Assessing the Impact of a CSforALL Research-Practice Partnership Using the PROSPER Framework: A Case Study of the Chicago Alliance for Equity in Computer Science (CAFÉCS)

Erin Henrick  
*Partner to Improve*

Steven McGee  
*The Learning Partnership*

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

Dale Reed  
*University of Illinois at Chicago*

Don Yanek  
*Chicago Public Schools*

See next page for additional authors

**Recommended Citation**

This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 License.
ABSTRACT
The Chicago Alliance for Equity in Computer Science (CAFÉCS) Research Practice Partnership (RPP) has been working for more than a decade towards the vision to engage in impactful development that enables Chicago Public Schools (CPS) to ensure that all students in Chicago participate in engaging, relevant, and rigorous computing experiences, increase opportunities for all students to pursue computing pathways and prepare all students for the future of work. The partnership engaged in an iterative design process to develop a framework for understanding the areas of RPP impact on a district. This paper applies the PROSPER framework to the CAFÉCS case study by deductively coding 26 RPP-led publications and 10 grant awards. The results of this analysis suggest that the RPP was able to make significant impact in the areas of programs, Research, Organizational Structure, and Policy, leading to Equitable Results for students. We present the PROSPER Framework as a practical framework that other education RPPs can use to assess their own impact on their partner districts.

STUDY PURPOSE
The CAFÉCS leadership team sought to document the impact of CAFÉCS on the CPS district, and focused this study on the following research question:

How has the CAFÉCS RPP impacted CS education in Chicago Public Schools?

To answer this question, we developed a practical framework and analyzed grants awarded to the RPP, RPP-led dissertation papers, and unpublishd partnership documents.

PROSPER FRAMEWORK DEFINITIONS & GUIDING QUESTIONS

Programs
We define programs as ongoing educational activities, strategies, or interventions involving district students and staff. RPPs can provide the expertise, research, and resources to identify, develop, deliver, and support the implementation of programs (Arce-Trigatti & Farrell, 2021).

Research
How and in what ways has the RPP impacted district programs?

We define research as the systematic study of district identified needs. Districts are expected to engage in evidence-based decision-making and use research to inform their work as a primary expectation of the Every Student Succeeds Act (ESSA). Research conducted within an RPP can address a district need and inform critical district work related to programs, policies, and practices (Farrell et al., 2022).

Organizational Structure
What research has the RPP conducted to inform/address an identified district need?

We define organizational structure as the systematic arrangement of departments and personnel within a district. District personnel can be directly supported by shared grants, and RPPs can advocate for adjustments to the “org chart” and the dedication of district personnel and resources toward the support of specific policies (Bryk et al., 2023).

Policies
How and in what ways has the RPP directly and indirectly impacted the organizational structure of the district?

We define school district policies as rules, regulations, procedures, and practices adopted by school district departments and school district personnel, as set forth by school boards and district administration. RPPs can help inform policy development and communication before the policy is enacted, as well how RPPs can support the implementation after the policy is enacted (McDiarmid & Weathersford, 2016; Anjou et al., 2016).

What in what ways has the RPP impacted district policies?

Equitable Results
We define equitable results as outcomes that directly address inequities facing students, including access to educational resources and opportunities. RPPs can impact the achievement of equitable outcomes for students through engaging in research and RPP activities designed to impact district programs, policies, and practices. In this case study we rely on the CARE framework for understanding equitable results in CS education opportunities (Fletcher & Warner, 2021).

How has the RPP impacted equitable results in the district?

FINDINGS

<table>
<thead>
<tr>
<th>Programs</th>
<th>Research</th>
<th>Organizational Structure</th>
<th>Policy</th>
<th>Equitable Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPP development of project plan, program identification and selection, program design, and implementation.</td>
<td>Examined district program evaluation and program implementation.</td>
<td>Examined district policy design and implementation.</td>
<td>Examined student outcomes in CS.</td>
<td>Examined policy impacts on CS student achievement and district policy implementation.</td>
</tr>
<tr>
<td>RPP-led publications and 10 grant awards.</td>
<td>Examined district policy evaluation and program implementation.</td>
<td>Examined student outcomes in CS.</td>
<td>Addressed an unanticipated challenge in CS educational outcomes.</td>
<td>Examined policy impact on CS educational outcomes.</td>
</tr>
<tr>
<td>RPP-led publications through the framework of PROSPER.</td>
<td>Examined student outcomes in CS.</td>
<td>Examined student outcomes in CS.</td>
<td>Examined external stakeholder outcomes in CS.</td>
<td>Examined policy impact on CS educational outcomes.</td>
</tr>
</tbody>
</table>

FRAMEWORK USE RECOMMENDATIONS

We developed PROSPER as a practical framework for assessing the overall impacts of an education RPP on a partnering school district. While we used it as a way of retroactively analyzing over a decade’s worth of grants, research, and dissertation products within the CAFÉCS setting, we envision this framework being helpful in a variety of settings and stages within an RPP’s lifecycle and for a range of user audiences.

The PROSPER framework can be useful:

● For a new RPP that wants to strategize how they can best impact a school district.
● For an existing RPP’s continuous improvement efforts, to document progress in each of these areas.
● For documenting and sharing RPP impact for district leaders, school boards, and funders.
● For educational researchers examining to examine RPP impact district.

ILLUSTRATIVE EXAMPLE

When documenting and sharing RPP impact for district leaders, school boards, and funders.

VEHICLES SUPPORTED

● District policy documents


● District support and resources to RPP activities (Fletcher & Warner, 2021).


REFERENCES


ACKNOWLEDGMENTS

This research was supported by grants 1727876, 1924583, 2020486, and 2002484 from the National Science Foundation and the CCA, Foundation (Noting Flanagan, Finland), conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of either.