



I Congresso Internacional Mulheres em STEAM

GIRLS ON DATA SCIENCE: INITIATIVE FOR INCLUSION OF DATA SCIENCE IN BAHIA'S PUBLIC EDUCATION - BRAZIL

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Abstract. The Girls on Data Science Project, initially named Gender Diversity in Data Science: Experimentation-Based Training aims at supporting female students to use Data Science when identifying and coming up with solutions for social problems regarding their community. Through the development of analytical, statistical, and computational thinking of low-income and mostly Afro-Brazilian students, we seek to foster students' interest in the STEAM subjects, by promoting the reduction of gender inequality in these areas, to encourage the use of participatory sensing for the collection of data; to promote the breaking of curricular barriers that separate statistics (mathematics) and computing from science and other disciplines, increasing student engagement in getting to know their own community; to strengthen critical views on the relationship between knowledge production and female protagonism in schools, academic and labor market contexts, as well as, to support the contemporary processes of reversal of the country's social, racial and gender inequality. Some achievements of the first-year Project are discussed here.

Palavras-Chave. Analytical thinking; computational thinking; data science; gender equality; statistics.

1. INTRODUCTION

Today, one of the main challenges in STEAM education is the myth behind how complex mathematics truly is and its lack of relationship with other subjects. It is required to help students face these immediate challenges, by making them more resilient and finding new ways to prepare them for the uncertainty of the future.

That said, a highly technological future which will not only a workforce with strong skills in Science, Technology, Exact Sciences, Arts and Mathematics, but also people who can recognize, understand, and often offer solutions the problems faced by society through data-driven thinking.

The Girls on Data Science project, initially named Gender Diversity in Data Science: Experimentation-Based Training is an initiative of professors and students of Gamma Research Group at the Federal University of Brazil (UFBA) and is funded by CNPq / MCTIC, Girls in Exact Sciences, Engineering, and Computing Call – N. 31/2018.

2. OBJECTIVES

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This project aims at supporting female students to use Data Science when identifying and coming up with solutions for social problems regarding their community.

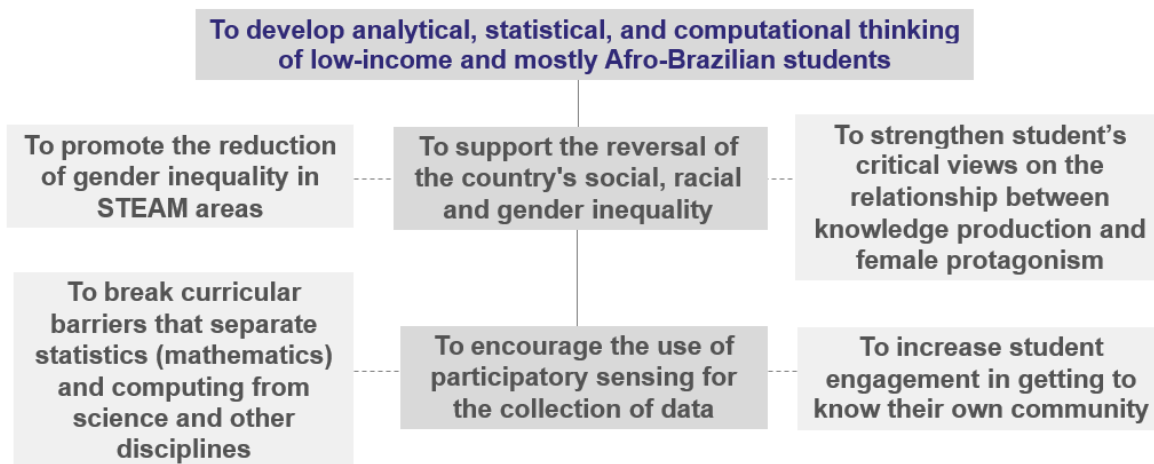


Figure 1: Produced by authors

Pillars

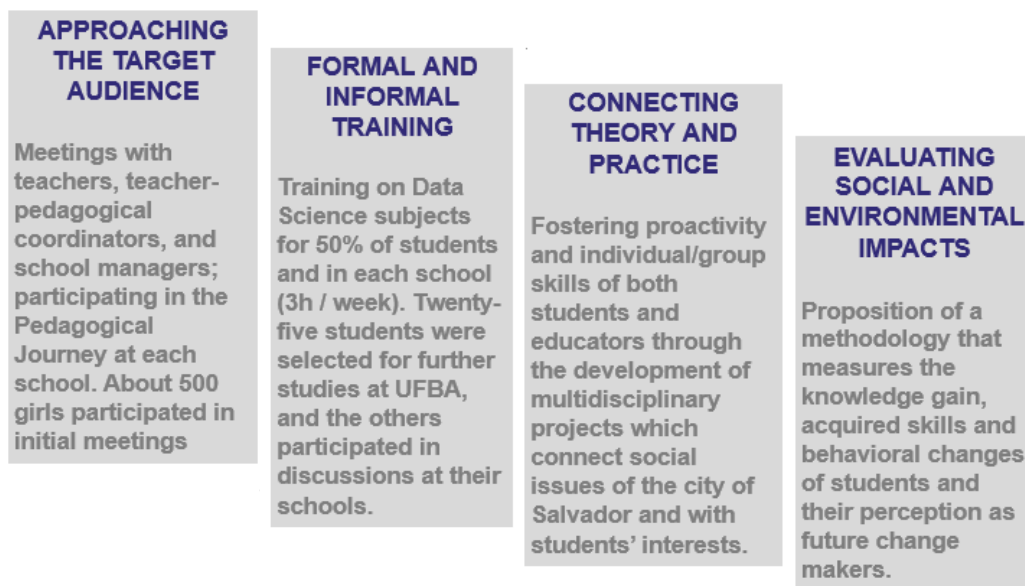


Figure 2: Produced by authors

3. FINAL REMARKS

- More than 60h of student and teacher training and informative activities;
- 40% of attendance in Science Fairs of middle and high school students;
- 11 research projects presented at UFBA's Young Scientists Conference; 3 projects were awarded with Honorable Mentions;
- Development of data science and creation of a Data Science elective course;
- Awareness of students and teachers about the importance of data literacy for education and future profession, regardless of the area;
- Awareness of students and teachers about the importance of data literacy for understanding social, gender, economic and environmental issues;





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- Breaking barriers between university and schools: visiting of 250 students to UFBA, development of research projects in 8 laboratories; training and lectures in computational labs; students, professors, and staff awareness to social projects; involvement of professors, graduate, and undergraduate students as volunteers for the Project;
- Partnerships for the Young Apprentices Program (Programa Jovens Aprendizizes) with SEI – Superintendence of Economic and Social Studies of Bahia and with other companies;
- Society Acknowledgement of the project's activities.



Figure 3: Adapted

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