WOX GRANT SUMMARY REPORT

For
Summer ICE (Innovation, Creativity and Exploration) Camp for Middle School Girls

Supported by
The Women of Excellence (WOX) Giving Circle Grant, 2015-2016

Respectfully Submitted by

Dr. Janice Walker
Dr. Elizabeth Johnson
Dr. Heidrun Schmitzer
Ms. Teresa Hardin
Dr. Mary W. Stroud

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PROJECT OVERVIEW

Thanks to the funding and support provided by the Women of Excellence grant, the Xavier University Summer ICE (Innovation, Creativity and Exploration) Camp for Middle School Girls was initiated in summer, 2015 and continued during summer, 2016. A major goal of the Summer ICE project was to successfully engage middle school girls in STEM activities while also affording camp participants the opportunity to meaningfully interact with women in STEM fields. The target population of the camp was middle school girls in grades 5 through 8, with an emphasis on recruiting girls of color and/or low-income status. Ultimately, the goal of the Summer ICE Camp for Middle School Girls was to provide enriching experiences that might empower and inspire girls to take more math, science and computer science courses in their schools, to persist and succeed in these courses, and to explore these subjects on their own. The long-term goal was to eventually influence and increase the number of women and girls who choose study and careers in STEM fields.

CHALLENGES

We found that the demand for the Summer ICE camp was quite high. That is, in both 2015 and 2016, there were far more applications than available slots in the camp. Nearly 60 applications were received, on average, each year; however, the maximum number of students who could be accepted into the camp was limited, given 1) the availability of STEM personnel-facilitators, career professionals and Xavier faculty and undergraduate students and 2) the availability of facilities necessary to implement the STEM camp. The number of students admitted was also limited in consideration of the age, learning needs and general temperament of our target population. The maximum number of students accepted per each camp was therefore limited to 24 students.

Girls and families of diverse backgrounds expressed an interest in the Summer ICE Camp for Middle School Girls. However, the specific recruitment of girls of color and/or of low-income status proved challenging. While those groups were represented in both camps during 2015 and 2016, improved access is needed. We continue to seek alternative avenues of communication and recruitment in order to better serve underrepresented student populations.

We were judicious in our utilization of funding resources. In aggregate, the expenses for the Summer ICE camp were lower than initially estimated for several reasons: 1) the administrative assistant for the Summer ICE camp, Teresa Hardin, worked assertively with vendors to keep down the cost for camp lunches and snacks. Her success significantly lowered food expenses (an otherwise high expense item) during the initial two years of the Summer ICE project. 2) In the first year, we conservatively purchased supplies; this offset the cost of highly-desired electrical kits purchased in the second year. 3) Personnel costs associated with the camp were less than originally estimated. A) Several of the invited STEM professionals declined honoraria; some bought their own supplies, but refused reimbursements. B) NOYCE interns, already compensated by the NOYCE program, served as undergraduate assistants and volunteers during the Summer ICE camp. In lieu of additional salaries, NOYCE interns received gift cards as thanks. Surplus funds were returned to WOX. However, the same circumstances that lowered budget expenses in the previous two years may not necessarily exist for future camps.
PROJECT OUTCOMES

Through the collaborative efforts of the Summer ICE facilitators, invited STEM career professionals, and other women in STEM including Xavier faculty, staff and undergraduates, the 2015 and 2016 Summer ICE camps were successful in providing meaningful STEM experiences. During each camp, students from Cincinnati and the surrounding regions participated in a variety of exploratory labs or learning activities. Students practiced aspects of engineering as they designed, built and tested small-scale airplanes or boats made of paper and cars made of food. Campers experienced biology in the field as they captured and categorized insects; they pondered the effects of small changes on the environment while completing an ecology simulation. On the third and fourth days of the camp, Summer ICE students tested electrical circuits during an interactive physics session and fashioned both simple and intricate models at Xavier’s MakerBot 3-D printing lab. In the chemistry laboratory, they determined the identities of unknowns while adhering to proper safety standards. Additionally, throughout the week, students worked individually and in small groups on assigned projects intended to foster innovation and enhance their problem-solving skills, persistence and confidence. They recorded their experiences in journals as a means of reflection.

The Summer ICE project was successful on several levels. During the camps in 2015 and 2016, we were able to reach our target population, hosting at least 20 to 24 middle school girls per camp, including students of color and/or from low family income. Xavier undergraduate women who held majors, interest and/or talent in the STEM disciplines effectively assisted the faculty and STEM professionals in leading sessions during the camp; according to their own reports, the experience boosted their confidence as STEM role models. Parents expressed a sincere appreciation for the camp program; their feedback was generally positive at the end of each one-week camp. Invited STEM professionals also favorably evaluated the camp, expressing a continued interest in serving as STEM resources. Most importantly, the responses of camp participants attested to the success of the camps. In their written reflections, oral presentations, and end-of-the-week summaries, campers consistently conveyed genuine enthusiasm when recounting their experiences. Several students expressed an interest in returning to the camp if given the opportunity; other students, upon reflection, voiced the desire to continue to explore STEM fields.

SUMMARY CONCLUSION

The demand for meaningful, enriching STEM experiences for girls is strong and ongoing; that need is particularly clear and urgent for girls of color and those from low income backgrounds. Therefore, we are committed to continuing the Summer ICE Camp for Middle School Girls as an endeavor intended to ultimately bridge the gender gap and allow women and girls to succeed in STEM fields.
# FINANCIAL REPORT

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**Total Expenses**

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## Financial Summary

- **WOX Grant Requested**: $9,990.00
- **Nominal Camp Fees**: ~$775.00
  
  (2015 and 2016, $25/student, some fees waived per need)

- **Total Expenses**: $5497.34
- **Budget Surplus (Returned to WOX)**: $5267.00