PBS KIDS ScratchJr Family Creative Learning Workshops: Implementation of a Family Engagement Model in 16 Communities

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Ready to Learn **Research**

Abstract

The PBS KIDS ScratchJr Family Creative Learning (FCL) Workshop is a 4-session workshop that engages low-income families and children (ages 5–8) in creative coding with the PBS KIDS ScratchJr app. The workshop supports families as they play and learn together in community-based settings. Through child-led projects, the workshops aim to foster collaboration, communication, and problem-solving skills among families as they are introduced to coding. In this evaluation, we studied how the workshops were implemented by PBS stations and their local community partners, such as schools, libraries, or housing developments. The workshops in this study were offered by 16 PBS stations across the U.S. in 2016 and 2017.

Clockwise, starting at left, ScratchJr characters, the current scene, project pages, and a script of coding blocks.

Methods

- Single condition design
- We collected surveys from all 16 stations, and all other data sources from 5 stations
- Data collected at first and final FCLW sessions
- We analyzed frequencies of responses to parent and facilitator surveys
- We coded observations, conversations, and learning artifacts

Data collection activities and sample sizes

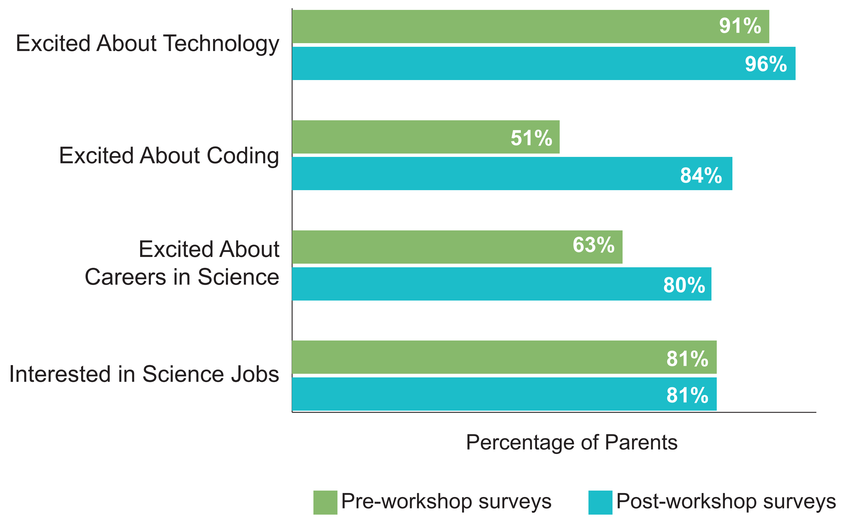
Data source	Informant	Time 1 N	Time 2 N
Surveys	Parents	115	77
	Facilitators	--	39
Interviews	Workshop facilitators, community organization leaders	--	20
Observations	Families	16	18
Informal conversations	Parents	25	20
Learning artifacts	Families	--	16

Child characteristics (N = 115)

Characteristic	%
Female	50
Mother's education+	
HS diploma or less	32
Some college or more	62
Race++	
White	40
Hispanic	30
African American	33
Other	6
Qualifies for free or reduced price lunch	64
Receives special education	16

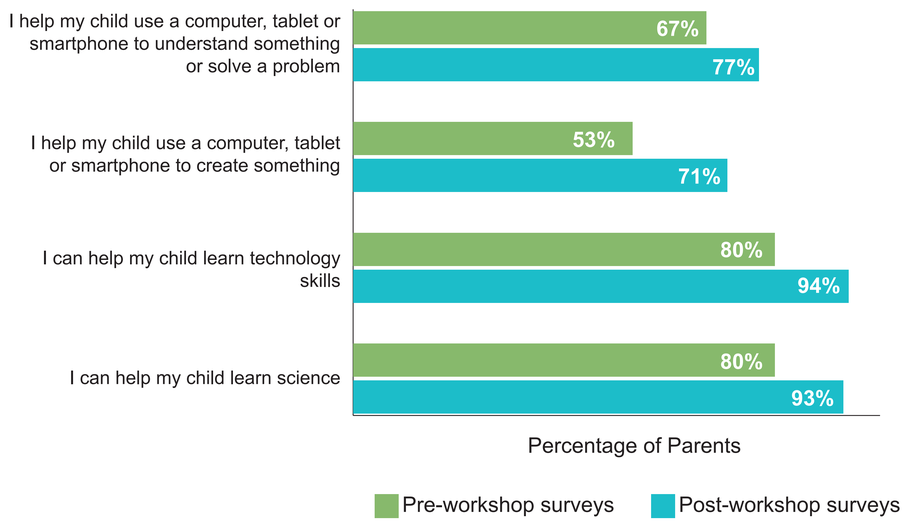
+ Percentages don't add up to 100% because of missing responses.
++ Parents selected all that applied.

Figure 1. Parent Pre- and Post- Report of Child Interest in STEM Fields



Note. Percentage of parents is out of a total of 70 parents who completed the pre- and post- surveys.

Figure 2. Pre- and Post- Report of Parent Confidence



Note. Percentage of parents is out of a total of 70 parents who completed the pre- and post- surveys.

Results

- Workshop strengths included parent and child enjoyment (90% and 95%), engagement (100%), and continued use of ScratchJr (79%).
- Families felt that the workshop provided them with useful information (100%). They found the subject matter interesting and the workshops enjoyable (97%). Nearly half of parents and caregivers (48%) reported that they had downloaded ScratchJr at home, while an additional 42% of parents reported that they had not downloaded ScratchJr yet, but were planning to. Only 4% of parents reported not downloading ScratchJr because they were unable to.
- 80% of parents and 95% of facilitators reported that the workshop helped children develop skills for using technology.
- The number of parents/caregivers who reported that their child is excited about careers in science and computer coding increased from the first to the last workshop (Figure 1).
- Parents felt they learned something from the workshop. Parent-reported confidence and use of technology with their child increased slightly (Figure 2).
- Parents reported that the ScratchJr FCL Workshop led them to think about science (83%), engineering (88%) and technology (94%) in a new way. There was no change in parents' belief that technology plays a role in children's learning, perhaps because most parents (91%) already believed this at the start of the workshop.

Limitations

- Implementation varied widely in terms of duration, facilitation, and attendance.
- Because this study focused on implementation and experiences in a short intervention, the study did not include a direct measure of child learning.
- This study cannot assess causation because it does not include a control group.
- Because our final sample was small, we used descriptive statistics and frequencies to describe trends without determining statistical significance.

Conclusion

- The FCL model is still developing. These findings reflect the first year of implementation.
- The FCL model shows promise in:
  - Providing opportunities for children and parents to engage in goal-driven informal learning together.
  - Developing children's skills and interests in technology and computer science/programming.
  - Improving parent/caregiver confidence and positive attitudes toward STEM.
- Findings will inform future iterations on the FCL model.

Full report is available here:
https://go.edc.org/scratchjrfclwreport

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