



Incorporating Cultural Tools for Math and Computing Concepts into

Boys and Girls Clubs of America

NSF BPC Demonstration Project

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Culture can be defined by practices that emerge from prolonged participation within specific communities. While several studies show statistically significant increases in math performance using culturally responsive approaches, the literature on culturally responsive computing education is quite small. Two such frameworks-- AADMLSS City Stroll (African American Distributed Multiple Learning Styles System) and CSDT (Culturally Situated Design Tools) – have been developed for math education and are currently being expanded to computing education. They are, however, only being deployed in limited geographic regions. The **goals** of this BPC Demonstration Project are:

- To extend the current work with these two culturally responsive education tools, CSDTs and AADMLSS, from the local or regional scale to the national scale to be incorporated in the Boys and Girls Clubs of America (BGCA), a national organization.
- To develop a institutional “pipeline” such that K-12 students successfully participating in these activities can maximize their odds of entering undergraduate programs in computing.
- To assist the efforts to extend the work on these math educational tools to include computing; and
- To use the two approaches to provide new understandings about the circumstances in which each is most useful and the correlations.

The first year has been focused on incorporating CSDTs and AADMLSS City Stroll into three sites: College Station, TX; Troy, NY; and Clemson, SC. Having the three sites allows us to explore the different regional cultures, which is very important to consider with respect to the engagement with the tools. Further, this past year has been focus on refining the assessment process with respect to our goals. The target student group consists of 4th through 7th grade students. Our second year is focused on refining the materials and process to take into consideration the different regional cultures and extending the number of sites to a total of five sites.



Boys and Girls Club in College Station, TX