth, to further diversify the children we serve in informal science education programs, and to strengthen partnerships with other "Out of School Time" organizations while contributing unique science-focused programming for these youth. In particular we targeted African-American and LatinX children historically underrepresented in museum programs.

We engaged youth with nature photography and STEM careers by conducting the following four activities: 1) Learning basic photography skills and how to use and care for the equipment; 2) Learning about the applications of photography in museums; 3) Learning about careers in photography and science; and 4) Having discussions about photography as a tool for science communication, all concluding with exhibiting student work at the museum. Collectively, these activities were meant to strengthen participants' skills, improve their attitude about STEM related fields, help them become more aware of STEM careers, and build their communication capacity.

Intended outcomes for the Virtual Nature Photography Outreach Camps, as described in the proposal include:

Attitude Change:

- Participants will express a high level of interest in learning more about photography and nature.

Knowledge Gains:

- Participants will demonstrate knowledge in photographic terminology.
- Participants will understand the process of museum curation and how photography is used as a tool, an art form and a form of communication in this field.

Increased Skills/efficacy:

- Participants will be able to use photographic tools and techniques
- Participants will become better leaders and communicators by sharing their work through an exhibition.

C. METHODOLOGY

Program Structure

Camps kicked off July 6, 2020, broadcasting live to three* partner community centers and directly to participants' homes† twice a day for each week-long session. These camps were originally scheduled to be held in person, but due to the COVID-19 pandemic the program transitioned to virtual. Over the course of four weeks, we reached 81 kids ages 8 to 12. We worked with North Central Florida YMCA*, Woodland Park Boys & Girls Club*, Girls Place, Inc.* and I Am STEM Camp† to virtually provide Nature Photography Camp.

Virtual camps were delivered five days a week for two hours each day. Program times included an AM session and a PM session, with starting times that varied depending on the needs of each partner organization. Each one of these sessions (AM & PM) had a duration of one hour in which AM sessions were mainly used to increase the knowledge (e.g. careers, terms, etc.) and skills (e.g. techniques, equipment, etc.) of participants, and the PM sessions were used to increase participant confidence in using their communication skills by exhibiting their work to their peers and instructors. The times between the AM and PM sessions were used to go out and take photographs based on what they learned in previous lessons, and this period was supervised by partnering organizations or parents. On the final day of each camp session we celebrated their accomplishments by showcasing the work they did during the week.

Evaluation Activity Methods

The Next Generation Scientist Survey (Appendix A), was developed to examine science interest, capital, habitus, and career aspirations of youth (Jones et al. 2020). This would provide some baseline data for our community, beyond school performance statistics, and help us measure some of the intangibles involved in increasing the science capital of underserved youth in Alachua County. This survey also served as a tool to collect demographic data of participants. The survey was disseminated on the first day of outreach camp.

A comparison of the results was made between the outreach camps (n=55) and the fee-based camp (n=10) using the average scores for each category that measured science capital, and a T-test was used for statistical analysis to determine if there were any significant differences between groups. Data from the survey was categorized based on Jones et al. 2020, for analysis:

- Demographics (Questions 1-7): Data about Age, Sex, Ethnicity, etc. was collected.
- Future Science Task (Questions 8): questions related to youth interest and their perceived importance and utility of science in the future.
- Family Science Achievement (Questions 9): questions related to their family's attainment value, utility value, and intrinsic value of science.
- Science Expectancy (Questions 10): questions related to science self-efficacy and self-concept.

- Science Experiences (Questions 11-14): measuring amount of time youth spend engaging in science outside of school.

The Formative Evaluation (Appendix B) was performed to help determine what aspects were successful and unsuccessful. Activities to inform the formative evaluation included: 1) disseminating pre and post evaluation forms on the first and last day of the camps respectively; 2) gathering feedback from the counselors at the partner institutions; and 3) examining student portfolios created as part of the program.

A comparison of the results was made between the Pre and Post evaluation forms (n=28) by using their average scores for each category, and a paired T-test statistical analysis was performed to determine if there was a significant difference between Pre and Post evaluation results. Approval ratings were also collected in the Post evaluations and were analyzed by using descriptive statistics. Data from the evaluations were categorized in the following way for analysis:

- Attitude Change (Questions 1a-c): question determining participant level of interest in the theme of the camp.
- Florida Museum Camp Delivery Efficacy (Questions 1d-e & 8,9): measuring staff, materials and collaboration space quality.
- Content Knowledge (Questions 2-4): measuring participant retention of themed related terms, careers, and relevance.
- Skills Change (Questions 5 or 6): measuring the comfort level of participants using themed tools and techniques.
- Self-Efficacy in Communication and Knowledge (Questions 7): measuring if participants feel their communication and knowledge has improved.

Partner feedback was collected with a Post evaluation form that was disseminated to the counselors of each organization (n=7). Descriptive statistics was used to determine if the program did the following:

- Met organizational expectations (Question 2).
- Improved participant skills, knowledge, communication and attitudes (Questions 3a-c).
- Improved STEM/photography career awareness (Questions 3d-e)
- General Feedback (Questions 4-6).

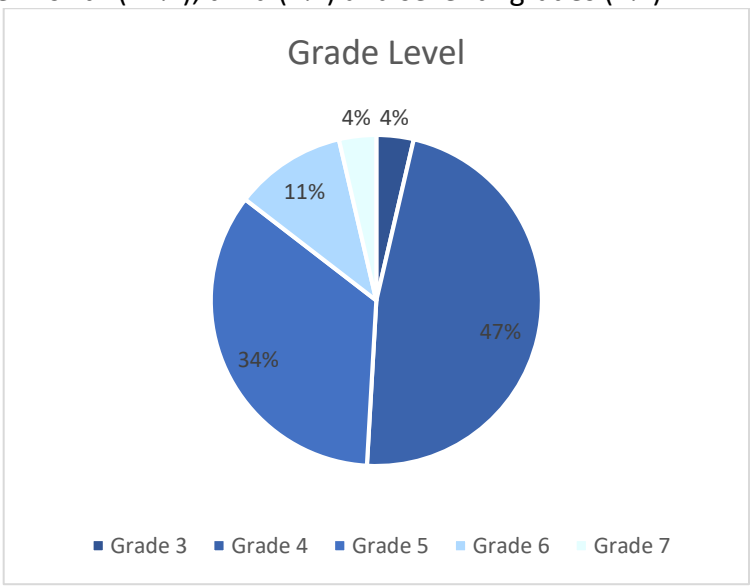
Qualitative evaluation was used to examine the student portfolios created during the program. Participants (n=55) delivered the photographs via email or Dropbox. Work was evaluated for quality and understanding of photographic concepts. A successful amount of participation enabled the museum to create a photo gallery in the museum's exhibit halls. The pictures used for the photo gallery will be delivered to the partners once the exhibition is taken down.

D. FINDINGS AND RESULTS

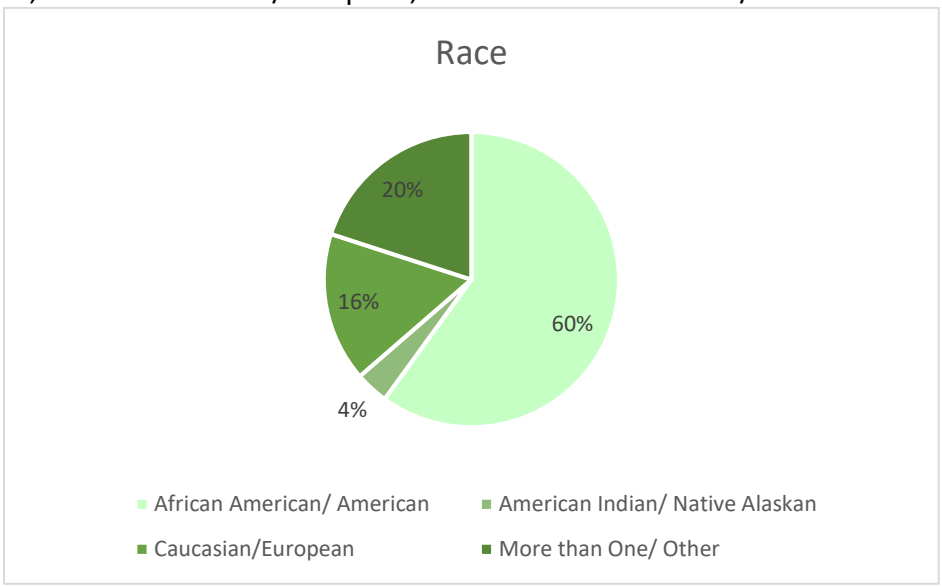
Next Generation Scientist Survey

Demographics

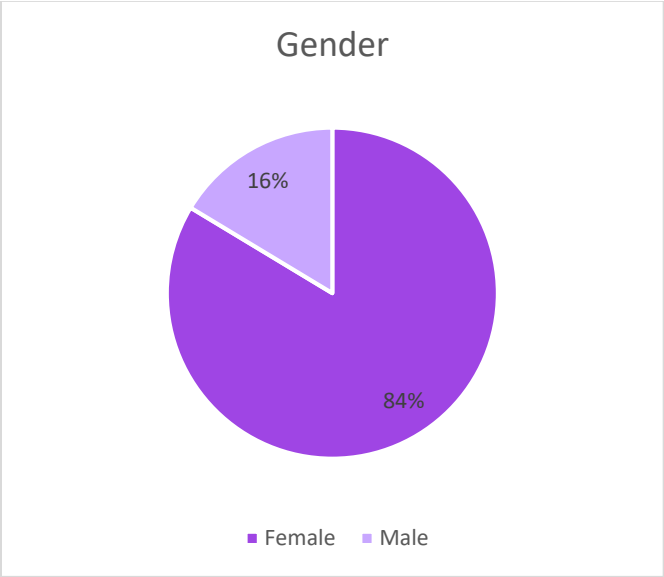
- Most participants of the program were in fourth (47%) and fifth grade (35%), while the remainder were in sixth (11%), third (4%) and seventh grades (4%).



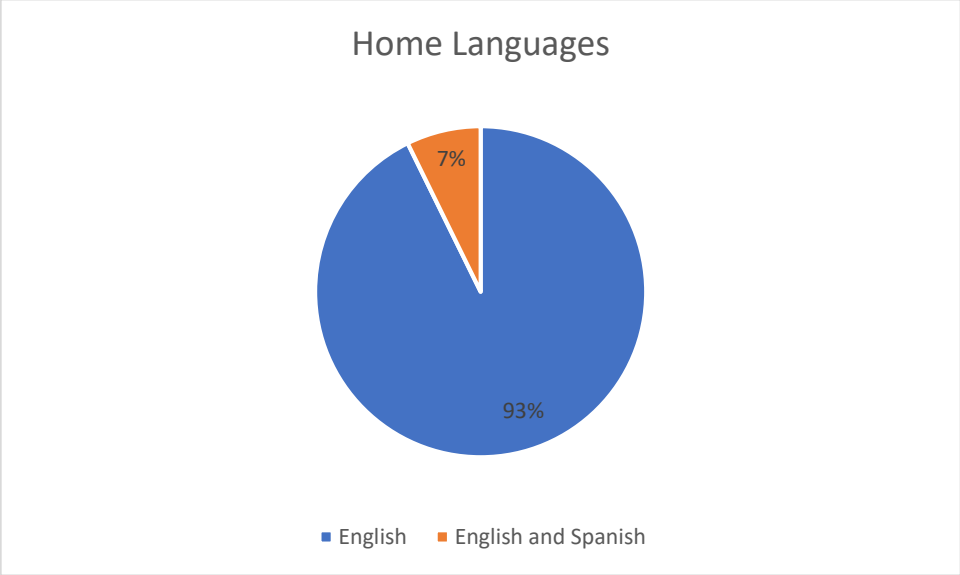
- 60% of participants identified themselves as African American/African, 20% as more than one/other, 16% as Caucasian/European, and 4% American Indian/Native Alaskan.



- 84% of participants identified themselves as female and 16% as male.



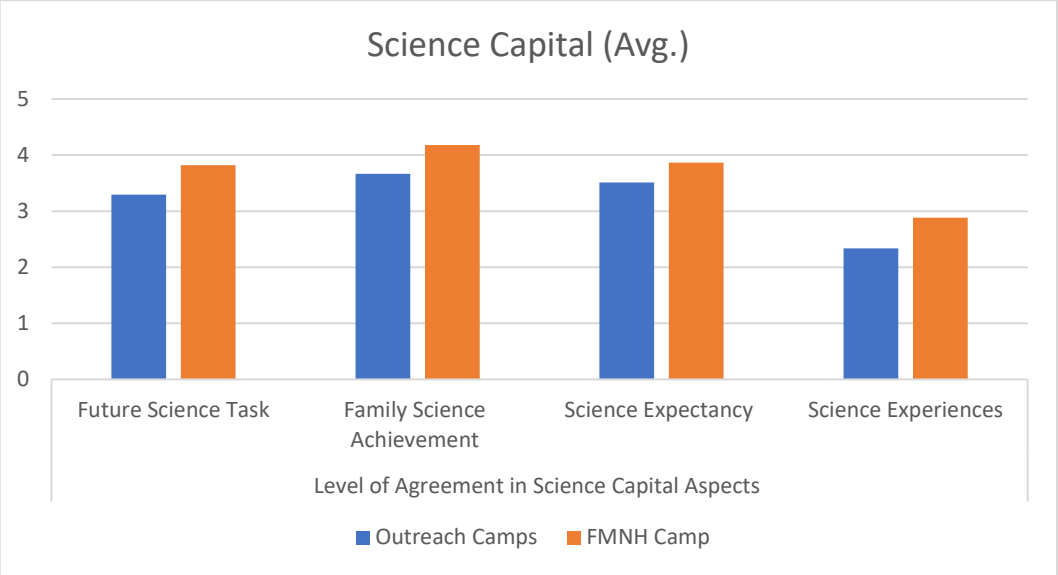
- 93% of Participants only speak English in their homes, and the remainder also speaks Spanish.



Science Capital

- Participants' lowest science capital score was in the "Science Experiences" category with an average score of 2.34 and their highest science capital score was in the "Family Science Achievement" category with an average score of 3.66. Statistical analysis revealed that participants from the Florida Museum fee-based camp had significantly higher science capital scores in all categories when compared to the outreach camps participants: Future

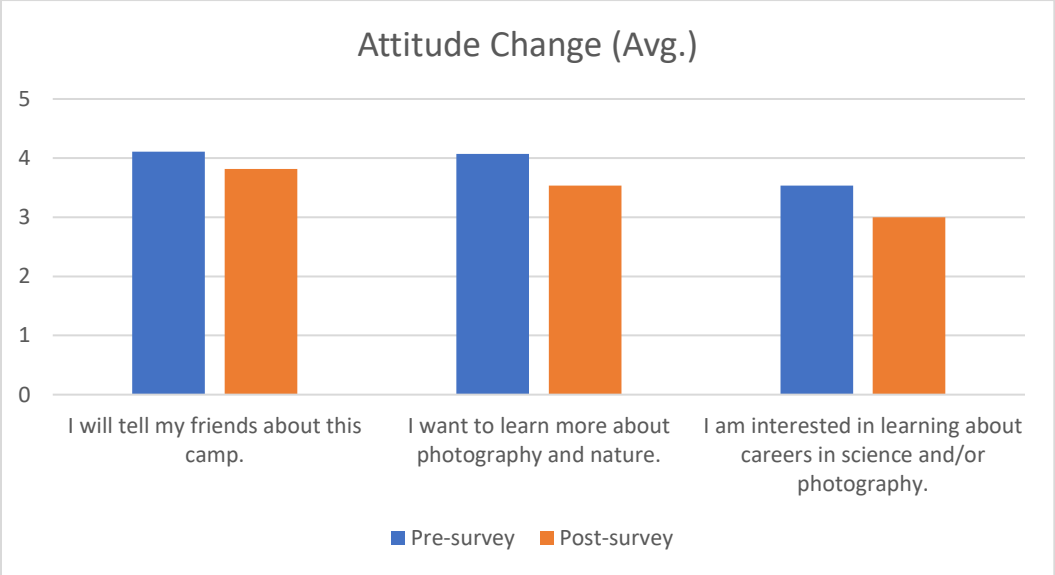
Science Task (p=0.004); Family Science Achievement (p= 0.0007); Science Expectancy (p=0.004); Science Experiences (p= 0.0000002).



Formative Evaluation

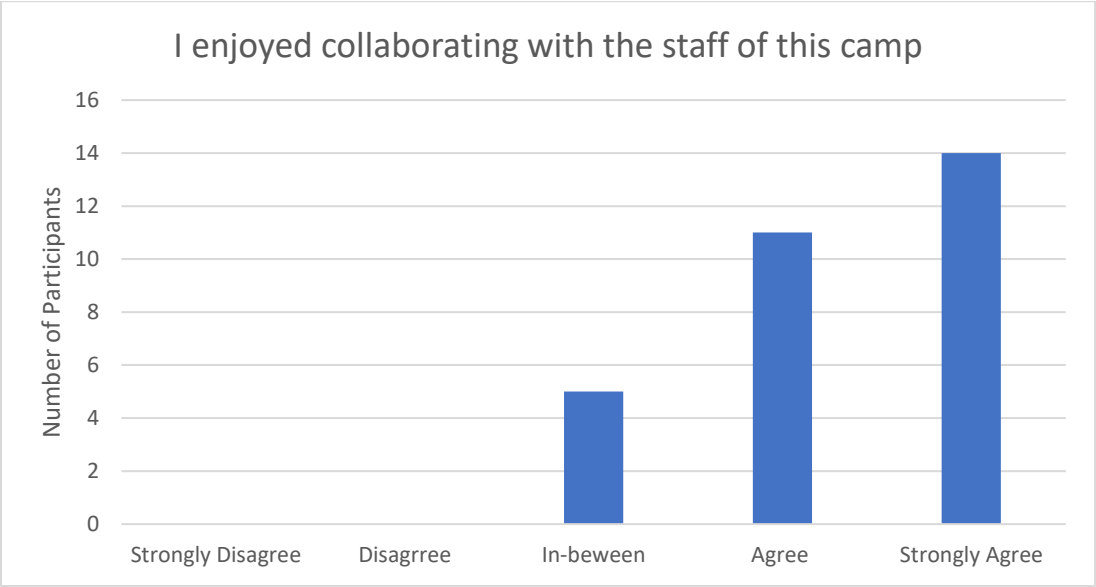
Pre and Post Evaluation

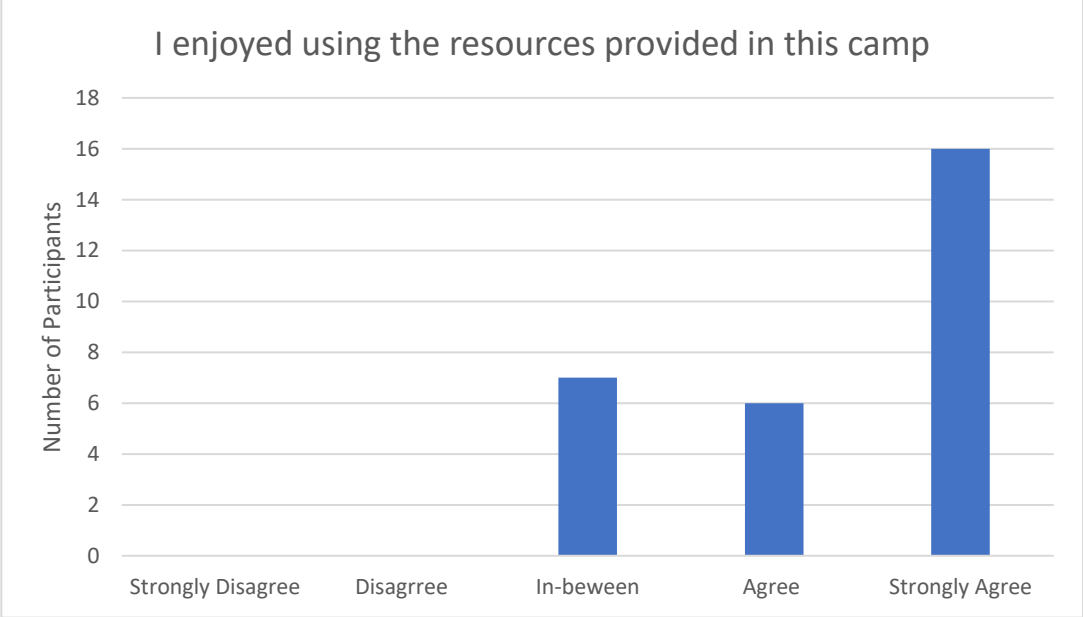
- The outreach camps did not significantly change participant inclination to tell friends about the camp or learn more about science/photography careers. Furthermore, participants' interest in science/photography decreased significantly after completing the outreach camp (p= 0.009).

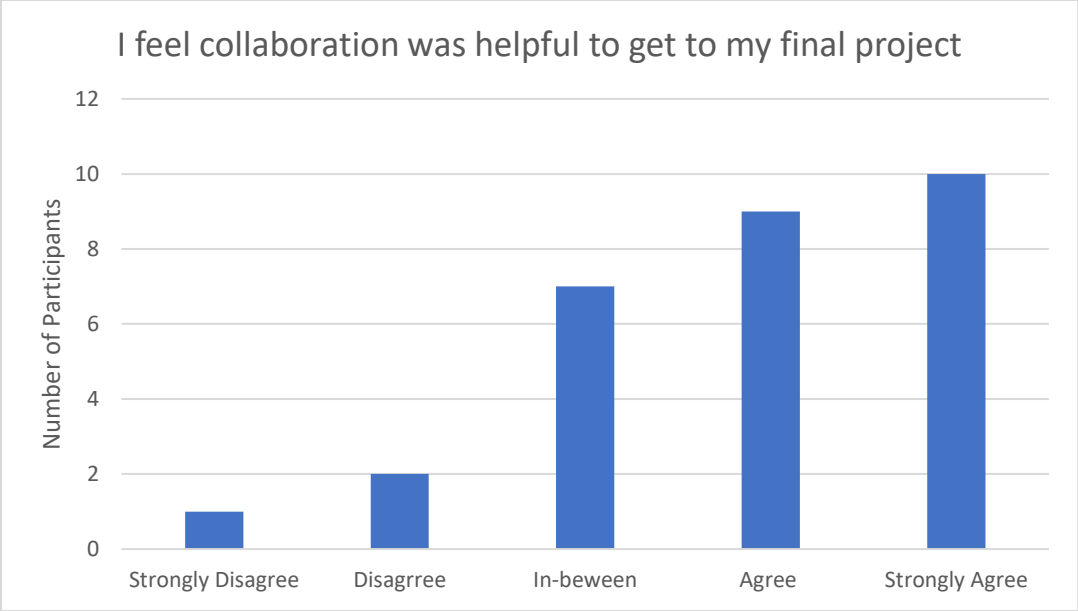


- Camp delivery efficacy was positive, but there is still room for improvement in creating a space where participants can collaborate more with each other. The majority of the

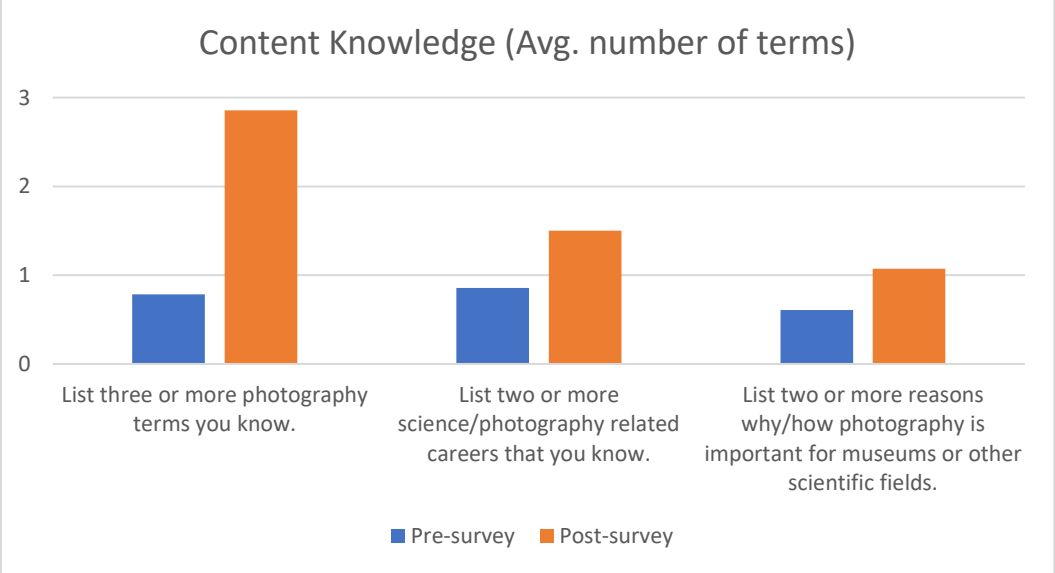
participants enjoyed collaborating with camp staff (86%), enjoyed using the resources provided by the camp (76%) and felt that collaboration was helpful to achieve their projects (66%).



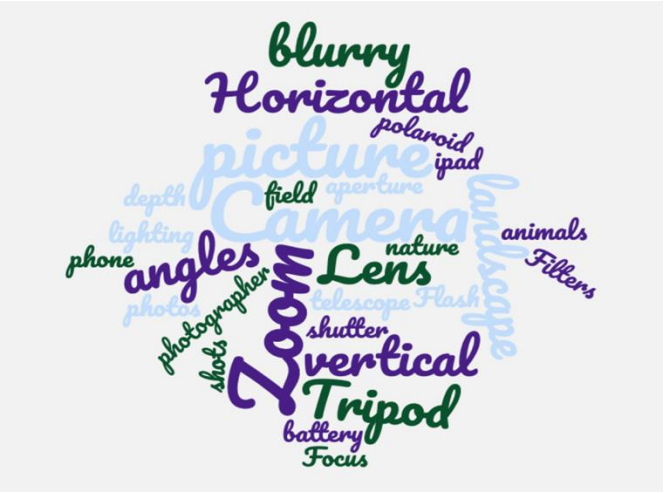


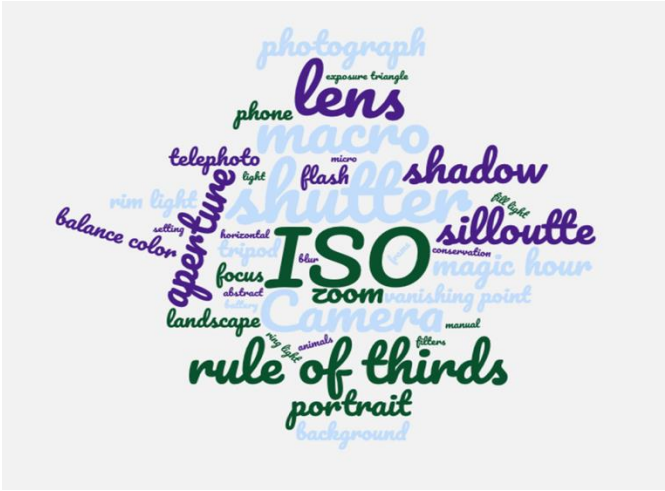


- Participants' science and photography knowledge significantly increased after completing the camp. Participants were better able to list photography terms (p= 0.0000004), careers in science and photography (p= 0.05), and reasons why/how photography is important for museums and other scientific fields (0.03). See chart and word cloud below to see frequency of words used Pre vs Post evaluation.

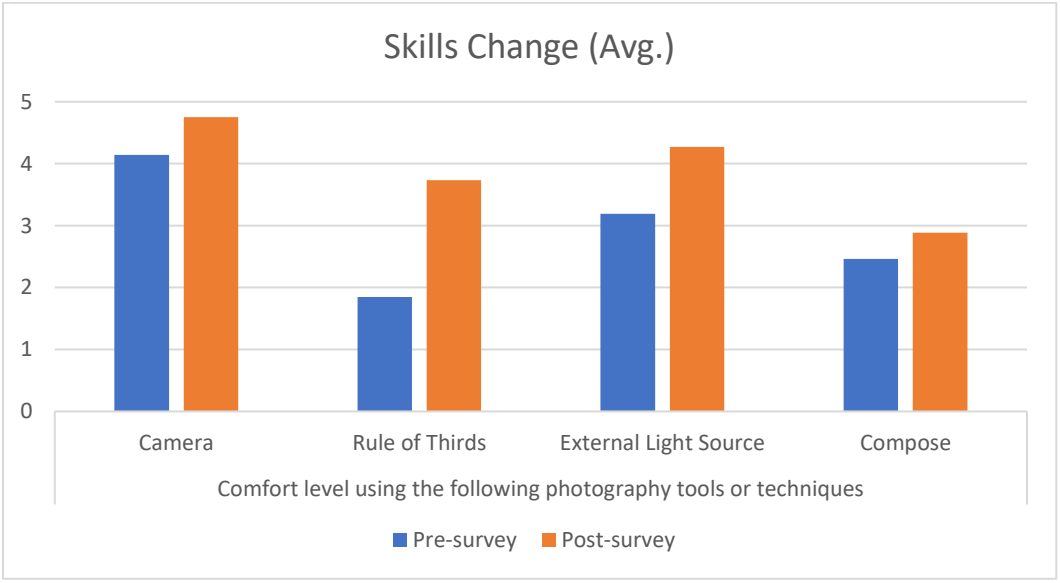


Pre **Post**

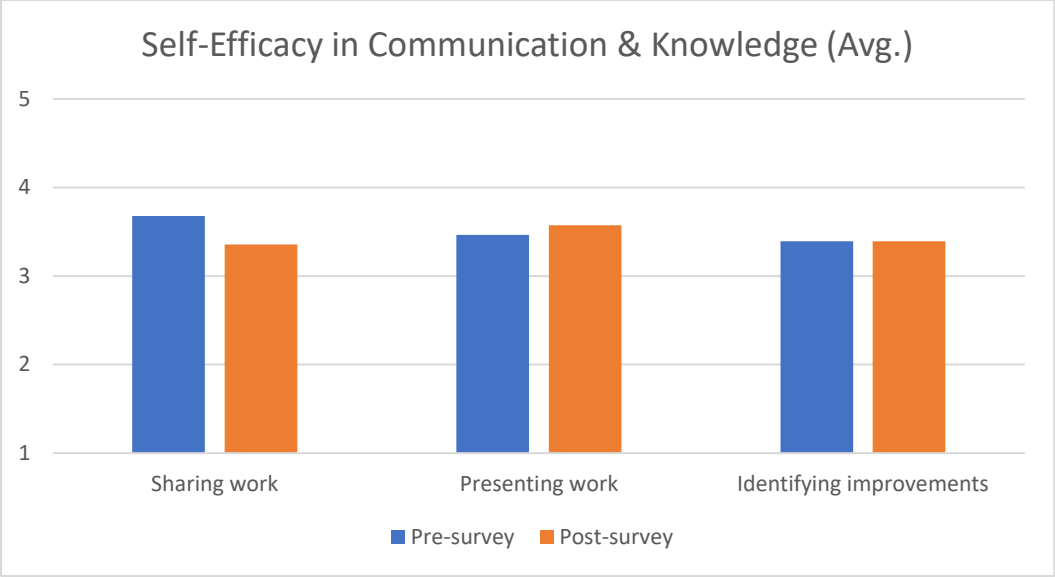




- Participants' technical skill levels significantly increased after completing the outreach camp. They felt more comfortable in using the following photographic tools and techniques: Camera (p= 0.0006); Rule of Thirds (p= 0.000002); External Light Source (p= 0.005); Compose (p= 0.31).

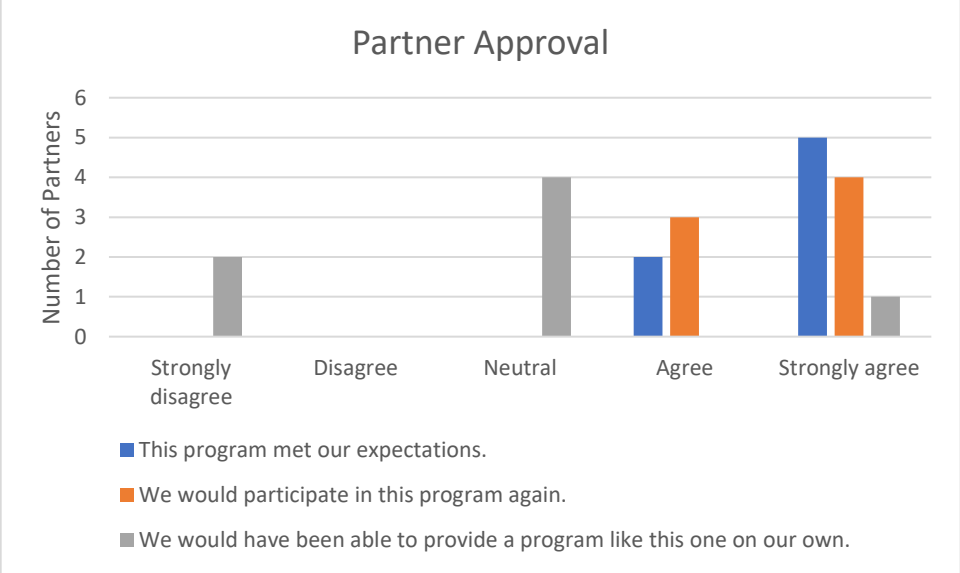


- Statistical analysis revealed that participants did not perceive a significant change in their communication skills or ways to improve their photographic skills (p > 0.05).

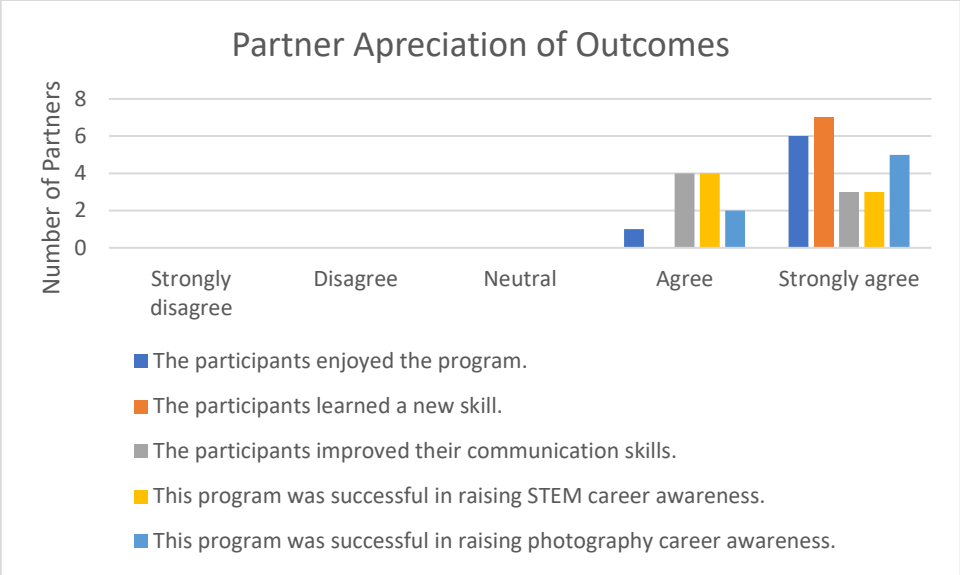


Partner Feedback

- Partnering organizations (100%) agreed or strongly agreed that the program met their expectations, and that they would participate in this program again. The majority of the partnering organization also felt neutral or strongly disagreed that they would be able to provide this camp on their own (86%).



- Partnering organizations (100%) agreed or strongly agreed that participants enjoyed the program, learned new skills, improved their communication skills, raised STEM and photography career awareness.



Qualitative Evaluation of Portfolio

- The majority of participants (68%) submitted work and actively participated in the program. The picture portfolio produced by the campers demonstrated very well the skills they obtained and understanding of the exercises that they were assigned. A gallery with their work was showcased online on the Florida Museum website and physically in the Florida Museum Denny Gallery. The virtual gallery can be accessed with the following link: https://www.floridamuseum.ufl.edu/exhibits/childrens-gallery

- The 32% of campers that didn't submit any work came from the partner institution that offered the camp with participants in their homes. That said, 100% of our Florida Museum campers that participated from their homes submitted work.

E. DISCUSSION & RECOMMENDATIONS

In discussing the findings from this evaluation, we will examine the expected goals and outcomes of the program:

A. Goals

1. Further diversify the children we serve in informal science education programs.

2. Strengthen partnerships with other "Out of School Time" organizations while contributing unique science-focused programming for these youth.

This program was successful at targeting children historically underrepresented in museum programs. This program allowed the museum to reach a diverse audience, one in which at least 60% were African-American, which is a dramatically higher percentage than the data we have collected for the visitors that come through our doors (7% in 2019). We also had many participants that identified their racial identity as more than one or other (20%), which is also much higher than the visitors we usually receive (4%).

Establishing and strengthening partnerships with community organizations was key for this program to be able to reach a diverse audience. We were able to reach participants that usually don't visit the museum or participate in our fee-based camps. Partnering with organizations helped us tear down barriers that many of these low income, minority ethnic groups face, like transportation costs, but it also provided a neutral space that was familiar to participants and their families (Dawson, 2014).

This partnership enabled community organizations to offer unique science focused programming for youth that they might not have been able to offer otherwise, as 86% of partners felt neutral or strongly disagreed that they could offer this program on their own. In addition, all of our partners agreed or strongly agreed that the program was able to achieve all of the expected outcomes we proposed and that they are interested in participating again. The feedback provided by these partnerships will help us shape future programing like this one, as many of them also gave us tips on how to retain participant attention and how to modify some of the interactions we had with participants. These tips include: shortening the length of some of the presentations, adding more hands-on activities, and building in more time for students to explore their cameras.

We would also recommend that counselors from partnering institutions and parents should participate in trainings to better engage participants during virtual outreach programs. Alternatively, sending trained staff members (if possible) to support counselors would also help engage participants. This program in its original concept had professional development for partners and an in-person presence, but because of the pandemic and short turnaround time to launch the program, this was eliminated.

B. Outcomes

Attitude Change

We learned that the outreach camp did not significantly provoke attitude change in participants. Furthermore, participants' interest in science/photography decreased significantly after completing the outreach camp. We believe this is due to a combination of the delivery format of the camp (virtual) and the hardships participants were facing because of the pandemic and beyond. Under the conditions we were in, it was very difficult to influence attitude change, in a setting that is less empowering and new to these students. We basically had a lot of cards stacked against us.

In addition, this may also be a result of the active learning methods that were implemented, which may have been new to the majority of participants, by pulling participants out of their comfort zones and making them feel like they have to work harder to complete their assignments. Self-efficacy and attitude change can be very difficult to measure, and research has shown that student perceptions of the knowledge that they have acquired with active learning methods might not align with the actual outcomes observed (Deslauriers 2019).

Even though active learning, hands-on experiences may pull participants out of their comfort zones, we still recommend implementation of future programs using these methods. The data we collected demonstrated that participants' skills and knowledge increased significantly, but we also saw that attitude changes towards science and photography took a hit. That said, we feel confident that we would have seen an increase in positive attitude changes towards science and photography if the program had been delivered in person and with field trips as originally proposed, or if we reduced the amount of total screen time and focused on fewer subjects.

Interestingly Florida museum campers also showed no significant change in attitudes skills and knowledge in all questions surveyed. Florida museum campers are probably more used to experiencing active learning experiences and bring a significantly higher amount of science capital as statistically demonstrated ($p > .05$), when compared to the outreach camps in all categories.

Knowledge Gains and Increased Skills/efficacy

The execution of these two outcomes were the major strengths of this program for the following reasons:

- Participants' science and photography knowledge significantly increased after completing the camp. Participants were better able to list photography terms, careers in science and photography, and reasons why/how photography is important for museums and other scientific fields.

- Participants' technical skill levels significantly increased after completing the outreach camp. They felt more comfortable in using photographic tools and techniques.

These strengths were reflected in the quality of participant work and in our critique sessions, where they presented their photographs to the group for discussion. During these sessions they would use many of the new photographic terms they learned during camp and they would show us how they implemented them in their pictures. That said, ironically, they did not perceive a significant change in their communication skills or ways to improve their photographic skills, but partner organizations and museum staff certainly appreciated a positive change in these skills. In addition, some participants mentioned in their comments that they enjoyed the critique sessions, together with going out and using their cameras.

Additional Take-Homes

If permitted, this program should be delivered face-to-face rather than virtual, especially during post pandemic times where students have been overloaded with screen-based programming. Instructors would also gain many advantages, like being able to read the audience better and help troubleshoot issues more easily. That said, if virtual programming is the only option, screen time should be reduced, and more independent/team tasks/activities should be added that don't require being in front of the screen and have a more narrow focus on one or two main subjects.

In our effort to offer outreach camp participants the same opportunity that the fee-based Florida Museum camps enjoy, we possibly missed the mark in some areas, which gives us some room for improvement. There is a big gap between these two audiences in their science capital, and other socio-economic variables may need to be factored into virtual programming. We expected this gap, but we may have underestimated it in certain areas of the program. That said, the information we obtained will be incredibly valuable for us in shaping this program and creating similar ones with these audiences in the future.

Conclusion

In conclusion, this program allowed participants spend time learning how to master the art of nature photography through interactive virtual programming. They were able to learn how photography is used in STEM careers and also how it's used for research and education. We hope that they will feel empowered to use this new knowledge and skills to shape a better future for themselves and the world.

We would like to thank the Children's Trust of Alachua County for making this program possible, and together with continued support and the lessons we have learned, we hope to be able to expand it to many more children in Alachua County.

F. REFERENCES

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G. APPENDICES

Appendix A.

Florida Museum Summer Outreach Program Scientist Survey

Directions: Please answer each question in this survey. There are no right or wrong answers. We are interested in your ideas.

1. What is your name? (First and Last)

_____

2. Select your museum program

- ☐ Girls Place
- ☐ YMCA
- ☐ Boys & Girls Club
- ☐ Caring & Sharing in partnership with I Am STEM
- ☐ Boys and Girls Club in partnership with I Am STEM

3. When were you born? (Month, Day, Year)

_____

4. What is your incoming grade level?

- ☐ Grade 4
- ☐ Grade 5
- ☐ Grade 6
- ☐ Other _____

5. I am:

- ☐ African American/African

- ☐ Caucasian/European
- ☐ Hispanic/Latino
- ☐ American Indian/Native Alaskan
- ☐ Native Hawaiian/Other Pacific Islander
- ☐ Middle Eastern
- ☐ South Asian/Indian
- ☐ East Asian
- ☐ Other _____

6. I am:

- ☐ Male
- ☐ Female

7. What language do you speak at home?

- ☐ English
- ☐ Spanish
- ☐ Other _____

8. **Tell us about yourself.** There are no right or wrong answers.

	Strongly Disagree	Disagree	In-Between	Agree	Strongly Agree
When I am older, I will need science for my job.					
I would like to have a job that uses science.					
After I finish high school, I will use science often.					

9. **Tell us about yourself.** There are no right or wrong answers.

	Strongly Disagree	Disagree	In-Between	Agree	Strongly Agree
My family thinks it is important for me to learn science.					
My family knows a lot about science.					
My parents think science is interesting.					
My parents have explained to me that science is useful for my future.					

10. **Tell us what you think.** There are no right or wrong answers.

	Strongly Disagree	Disagree	In-between	Agree	Strongly Agree
I know I can do well in science.					
My friends think I am good in science.					
I think I am good at science.					

I am good at using tools in science like thermometers, scales, rulers, or magnifying glasses					
My teacher sees me as someone who likes science.					
My parents see me as someone who likes science.					
I know a lot about science.					
I learn new science topics easily.					
An adult has encouraged me to study science.					

11. **Tell us about yourself.** There are no right or wrong answers. **How many times have you done this in the past year, when NOT in school?**

	Never (0 times)	1 time	2-4 times	5 times or more
Gone to a museum, zoo, aquarium, or planetarium **when not in school**				

Done experiments or used science kits **when not in school**				
Gone on a nature walk **when not in school**				
Read a map to find my way **when not in school**				

12. **Tell us about yourself.** There are no right or wrong answers. **How many times have you done this in the past year, when NOT in school?**

	Never (0 times)	1 time	2-4 times	5 times or more
Planted seeds and watched them grow walk **when not in school**				
Used binoculars or telescope **when not in school**				

13. **Tell us about yourself.** There are no right or wrong answers. **How many times have you done this in the past year, when NOT in school?**

	Never (0 times)	1 time	2-4 times	5 times or more
Used a thermometer to measure temperature **when not in school**				

Used a ruler, measuring tape, or measuring stick **when not in school**				
Built or taken things apart like a radio, watch, or computer **when not in school**				
Talked about science with other people **when not in school**				

14. **Tell us about yourself.** There are no right or wrong answers. **How many times have you done this in the past year, when NOT in school?**

	Never (0 times)	1 time	2-4 times	5 times or more
Watched science TV programs **when not in school**				
Read a book or magazine about science **when not in school**				
Gone online to learn about science on science websites or playing science games **when not in school**				

Appendix B.

Formative Pre-evaluation

Name of participant:_____

1. Select how you feel about the statements below.

	Strongly Disagree	Disagree	In-Between	Agree	Strongly Agree
I will tell my friends about this camp.					
I want to learn more about photography and nature.					
I am interested in learning about careers in science and/or photography					

2. List three or more photography terms you know.

_____ _____ _____

_____ _____ _____

3. List two or more science/photography related careers that you know.

_____ _____

_____ _____

4. List two or more reasons why/how photography is important for museums or other scientific fields.

_____

_____

_____

_____

5. Mark whether you feel comfortable using the following photography tools or techniques:

On a scale of 1 to 5 (1 is least and 5 is most)	**1**	**2**	**3**	**4**	**5**
Camera					
Rule of thirds					
External light source					
Compose					

6. Select how you feel about the statements below.

	Strongly Disagree	Disagree	In-Between	Agree	Strongly Agree
I feel comfortable **sharing** my work with others.					
I feel comfortable **presenting** my work to others.					
I can identify specific ways to improve my photography skills.					

Formative Post-evaluation

Name of participant: _____

1. Select how you feel about the statements below.

	Strongly Disagree	Disagree	In-Between	Agree	Strongly Agree
I will tell my friends about this camp.					
I want to learn more about photography and nature.					
I am interested in learning about careers in science and/or photography.					
I enjoyed collaborating with the staff of this camp.					
I enjoyed using the resources provided in this camp.					

2. List three or more photography terms you have learned from this camp.

_____ _____ _____

_____ _____ _____

3. List two or more science/photography related careers that you know.

_____ _____

_____ _____

4. List two or more reasons why/how photography is important for museums or other scientific fields.

_____

_____

_____

_____

5. State one key takeaway from the guest speaker.

_____

_____

6. Mark whether you feel comfortable using the following photography tools or techniques:

On a scale of 1 to 5 (1 is least and 5 is most)	**1**	**2**	**3**	**4**	**5**
Camera					
Rule of Thirds					
External Light Source					
Compose					

7. Select how you feel about the statements below.

	Strongly Disagree	Disagree	In-Between	Agree	Strongly Agree
I feel comfortable					

sharing my work with others.					
I feel comfortable **presenting** my work to others.					
I can identify specific ways to improve my photography skills.					
I feel collaboration was helpful to get to my final project.					

8. My **most** favorite camp day/activity was _____ because _____.

9. My **least** favorite camp day/activity was _____ because _____.

FLMNH Photography Outreach Camp Feedback

Q1 Partnering Camp

- o I AM STEM (1)
- o Boys and Girls Club (2)
- o YMCA (3)
- o Girls Place (4)

Q2 Please select your level of agreement for each statement:

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
This program met our expectations. (1)					
We would participate in this program again. (2)					
We would have been able to provide a program like this one on our own. (3)					

Q3 Please select your level of agreement for each statement:

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
The participants enjoyed the program. (1)					
The participants					

learned a new skill. (2)					
The participants improved their communication skills. (3)					
This program was successful in raising STEM career awareness. (4)					
This program was successful in raising photography career awareness. (5)					

Q4 What do you think we did very well?

_____
_____
_____
_____
_____

Q5 What could we improve on?

_____
_____
_____
_____
_____

Q6 Additional comments:

_____
_____
_____