Chicago Alliance For Equity in Computer Science (CAFECS):
Cycles of Improvement

Steven McGee
The Learning Partnership, mcgee@lponline.net

Lucia Dettori
Chicago Public Schools, ldettori@cps.edu

Don Yanek
Chicago Public Schools, dgyanek@cps.edu

Andrew M. Rasmussen
Chicago Public Schools, arasmussen@cps.edu

Ronald I. Greenberg
Loyola University Chicago, Rgreen@luc.edu

Follow this and additional works at: https://ecommons.luc.edu/cs_facpubs

Part of the Accessibility Commons, Computer Sciences Commons, Gender Equity in Education Commons, Secondary Education Commons, and the Teacher Education and Professional Development Commons

Recommended Citation

This Other is brought to you for free and open access by the Faculty Publications at Loyola eCommons. It has been accepted for inclusion in Computer Science: Faculty Publications and Other Works by an authorized administrator of Loyola eCommons. For more information, please contact ecommons@luc.edu.

This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 License.
Authors
Steven McGee, Lucia Dettori, Don Yanek, Andrew M. Rasmussen, Ronald I. Greenberg, Dale F. Reed, and Erin Henrick

This other is available at Loyola eCommons: https://ecommons.luc.edu/cs_facpubs/224
The Chicago Alliance for Equity in Computer Science (CAFÉCS): Cycles of Improvement

ECS is the primary course that students have been using to fulfill the graduation requirement in CPS. The ECS curriculum is composed of activities that are designed to engage students in CS inquiry around meaningful projects. The pedagogy of ECS is structured around three interwoven strands: equity, inquiry, and CS concepts. The ECS professional development program is designed to prepare teachers to implement these inquiry-based activities while also guiding teachers in building a classroom culture that is culturally responsive and adapting lessons to the backgrounds and interests of the students.

Course Units
- Human Computer Interaction
- Problem Solving
- Web Design
- Introduction to Programming
- Computing and Data Analysis
- Robotics

Examples of CAFÉCS Research
- ECS supports large increases in computational thinking outcomes by race and gender are equivalent
- ECS supports a “chain of cognitive accomplishments” approach to development of programming expertise
- Students who take ECS first are significantly more likely to take another CS class (about ⅓ continue)
- Perceived value of the course increases interest in CS

Building Trust and Cultivating Partner Relations
- Collaborative decision-making is a hallmark of CAFÉCS ethos and meetings
- Team members value diverse expertise of the group to inform research design

Conducting Research to Inform Action
- CAFÉCS members share a common goal: to support CPS to bring CS to all students
- Weekly and monthly meetings provide a space for problem-solving and brainstorming
- Data sharing MOU
- CAFÉCS whole team meetings offer learning opportunities:
  - Problem solving and brainstorming
  - Discussions to build common understandings towards shared goals, vision, purpose
  - Sharing research findings

Supporting the Practice Partner in Achieving Its Goals
- CAFÉCS arms CPS staff with relevant research that guides implementation (e.g., sharing failure rate results with principals led to near 100% PD attendance.)

This work was supported by grants CNS-1138417, CNS-1542971, CNS-1543217, CNS-1738515, CNS-1738572, CNS-1738691, and CNS-1738776 from the National Science Foundation (NSF). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of NSF.

Growth of ECS in CPS

Assessing CAFÉCS

Collaborative Problem Solving