

Kean University

Kean Digital Learning Commons

Evidence Inventory

2021

Improving the Outcomes of Hispanics in Computer Science

Kean University

Follow this and additional works at: https://digitalcommons.kean.edu/evidence_inventory

Recommended Citation

Kean University, "Improving the Outcomes of Hispanics in Computer Science" (2021). *Evidence Inventory*. 277.

https://digitalcommons.kean.edu/evidence_inventory/277

This University Document is brought to you for free and open access by Kean Digital Learning Commons. It has been accepted for inclusion in Evidence Inventory by an authorized administrator of Kean Digital Learning Commons. For more information, please contact learningcommons@kean.edu.

Return to Campus

A mask mandate is currently in place on campus. Learn more about the University's [health and safety protocols](#) to help protect the campus community from COVID-19 and reduce the spread of the virus.

Google Grant Funds Kean Research into Computer Science Education for Bilingual Learners

Oct 15, 2019



Kean researcher Mayra Bachrach teaches a computer science class.

A prestigious Google grant is supporting Kean researchers who are working to break language barriers for Hispanic students in high school computer science classes.

The \$113,000 grant is one of only six Computer Science and Education Research (CS-ER) grants awarded this year by Google. The other universities receiving grants include the University of Michigan, Indiana University and Oregon State University.

“We are in quite an accomplished group,” said Mayra Bachrach, a researcher at the School of Computer Science and Technology in the College of Natural, Applied and Health Sciences who is overseeing the project. “Some of the grantees are rock stars in computer science education.”

The interdisciplinary Kean team, which also includes Gail Verdi, Ph.D., executive director of the School of Curriculum in the College of Education, and Patricia Morreale, Ph.D., executive director of the School of Computer Science and

Technology, is training high school computer science teachers in bilingual and English as a Second Language (ESL) techniques to improve classroom instruction for Hispanic students.

“If we make the class more accessible by making language more accessible, they will have better outcomes,” Bachrach said. “That will lead them to take more computer science classes and encourage other Hispanic students to take the class. If successful, we hope it will improve the pipeline into computer science at the college level for these underrepresented students.”

The research project, *Improving the Outcomes of Hispanics in AP Computer Science*, runs through October 2020. It offers professional development for up to 35 Advanced Placement computer science teachers in “sheltered instruction” language-acquisition strategies, which focus on the four domains of language — listening, speaking, reading and writing.

“We are sensitizing these computer science teachers to the different types of language skills that students must develop to succeed academically,” Verdi said. “For example, how do we provide students with specific strategies to read at a more advanced level and to use writing to learn computer science?”

Bachrach, Verdi and Morreale come at that question with their own expertise and together develop strategies that the high school teachers take back to the classroom.

“It has been a challenging but productive collaboration,” Bachrach said. “It can be challenging for us to understand each other because our disciplines are so different. We discuss specific ESL and bilingual strategies and determine if they fit into a computer science model.”

Teachers from Newark, Union City, Hillside and other towns and cities have already started the training. Although the grant is geared toward improving instruction for Hispanic students, the work will assist students from many backgrounds who may struggle with language skills, Verdi said.

“We are focusing on discovering best practices for how teachers teach computer science, which is a relatively young field in K through 12 education,” Morreale said.

Bachrach, who graduated from Kean with a bachelor's degree in mathematics in 1978, brings her own personal experience to the project. An immigrant from Cuba, she learned English in seventh grade.

"I feel like I will be helping students like me and like a lot of our students at Kean who are English-language learners," she said. "This is really important."

News

Events

Experts

Kean in the News

News Archive

Kean University

1000 Morris Avenue
Union, New Jersey 07083

908-737-KEAN (5326)

Copyright ©2019

To report an accessibility issue on this website, email webmaster@kean.edu.



Best Colleges





- Careers
- Directory
- Map & Directions

[Accreditation and Assessment](#) • [Site Policies](#)