

USA RURAL HIGH SCHOOL STUDENTS CREATING SAFE SPACES TO DEVELOP COMMUNITY-FOCUSED TECHNO- SOCIAL PROJECTS



**SABRINA DE LOS SANTOS RODRIGUEZ, ANYA CARBONELL, MICHAEL CASSIDY, MARIA ONG
TERC, INC.**

Research suggests that rural high school students in the USA do not feel a sense of belonging in traditional tech classrooms [1]. CompuPower is an in-school technology program engaging rural high school students through culturally responsive curriculum.

INTRODUCTION

CompuPower is an in-school program that teaches technology skills through culturally relevant pedagogy and social justice projects [2]. Between 2019 and 2021, the program was offered to 146 students across six rural high schools in Arizona, USA. Students engaged in activities to understand their intersectional identities and their classmates' identities before working in groups to develop projects of interest. Through their projects, students explored topics affecting their school and neighboring communities such as climate change, mental health issues, substance abuse, and social and racial inequities. They set project goals, created plans, and used technology to research and present solutions for these issues.

METHODOLOGY

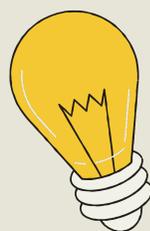
We conducted a qualitative, retrospective interview study with 18 high school students from six different schools who participated in CompuPower as sophomores and juniors (ages 15-16) in either the 2019-20 or the 2020-21 cohort [3]. The interviews lasted about one hour and were conducted over Zoom and in-person. We used a photo elicitation interview technique [4]. We shared the work students completed during the program (e.g., collages and websites) to elicit memories of their experiences.

We conducted a thematic analysis using:

- Deductive codes from the CompuGirls work* [5]
- Inductive codes from interview transcripts (e.g., sense of community, technology experience)



MAIN FINDINGS



- Students reported gaining community-related awareness through their techno-social justice projects.
- Students expressed being able to explore their individual identities more deeply, learning about their intersectional identities, interests, personality, and passions.
- Students reported feeling safe and supported by their classmates and teacher [3].

RELATED LITERATURE

- [1] Hausmann, L. R., Schofield, J. W., & Woods, R. L. (2007). Sense of belonging as a predictor of intentions to persist among African American and White first-year college students. *Research in higher education*, 48(7), 803-839.
- [2] Scott, K. A., Sheridan, K. M., & Clark, K. (2014). Culturally responsive computing: A theory revisited. *Learning, Media and Technology*, 40(4), 412-436.
- [3] Ong, M., Cassidy, M., De Los Santos, S., & Carbonell, A. (in press). Rural Students Exploring Identity, Techno-Social Justice and Safe Spaces in a Culturally Responsive Computing Program. IEE Computer Society.
- [4] Harper, D. (2002). Talking about pictures: A case for photo elicitation. *Visual studies*, 17(1), 13-26.
- [5] Scott, K. A. (2021). *COMPUGIRLS: How Girls of Color Find and Define Themselves in the Digital Age*. Urbana: University of Illinois Press.

THEMES AND QUOTES



All 18 participants worked on projects that emphasized their personal identities and promoted causes that affected their communities.

Theme 1: Community Awareness through Social Projects

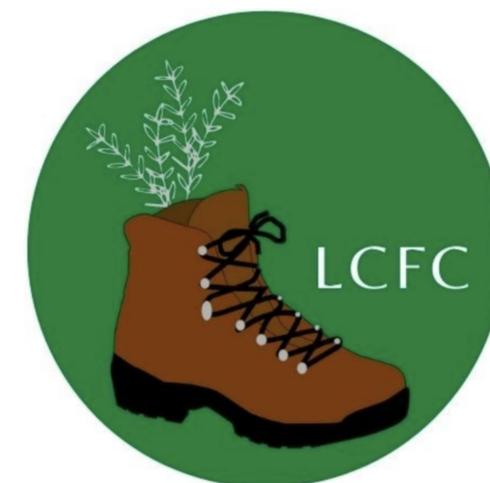
“Our main goal was to raise awareness, not only for ourselves, but for the people we were presenting to and the people we talked about. Our cause, our plan is to **spread awareness about greenhouse gas emissions**, how they’re affecting our planet, and give advice on how to contribute less to these emissions. We talked about taking the survey...and **what you can do on a day to day to help you get those carbon emissions down.**” -Burke

“Our goal was to figure out what were reasons that **people use drugs here**, the sort of drugs that they used, and also what are illicit substances that weren’t considered governmentally to be drugs for people after a certain age but are illegal for our age group. So, for instance, alcohol and tobacco.... Because **it can really affect a lot of people. I have seen multiple students that I’ve gone to elementary school with become drug addicts**, and it’s not great to see.” -Rosie

Theme 2: Individual Identities

“It was definitely an experience. I definitely learned a lot more about my art style, and it was just weird. It was a weird feeling. Cause **I thought I had my mind set on what I wanted to do, but it kind of changed the way I felt about my art.**” -Emma

“Boy, I felt amazing, and I was doing something out of my bubble... **I was doing something new. I was changing myself in a positive way.**” -Harvey



PROJECT LOGO CREATED BY BURKE'S TEAM FOR THE LOWERING CARBON FOOTPRINT COALITION.



WEBSITE HOMEPAGE CREATED BY ROSIE'S TEAM FOR THE S.O.D.A.S. COALITION.

RECOMMENDATIONS



- Explore students’ intersectional identities and interests before engaging in project work.
- Encourage an open and safe environment to empower students to develop meaningful and impactful community projects.
- Motivate students to lead their projects and choose topics important to them and their communities.

CONTACT US!

Would you like to provide feedback, share your project, or connect with us? Please fill out this form: <https://tinyurl.com/computopower2>



Acknowledgements

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Disclaimer

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