Investigating The Impact of the Promoting Our Preschoolers (POP) Home Visitation Program on Parental Attitudes and Child Development Across Cognitive, Language, and Emotional Domains

Final Evaluation Report

Prepared for

Santa Maria Community Services

December 15, 2025

University of CINCINNATI | CECH

Arlitt Center

Investigating The Impact of the Promoting Our Preschoolers (POP) Home Visitation Program on Parental Attitudes and Child Development Across Cognitive, Language, and Emotional Domains

The Arlitt Center

Dr. Victoria Carr, Professor, Executive Director

Prepared by:

Dr. Ann Rossmiller, Research Associate

47 Corry Boulevard
Cincinnati, OH 45221
Phone: (513) 556-3802
Website: https://www.arlittchilddevelopmentcenter.com/

E-mail: ann.rossmiller@uc.edu

Suggested citation: Rossmiller, A., & Carr, V. (2025). *Investigating The Impact of the Promoting Our Preschoolers (POP) Home Visitation Program on Parental Attitudes and Child Development Across Cognitive, Language, and Emotional Domains.* The Arlitt Center at the University of Cincinnati.

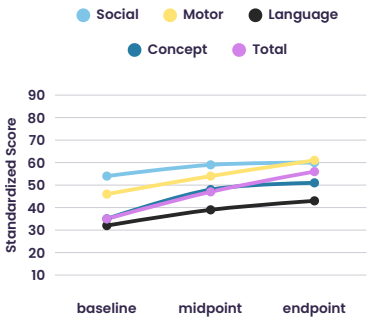
Executive Summary
POP Program Evaluation

Major Findings

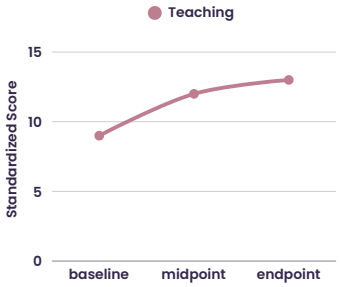
Santa Maria Community Services' POP program positively impacts parents' developmentally supportive interactions and children's development across motor, social, conceptual, and language domains.

The strongest growth was observed among children (for motor, social, and conceptual domains) and parents who entered the program with the lowest initial scores, indicating that enrollment in the POP program specifically drove these improvements.

DIAL-4 Child Results



PICCOLO Parent Results



Educator field notes indicate that POP program educators provide supports that both directly and indirectly align with the program curriculum, and integrated findings suggest these supports are foundational to the program's overall success.

Although children's language scores increased over time, children with lower initial language skills did not show the same growth trajectories seen in other developmental areas. Research on language development for low-income children and children whose first language is not English should be reviewed and integrated to further strengthen the POP program.

Evaluation Notes

This evaluation seeks to understand the impact the "Promoting Our Preschoolers" (POP) program on children's socio-emotional development, cognitive and language skills.

This evaluation also aims to investigate the POP program's impact on parents' knowledge, attitudes, and practices regarding early childhood education.

Data

The quantitative analyses are based on child development assessments (DIAL-4) and parental teaching behavior assessments (PICCOLO-Teaching) conducted by POP program educators. Our qualitative analysis is based on field notes entered by POP program educators. Our mixed methods analysis is based on notes from a discussion focused on the initial results between the evaluation team and Santa Maria Community Services' interested parties.

Methods

Mixed methods was used to bring together the results of quantitative latent growth analyses and the thematic findings of the POP program educator field note codes.

Contact

Ann Rossmiller, PhD
ann.rossmiller@uc.edu

University of CINCINNATI | CECH

Arlitt Center

Introduction

Optimal child development is heavily influenced by a family's ability to provide a nurturing and safe environment, yet many lack sufficient parenting knowledge and support systems (Portilla et al., 2025). Schools and community organizations often provide such support through home visitation programs. These programs partner with families to identify their strengths, needs, concerns, and interests. Additionally, home visitation programs provide hands-on educational experience with children, parental education and support for families, and referrals to community services. Such programs indicate that supporting both children and their families yields significant growth in children's development and eventual school readiness (Duggan et al., 2018; Duggan et al., 2022). Further, a recent nationwide report by the Office of Planning, Research, and Evaluation (OPRE) found that when home visitation programs target parental understanding of child development and children's social and emotional development, they yield favorable effects (Portilla et al., 2025).

Such support provided by these home visitation programs is believed to reduce the opportunity gap for young children. The opportunity gap acknowledges unequal distribution of resources and experiences based on factors such as race, ethnicity socioeconomic status (SES), disability, family situation, English proficiency, and more. (National Academies of Sciences, Engineering, and Medicine, 2023). Educational programs, such as Head Start, Title I of the Elementary and Secondary Education Act, Individuals with Disabilities Education Act, English language learning programs, and non-profit community services, strive to mitigate the opportunity gap.

In an effort to ensure all children attending their schools are set up for success, Cincinnati Public Schools (CPS) assesses kindergarten students using the Kindergarten Readiness Assessment – Revised (KRA-R) every year. The KRA-R measures academic readiness and literacy skills as well as socio-emotional development, mathematics, physical well-being, and motor development. In their most recent report for the 2023-2024 school year (Cincinnati Public Schools, 2024), they found that of the 2,425 kindergarten students who completed the KRA-R, only 28.7% demonstrated kindergarten readiness. When the data are further broken down by SES, lowest SES neighborhoods like Price Hill, have only 17.2% of kindergarteners demonstrating kindergarten readiness.

Programs like Santa Maria Community Services seek to address this disparity in kindergarten readiness. Santa Maria Community Services serves Cincinnati's Price Hill neighborhood and supports over 3,000 individuals with resources that strengthen families, improve health, and revitalize neighborhoods. Their Promoting our Preschoolers (POP) home visitation program tackles the opportunity gap reflected in the CPS data by providing family-centered, evidence-based kindergarten readiness program for children 3-5 years of age. Enrolled families in the POP program receive family-centered visits, developmental

screenings, parent support and education, advocacy, and referrals. Additionally, children enrolled in the POP program receive educational supplies and educator-led learning experiences that support a child's well-being and pave the way for a child's academic success.

The purpose of this investigation was to use existing program data to guide the POP Program's success and explore new ways home visitation programs may impact child development and school readiness. This project answered two evaluation questions that align with the most recent findings published by OPRE and target narrowing opportunity gaps, locally, in the Price Hill community:

1. Does the program affect parents' knowledge, attitudes, and practices regarding early childhood education?
2. Does the home visitation program influence children's social, cognitive, and language skills?

Methodology

This project employed mixed methods, a class of research that involves systematically combining both quantitative methods (typically associated with numbers) and qualitative methods (typically associated with words) together within a study to answer evaluation questions (Greene, Caracelli, & Graham, 1989; Johnson & Onwuegbuzie, 2004; Morse & Niehaus, 2009). The mixing of these two methods is used to provide deeper insights than either of the methods alone (Morgan, 2014). Through this process, quantitative findings can be validated, and multifaceted constructs of interest, such as parent perspectives of child development, can be revealed.

Quantitative Data Sources

Quantitative data were collected by Santa Maria Community Services educators from 2009 – 2025. Two data collection tools were used to answer the evaluation questions: the Developmental Indicators for the Assessment of Learning (DIAL-4) and the Parent Interactions with Children: Checklist Linked to Outcomes (PICCOLO) – Teaching. Both instruments have been empirically tested and validated for assessing young children. Data were collected from all participating families in the POP program.

PICCOLO-Teaching. The purpose of the PICCOLO-Teaching is to observe parent teaching skills at a specific moment in time. The checklist produces a total score that represents a parent's understanding of the importance of shared conversation and play, cognitive stimulation, explanation, and inquiry. These data were collected with participating POP program parents three times per year from 2016-2020.

Data were reviewed and adjusted to ensure there were no duplicate entries. Additionally, parents who participated in the program for multiple years, with multiple children, were combined into a singular timeline instead of two or more separate data points.

To maximize the number of parents within our analytical model, we converted PICCOLO-Teaching scores into "baseline", "midpoint", and "endpoint" scores. "Baseline" score represents the score when the parent first completed the PICCOLO-Teaching measure, "endpoint" represents the score the last time the parent participating the in POP program completed the PICCOLO-Teaching measure, and "midpoint" score becomes the average score of all other PICCOLO-Teaching assessments completed between baseline and endpoint. Converting these data allowed for inclusion of data for those who completed this checklist more than three times into our analytical model. Parents who completed the PICCOLO-Teaching two or less times were removed from the data set.

In total, 116 parent's PICCOLO-Teaching scores were included in the analytical model to answer the evaluation question: Does the program affect parents' knowledge, attitudes, and practices regarding early childhood education?

DIAL-4. The purpose of the DIAL-4 is to observe children's development across different developmental domains at a specific moment in time. The measure calculates a total score comprised of four sub-scores: language, concept, motor, and social. Each score is represented as a percentile rank, a score that signifies how a child performs on the measure compared to other children of a similar age within the broader population. The DIAL-4 was conducted up to three times per year with every child participating in program from 2009- 2025.

Data were reviewed and adjusted to ensure there were no duplicate entries. Additionally, data for children who participated in the program for more than one year were combined into a singular timeline instead of two or three separate data points. To ensure direct comparisons can be made between children in the POP program, percentile rank scores were converted into normal curve equivalent (NCE) scores. NCE are standard scores used in education that range from 1 to 99 with an average of 50, placing a student's performance on the normal distribution. Unlike percentiles, NCE scores are in equal intervals, so they can be averaged to track group progress or individual growth.

Additionally, to maximize the number of children in the analytical model, scores were converted into "baseline", "midpoint", and "endpoint" scores. "Baseline" score represents the NCE score when the child was first assessed on the DIAL-4, "endpoint" represents the NCE score the last time the child participating the in POP program was assessed on the DIAL-4, and "midpoint" score becomes the average NCE score of all other DIAL-4 assessments given between baseline and endpoint. Converting these data allowed the inclusion of data for children who were assessed using the DIAL-4 more than three times into our model. Children who were assessed two or less times were removed from the data set.

In total, 586 children's DIAL-4 performance data were included in the analytical model to answer the evaluation question: Does the home visitation program influence children's social, cognitive, and language skills?

Quantitative Analysis

Latent growth curve analysis, an extension of structural equation modeling, was used to analyze PICCOLO-Teaching data and the DIAL-4 data. These analytical models were created to determine how children and parents change across these dimensions over time while participating the POP program. Advanced statistical models using latent growth curve analysis are prevalent in fields like education and psychology because they account for the complexities of human variability. All analytical models, five for child development and one for parent understanding, were tested for fit to ensure that they were appropriate for drawing conclusions about parental understanding and children's development in the POP program. Only models with good fits are reported in the findings.

Qualitative Data Sources and Analysis

To provide greater insights into the experiences informed by the quantitative findings, two forms of qualitative data were analyzed: educator field notes from POP program visits, and POP Program interested parties convening data.

Field Notes. This data was compiled by Santa Maria Community Services and sent to evaluators for POP program visits during 2023-2025. These 4,962 notes were analyzed using a targeted keyword search related to program goals and then thematically coded. These qualitative data provided insights into the program that furthers the understanding of the quantitative findings alongside the thematic analyses (Creswell and Poth, 2016).

Convening Data. After the initial evaluation was complete, the evaluation team and Santa Maria Community services invited all interested parties, including POP program educators, coordinators, parents, and administrators, to reflect on the results of the evaluation, their experiences, and how the two align. Meeting notes were collected and used to triangulate (Neal et al., 2015) quantitative findings.

Findings

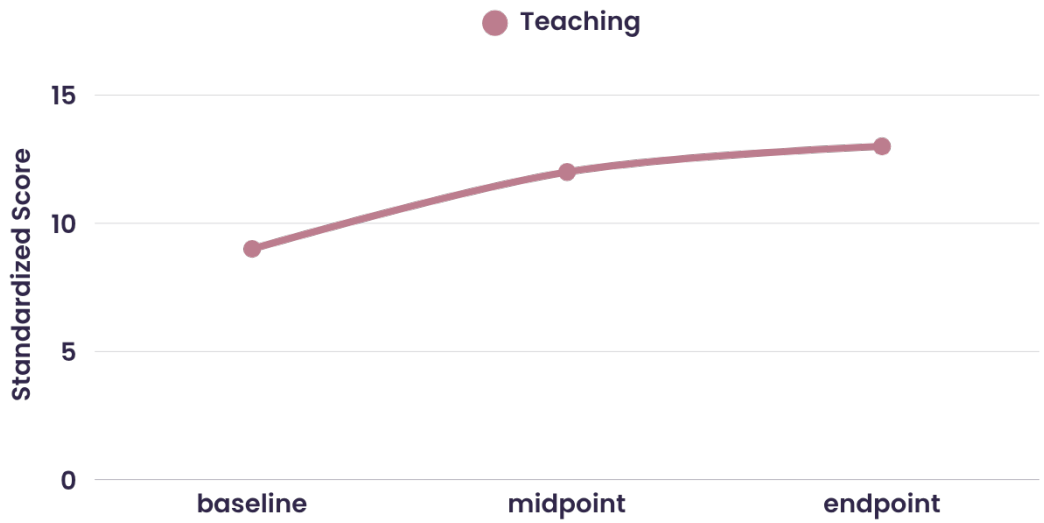
In this section, results of the statistical models, emergent themes from the field notes, and triangulation of the findings, using convening notes, are reported.

Quantitative Findings

To answer the evaluation question, *Does the program affect parents' knowledge, attitudes, and practices regarding early childhood education*?, a latent growth curve analysis comparing parent's understanding of children's development and learning across time using three time points was analyzed. This model had a Comparative Fit Index (CFI) of 0.914 which indicates it is a good fit and representative model for drawing conclusions.

The model revealed that a parent's score on the PICCOLO-Teaching at baseline typically measures to 9.7 out of a possible 16 points. Throughout time in the POP program, parental scores are expected to increase 3.68 points (1.84 points from baseline to midpoint; 1.84 points from midpoint to endpoint). There is a negative covariance between intercept and slope (-3.056) which suggests that those parents who score lower initially on the PICCOLO-Teaching have stronger growth during the program than those who initially score higher.

Figure 1. PICCOLO-Teaching scores over time.



The results of the latent growth curve analysis and the graph in figure 1 show that parents generally improved their ability to share conversations and play with their children, foster their child's cognitive stimulation, provide explanations, and ask open-ended questions. Additionally, while there was no comparison group reflected in the POP data, when validating the PICCOLO-Teaching scale, findings notably did not indicate growth in

parenting skills overtime without an intervention (Roggman et al., 2013). Therefore, the growth observed in this model suggests an intervention effect of the POP program on parent's understanding of the importance of shared conversation and play, cognitive stimulation, explanation, and inquiry. Additionally, as the negative covariance implies, there is a positive intervention effect of the POP program on parent understanding and narrowing knowledge gaps.

To answer the evaluation question, *Does the home visitation program influence children's social, cognitive, and language skills?,* five latent growth curve analyses comparing children's development across domains were analyzed. These models analyzed total development score, plus social, concept, language, and motor scores, across three time points. All models had a CFIs of greater than 0.95 which indicates they are good fits and representative models for drawing conclusions.

Overall, the total score model revealed that predicated child performance at baseline is a standard total score of 36.42 (out of a possible 99). Throughout participation in the POP program, children's total scores are expected to increase by 20.54 points (10.27 from baseline to midpoint, 10.27 from midpoint to endpoint). There is a positive covariance (1.48) between the slope and the intercept which suggests that children who initially scored higher on the total score portion of the DIAL-4 will demonstrate stronger growth scores throughout their time in the POP program than children who initially score lower.

For social score, the model revealed that predicted child performance at baseline is a standard social score of 54.69 (out of a possible 99). Throughout participation in the POP program, children's social scores are expected to increase by 7.12 standardized points (3.56 points from baseline to midpoint, 3.56 points from midpoint to endpoint). There is a negative covariance (-38.86) which suggests those who begin the program with lower social scores show stronger growth than those who initially scored higher on social.

For concept score, the model revealed that predicted child performance at baseline is a standard concept score of 38.96 (out of a possible 99). Throughout participation in the POP program, children's conceptual scores are expected to increase by 16.3 standardized points (8.15 points from baseline to midpoint, and 8.15 points from midpoint to endpoint). There is a negative covariance (-23.63) which suggests those who begin the program with lower conceptual scores show stronger growth than those who initially scored higher on concept.

For language score, the model revealed that predicted child performance at baseline is a standardized language score of 33.59 (out of a possible 99). Throughout time in the POP program, children's language scores are expected to increase by 10.60 standardized points (5.3 points from baseline to midpoint, 5.3 points from midpoint to endpoint). There is a positive covariance (5.506) which suggests that children who start the program with higher language scores continue to show stronger growth than children who initially scored lower on language.

For motor score, the model revealed that predicted child performance at baseline is a standardized motor score of 43.61 (out of a possible 99 points). Throughout participation in the POP program, children's motor scores are expected to increase by 20.45 points (10.22 points from baseline to midpoint, 10.22 points from midpoint to endpoint). There is a negative covariance (-59.99) which suggests that those who start the POP program with lower motor scores show stronger growth than those who initially scored higher on motor.

Figure 2. DIAL-4 scores overtime for all outcomes.

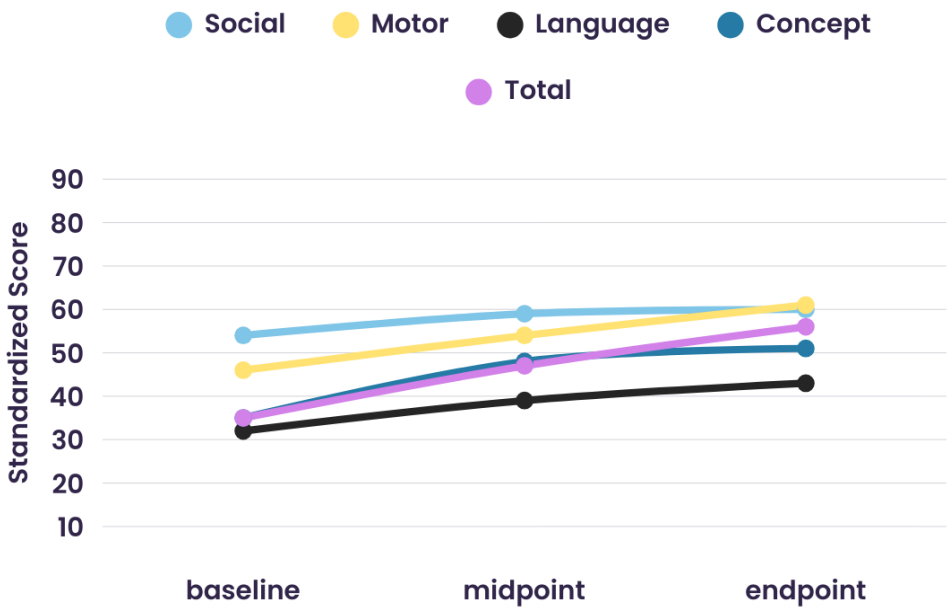
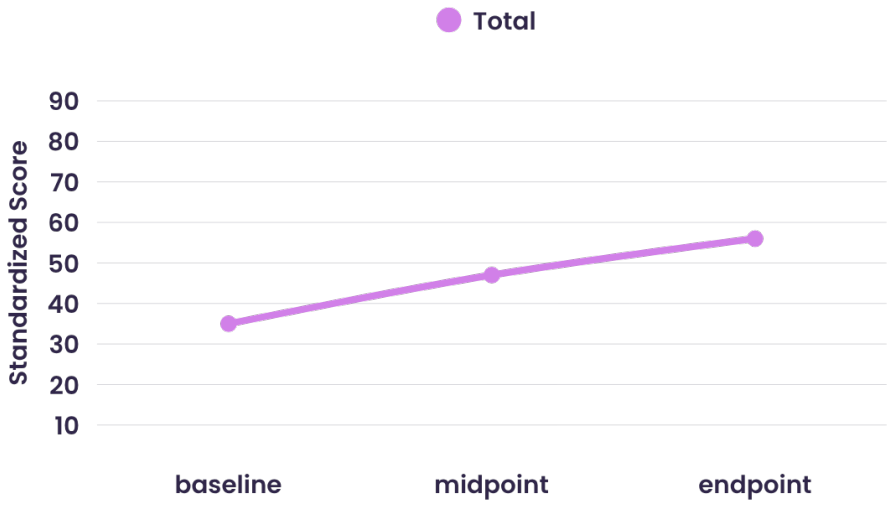


Figure 3. DIAL-4 scores across time for total score



The results of the latent growth curve analysis models for DIAL-4 and the graphs in figure 2 and figure 3 show that generally, children make developmental gains across all the developmental domains captured during their POP program enrollment. Additionally, for many dimensions (social, concept, and motor) we found that children who score lower initially actually demonstrate the strongest growth while in the program. Such growth suggests an intervention effect of the POP program on children's development, especially for social, concept and motor skills.

Qualitative Findings

Using a key word search protocol in the field note data set allowed for deep investigation into the visitations provided by POP program educators. Entries including the words: DIAL, DIAL-4, PICCOLO, cognitive, parent, language, motor, concept, social, books, games, materials. We analyzed and thematically coded entries that included these keywords. Through the coding process, an additional word, "call", was added. This word was added due to its prevalence in the field notes that appeared in the previous key word search findings. "Call" became an indicator of the vast degree of services provided to families by educators. The inclusion of "call" illuminated the pragmatic supports educators provided for families.

Educational progress related to PICCOLO-Teaching and DIAL-4 performance was not the primary intent of the field notes and therefore was not typically detailed by educators. Yet, analyses of these entries revealed a deeper story of the POP program that may help explain the observed strengths of the POP program.

Home Visitors Provide Broad Support

The volume of support provided by the POP program educators is the overarching theme of the field note data. But the types of support vary and are all encompassing.

Table 1 gives an overview of the type of support provided to families beyond the home visitation education program. Additionally, the support is shown to be both related and unrelated to the POP program as shown in table 2.

Table 1. Breakdown of support provided by POP Program educators.

TYPE OF SUPPORT	REPORTED BEHAVIOR
PROVIDING MATERIALS	Bringing household materials to visits. Providing learning materials to families for child and even their siblings not a part of the program. Bring medical supplies and kits from local centers. When things cannot be physically brought to the house, provide places to go and contact for support.
PROVIDING OUTREACH	Call electric company to negotiate payment plan on behalf of family. Call doctor's office to see if they have any openings and are a good fit for the family.
PROVIDING EMOTIONAL SUPPORT	Listen when parents share their struggles and needs.

Table 2. Quotes demonstrating support both related and unrelated to the POP program's goals

Direct POP Program Ties	***Indirect POP Program Ties***
"Reviewed dial scores and what things she did well plus what she can work on. [...] Brought 3 shape puzzles, shape cuts outs to match [...] and printed shape sheets for mom to review with her. Mom said they would practice all of these. Looked up a shape book on [YouTube] and read it. Told mom you tube is your friend in finding concepts you want to review. Mom said she hasn't been able to use tablet much because her 5-year-old brother is jealous. I told her I would check and see if we have extra tablets to give him one."	"Stopped by [Dental clinic] and picked up dental packets for kids. They aren't currently taking adult patients. Took packets to mom. [...] Called [Office] about mom getting appt. Since she is having pain, they told her to show up any day between 6:30-7 to wait at door at 7 with picture ID, insurance card and $30 to be seen on emergency basis."

Mixed Methods Findings

During a convening between Santa Maria Community Services interested parties and the evaluation team, both the quantitative and qualitative findings were presented. Throughout the presentation, attendees were invited to give feedback and engage in a discussion surrounding the findings and how they felt the results reflected their practice.

Participants expressed that the results felt validating since they continually witness the impact of the POP program and appreciate the quantitative data that demonstrates their collective impact. When presented with the qualitative field note findings, there was an overwhelming sense of agreement but not surprise. These types of supports described in the field notes transcend both education and social work fields. Participants in the convening shared that POP educators have multidisciplinary backgrounds in early childhood and social work. They shared that they learn interdisciplinary skills once on the job. They expressed that supporting families by connecting them to resources and services is an important part of home visitation program models. A shared understanding that emerged through participant discussion was that the success of the POP program is likely bolstered by the indirect supports provided by home visitors.

Conclusions & Recommendations

Statistical findings for children enrolled in the POP program demonstrate positive outcomes. Their growth across developmental domains may accelerate kindergarten readiness for children in Price Hill, a diverse neighborhood with a large number of families that live below the poverty line. Promisingly, findings show that across many dimensions, the POP program is closing the opportunity gap for both children and their parents. On dimensions of social, motor, and conceptual development, children whose baseline performance is the lowest achieve the greatest gains by participating in the POP program. Furthermore, parents who entered the program with the least amount of understanding and skills related to child development, demonstrated skills at levels on par with highest performing parents. Based on the themes pulled from the field note data and discussion during the convening, support services provided by POP program educators provide baseline support to families that may allow for this growth.

Program Recommendations Based on the Data

Although the data demonstrated growth across all domains, children's gains were not as robust for language as they were for the other dimensions on the DIAL-4, thereby skewing the overall growth as indicated by the total score. One recommendation is to investigate research-based strategies that effectively boost social and academic language for children living in poverty and for children whose primary language is not English. These strategies may enhance the positive outcomes evident within the POP program.

Considerations for Future Evaluation

Results of this evaluation support the work of the POP program. During the convening of the POP program interested parties, curiosity about investigating aspects of Santa Maria Community Services' programming, such as paternal involvement, arose. This suggests exploring was to capture data that provides formative feedback and tells the Santa Maria Community Services story.

Additionally, there was shared interest regarding maximizing the data collected by POP educators. Thus, suggestions for more robust future evaluations include:

1) Track the supports offered. One of the main qualitative finds that could be validated quantitatively in the future is the impact of providing indirect and direct supports of child development and family well-being. As an organization, it may be to your benefit to be able to report the frequency and types of supports provided for future funding.

2) Record all answers on assessment protocols instead of only reporting total score. This is one way to deepen your understanding of parental growth as observed in

this project. Specifically, including the score for every PICCOLO-Teaching question evokes nuances of parental understanding of child development, parenting skills, and growth while in the POP program.

3) Adopt data collection technologies that reduce educator workload, minimizing data entry errors. Data collection technology that records child and family data, generates timely reports, and streamlines your process will provide clean, workable data sets for program evaluations. Additional data allows for deeper investigations into program impacts.

References

Cincinnati Public Schools. (2024). *Kindergarten Readiness Assessment–Revised (KRA-R) report, 2023–2024: Summary of overall and language & literacy outcomes*.

Duggan, A., Portilla, X. A., Filene, J. H., Crowne, S. S., Hill, C. J., Lee, H., & Knox, V. (2018). *Implementation of Evidence-Based Early Childhood Home Visiting: Results from the Mother and Infant Home Visiting Program Evaluation* (OPRE Report 2018-76A). Office of Planning, Research and Evaluation.

Duggan, A. K., Bower, K. M., Spinosa, C. Z., O'Neill, K., Daro, D., Harding, K., ... & Thorland, W. (2022). Changing the home visiting research paradigm: models' perspectives on behavioral pathways and intervention techniques to promote good birth outcomes. *BMC Public Health, 22*(1), 1024.

Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis, 11*(3), 255-274.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14–26.

Mardell, C., & Goldenberg, D. S. (2015). Developmental Indicators for the Assessment of Learning (4th ed.). Pearson.

Morgan, D. L. (2014). *Integrating Qualitative And Quantitative Methods: A Pragmatic Approach*. Sage.

Morse, J. M., & Niehaus, L. (2009). *Mixed Method Design: Principles And Procedures*. Left Coast Press.

National Academies of Sciences, Engineering, and Medicine. (2023). *Closing the opportunity gap for young children*. The National Academies Press. https://doi.org/10.17226/26743

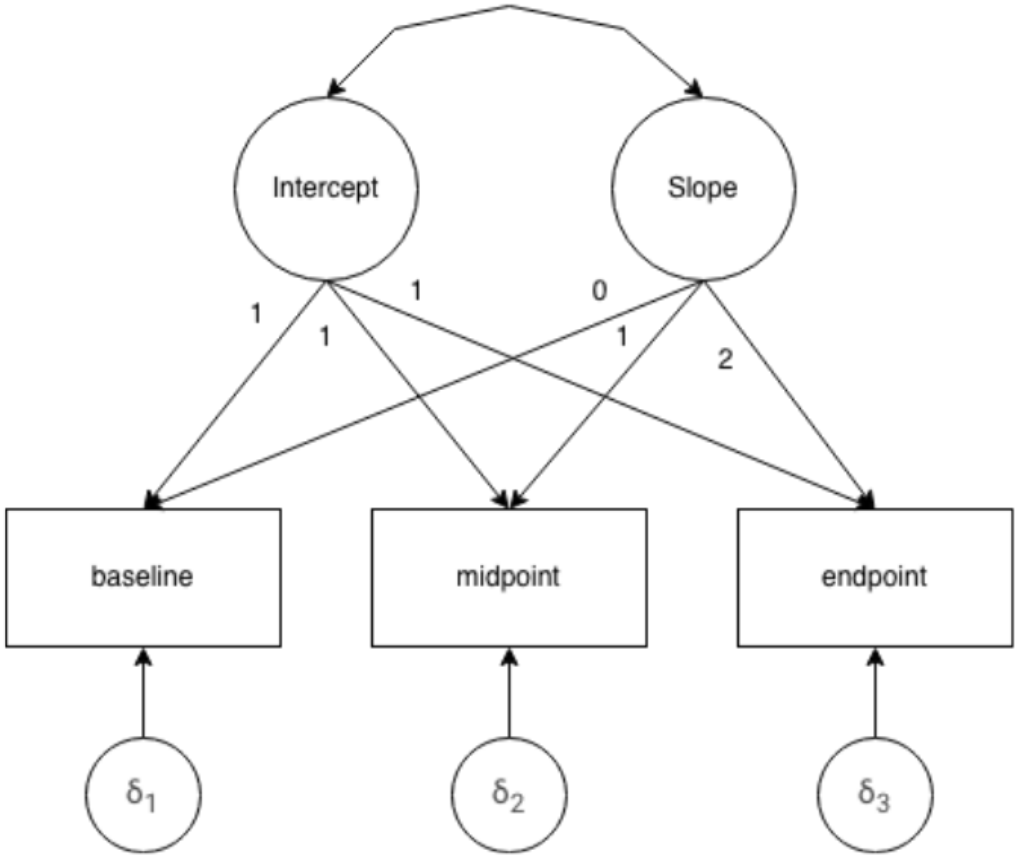
Ohio Department of Education and Workforce. (n.d.). Kindergarten Readiness Assessment–Revised (KRA-R). https://education.ohio.gov

Portilla, X. A., Faucetta, K., Saunders, K., & Taub, A. (2025, September*). Beyond the early years: The long-term effects of home visiting on mothers, families, and children: Results from the Mother and Infant Home Visiting Program Evaluation* (OPRE Report No. 2025-052). Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. https://www.acf.hhs.gov/opre

Roggman, L. A., Cook, G. A., Innocenti, M. S., Jump Norman, V. K., & Christiansen, K. (2013). *PICCOLO (Parenting Interactions with Children: Checklist of Observations Linked to Outcomes)*. Brookes Publishing.

Appendices

Appendix 1. Latent Growth Curve Analysis Path Diagram for all PICCOLO-Teaching and DIAL-4 models



Appendix 2. Detailed Data table for latent growth curve analysis models.

Model:	CFI	Intercept	Slope	Covariance	95% Plausible Value Range				Possible Score Range	
					Intercept		Slope			
					Min.	Max.	Min.	Max.	Min.	Max.
PICCOLO-Teaching	0.91	9.7	1.84	-3.06	3.02	16.00	-1.08	4.75	0	16
DIAL-4 ***(Total)***	0.99	36.42	10.27	1.48	4.35	68.50	-282	23.36	1	99
Social	1.0	54.69	3.56	-38.86	22.66	86.71	-11.60	18.72	1	99
Concept	0.98	38.96	8.153	-23.63	7.77	70.15	-5.56	21.87	1	99
Language	0.97	33.59	5.30	5.51	-74.94	142.12	27.05	51.64	1	99
Motor	1.0	43.61	10.22	-59.99	7.50	79.72	-8.45	28.89	1	99