Nebraska Growing Readers

# Evaluation Report


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## Abstract

Providing children with developmentally appropriate books can enhance early reading behaviors and support the development of early literacy skills. The Nebraska Growing Readers (NGR) pilot program distributed books to early childcare providers and families with young children across the state. This report examines associations between the book distribution and reported reading behaviors in early learning settings and homes, as well as children's early language and literacy along with protective factors and behavioral concerns. Findings indicate increased reading frequency and greater book availability and access in both childcare and home environments. Families with more books at home reported higher reading frequency and were more likely to meet early communication benchmarks. While some gains in literacy outcomes were observed, no significant changes were found in protective factors and behavioral concerns. These findings highlight NGR program's potential benefits for early childhood language and literacy development.

## Acknowledgement

Nebraska Growing Readers and Unite for Literacy partnered to distribute books to early childcare providers, home visitors, and families with incoming kindergarteners across Nebraska. The evaluation of this initiative was led by the Education and Child Development Department at the University of Nebraska Medical Center (UNMC). This work was generously funded by the Nebraska Department of Education. The findings and opinions expressed are those of the authors and do not reflect the views of the institution or the funders. We thank the evaluation team at the Munroe-Meyer Institute at UNMC, specifically Sanya Tuncan-Minden, Clarissa Gonzalez, Jessie Walchli, Yaritza Estrada, Stefanie Contreras, Briseyda Ceballos Cornejo, Linda Villagomez, Nataly Biodrowski for their support in data collection. We appreciate project support provided by Stephanni Renn, Wendy Keele, Greta Carlson, and Ivan Young at Nebraska Children and Families Foundation (NCFF).

# 1. Introduction

There is extensive research on the importance of early reading skills in promoting positive outcomes across critical domains, including academic success and future occupational achievement (Hernandez, 2011; Lesnich et al., 2010). The early elementary years, especially kindergarten through third grade, are a critical period for literacy development (Fiester, 2010). Ensuring that children reach appropriate reading levels during this time not only builds strong reading foundations but also supports long-term academic success and adult well-being. Providing children with early access to engaging, relevant reading materials is therefore essential in fostering early literacy.

The Nebraska Growing Readers (NGR) book distribution was designed to bolster both early childhood literacy and protective factors and behavioral concerns.

# 2. Programming

The primary activity of NGR was distributing books to children aged 3-5 across the state over a nine-month period. This was done through a variety of avenues which are highlighted in different ways through this evaluation.

Partnerships with 990 Early Childcare Providers across Nebraska allowed the program to distribute books to the care facility to be used in the facility and/or sent home with children and their families. Another partnership with 63 Sixpence home visitors allowed direct distribution of books to 756 families through this trusted home visitation channel. Between childcare providers and home visitors, Nebraska Growing Readers distributed 573,743 books to 34,654 children for an average of 16 books per child.

Book distribution also continued into kindergarten with registered incoming kindergarteners receiving four books per week for 25 weeks. The packets were mailed to the child's home address. Registration was done individually by parents of 3,218 Kindergarteners.

Additionally, NGR staff engaged in a variety of other activities, all in the service of improving early childhood literacy across the state. Activities included:

- Providing six professional development offerings for early childcare providers through the Nebraska Early Childhood Record System (NECPRS).
- Collaborating with individuals in communities to write 39 books, with an additional 15 in development, to help books be reflective of local context and experiences.
- Partnering with 17 community translators to expand offerings with 25 books being translated and narrated into Karen, Arabic, Dari, Burmese, and Masarak.
- Writing eight articles with interviews from families, providers, and organizations and sharing updates with childcare providers through monthly newsletters, on the Nebraska Growing Readers website, and on the Facebook page.
- Developing an interactive website with childcare provider resources and a digital library (nebraskagrowingreaders.org).

# 3. Evaluation Questions

The central guiding evaluation question for the Nebraska Growing Readers pilot program is: What is the association between the Nebraska Growing Readers book distribution and early childhood literacy outcomes?

To address this question, we examine the NGR book distribution, reading behaviors, early literacy and protective factor and behavioral concern outcomes across three distinct populations and settings. The evaluation questions for each group are detailed below:

## Early Childcare Providers

- What changes in reading behaviors within childcare settings were observed during the Nebraska Growing Readers pilot program?
- What is the correlation between the number of books available in childcare settings and changes in reading frequency?
- What is the correlation between the number of books in childcare settings and reported ease of access to books?

## Sixpence Home-Visitation Families

- What changes in home reading behaviors were observed during the Nebraska Growing Readers pilot program?
- What is the correlation between number of books and reading frequency in home?
- What is the association between number of books, reading frequency in home, and children's communication skills?

## Kindergartners

- What changes in home reading behaviors were observed during the NGR pilot program?
- What is the correlation between number of books and reading frequency in home?
- What is the correlation between number of books and children's early literacy and protective factors and behavioral concerns?

# 4. Methods

## Data and Sample

The evaluation sample includes three groups: 1) Early Childcare Providers, 2) Sixpence Home Visitation Families, and 3) Entering Kindergartners in Lincoln, Omaha, Hastings, and Schuyler.

We conducted two primary types of data collection to evaluate the pilot program. The first was a retrospective survey developed and administered by NCFF to all participating families and childcare providers. These surveys contained roughly 25 questions and collected information from parents or caregivers and childcare providers on number of books in the home, how many days in a week they read with children, how frequently children read independently, if the parent or caregiver saw themselves as a reader, and time spent reading each day. These surveys were administered approximately 16 weeks after book distribution began.

The second data source was child assessments, which measured early language/literacy and protective factors and behavioral concerns. Each site reported different literacy assessment tools: Lincoln and Omaha reported Peabody Picture Vocabulary Test (PPVT), Hastings reported Acadience Reading assessment, and Schuyler reported Star Early Literacy. For protective factors and behavioral concerns, the Devereux Early Childhood Assessment (DECA) was used consistently across all participating kindergarten sites. Additionally, Early Communication Indicator (ECI) was used for Sixpence Home Visitation families. Table 1 summarizes descriptions for each assessment.

**Table 1. Descriptions of early language/literacy and protective factors and behavioral concerns assessment tools**

| Assessment Tool | Domain Measured | Description |
|---|---|---|
| Peabody Picture Vocabulary Test (PPVT) | Receptive vocabulary comprehension | An individually administered assessment where the child selects the picture that best matches a spoken word. |
| Acadience Reading | Early reading fluency | One-on-one- assessment of first sound fluency, letter naming fluency, phoneme segmentation fluency, nonsense word fluency, and oral reading fluency. |
| STAR Early Literacy | Foundational literacy skills | Computer adaptive-, curriculum based- assessment covering print awareness, phonemic awareness, vocabulary, comprehension, and more. |
| Devereux Early Childhood Assessment (DECA) | Protective factors and behavioral concerns | A strength-based assessment by caregivers/teachers that assesses young children's protective factors including social-emotional competencies and behavior challenges. |
| Early Communication Indicator (ECI) | Expressive language and communication complexity | Observational measures of children's growth in expressive communication (e.g., gestures, vocalizations, words, and phrases) in a 6 -minute play-based activity. |

Table 1-1 summarizes data sources across the three participant groups.

**Table 1-1. Data sources by participant group**

| Participant Group | Reading Behaviors | Language/Literacy | Protective Factors and Behavioral |
|---|---|---|---|
| Early Childcare Providers | Retrospective Survey | — | — |
| Sixpence Home-Visitation Families | Retrospective Survey | ECI | — |
| Kindergartners: Lincoln | Retrospective Survey | PPVT | DECA |
| Kindergartners: Omaha | Retrospective Survey | PPVT | DECA |
| Kindergartners: Hastings | Retrospective Survey | Acadience Reading | DECA |
| Kindergartners: Schuyler | Retrospective Survey | STAR Early Literacy | DECA |

Table 2 presents the final consented sample sizes for each group, broken down by data source.

**Table 2. Final consented sample by participant group and data source**

| Participant Group | Retrospective Survey | Child Outcome |
|---|---|---|
| Early Childcare Providers | 260 | — |
| Sixpence Home-Visitation Families | 106 | 74 |
| Kindergartners – Lincoln | 8 | 8 |
| Kindergartners – Omaha | 11 | 11 |
| Kindergartners – Hastings | 9 | 17 |
| Kindergartners – Schuyler | 21 | 22 |

## Analytical Approach

We analyzed changes in the number of books, reading behaviors, and early literacy and protective factors and behavioral concerns outcomes using three primary methods: (1) Paired t-tests comparing pre- and post-NGR book distribution data, (2) Spearman's rank-order correlation to examine relationships between key variables, and (3) Logistic regression analyses to understand how total number of children's books in the home (post-NGR) predict child meeting the ECI benchmark, controlling for household demographic characteristics, number of additional books acquired, and reading behaviors. The regression model controlled for the following variables:

- Book and Reading Measures: Number of additional books acquired in the past month and change in daily reading time.
- Baseline Score: Fall ECI benchmark.

- Demographics: Child's age at post-assessment, child's primary language at home, caregiver's high school graduation status, caregiver's minority status, and caregiver's reading identity.

# 5. Results

We present results by three groups, each representing a distinct population served and a different set of outcome measures: (1) Early Childcare Providers, (2) Sixpence Home-Visitation Families, and (3) Kindergartners across Lincoln, Omaha, Hastings, and Schuyler.

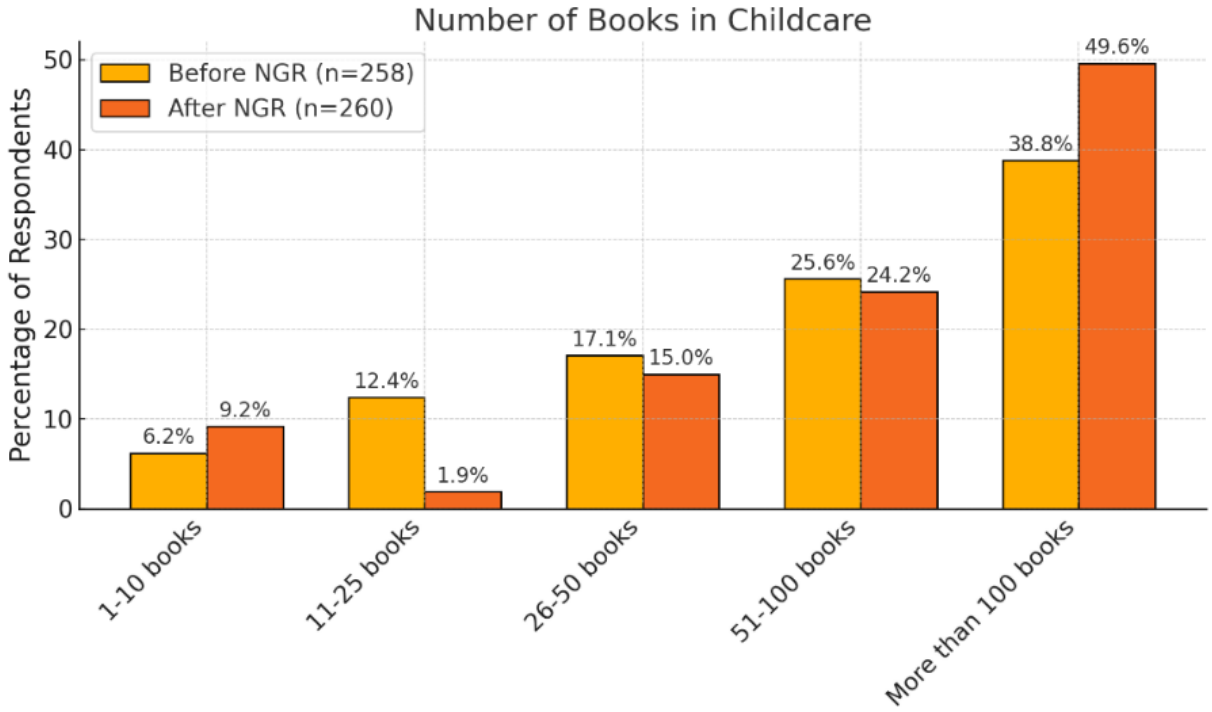
## Early Childcare Providers

As part of Nebraska Growing Reader's book distribution efforts, boxes of Unite for Literacy books were sent to early childcare sites. The goal was both to serve as another avenue to provide books for the children to take home and to bolster the resources available within the childcare sites. Early childcare providers completed a retrospective survey to provide insights into the impact of this distribution.

### Change in Number of Books

There was a notable shift in book availability in childcare settings following the NGR book distribution (Figure 1). Prior to the program, 38.8% of providers reported having more than 100 books. After the book distribution, this proportion increased to 49.6%. At the same time, the percentage of providers with only 11–25 books decreased from 12.4% to 1.9%. These trends suggest that NGR book distribution may have contributed to an overall increase in book availability, particularly in settings that previously had fewer books. Overall, 35% of providers (90 of 258) reported an increase in the number of books in their childcare settings, while 53% (137 of 258) reported no change in their book ranges.

**Figure 1. Changes in number of books for early childcare providers**




Among the 258 sites that reported number of books in their childcare settings on the retrospective survey, the average number of children's books increased following the NGR book distribution (Table 3). Before the program, providers reported an average of 67.0 books (SD = 33.50). After the program, this average rose to 74.3 books (SD = 32.15). This increase of 7.3 books on average was statistically significant (p = 0.012), suggesting a meaningful improvement in the availability of books in learning environments.

**Table 3. Average number of all books in childcare**

| | n | mean | sd | p-value |
|---|---|---|---|---|
| Pre # of children's books | 258 | 67.0 | 33.50 | 0.012 |
| Post # of children's books | 258 | 74.3 | 32.15 | |

*Note: The average value is derived from midpoints of the number of books category responses.*

Across 232 childcare settings, providers reported keeping an average of 35.9 Unite for Literacy books (SD = 65.1) in their classrooms or childcare spaces (Table 4). When disaggregated by setting type, center-based programs reported the highest average number of books (M = 48.6, SD = 95.5), followed by Family-Home I (M = 31.6, SD = 40.2) and Family-Home II (M = 24.5, SD = 23.0).

**Table 4. Descriptive summary of number of Unite for Literacy books in childcare**

| | n | mean | sd | median | min | max |
|---|---|---|---|---|---|---|
| All | 232 | 35.9 | 65.1 | 20.0 | 0 | 800 |
| Center-based | 89 | 48.6 | 95.5 | 20.0 | 0 | 800 |
| Family-home I | 72 | 31.6 | 40.2 | 20.0 | 0 | 240 |
| Family-home II | 71 | 24.5 | 23.0 | 20.0 | 0 | 100 |

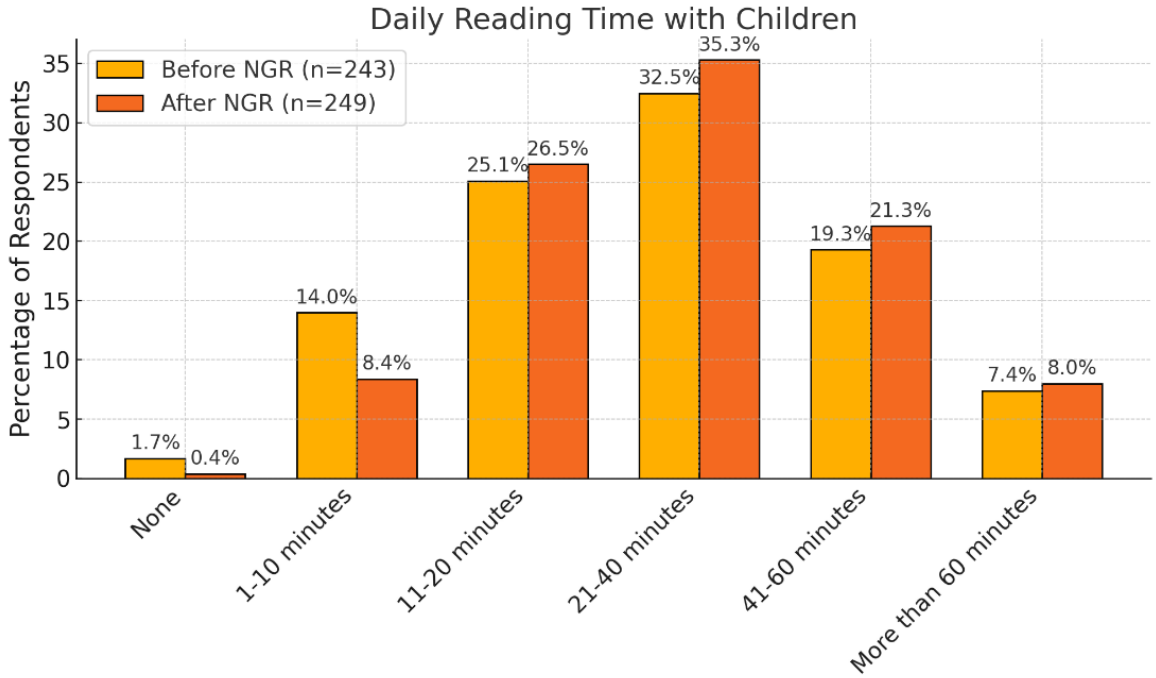
## Change in Access to Books

In addition to increases in number of books, providers also reported improvements in children's access to books within their childcare settings. Among the 258 respondents, 92.3% of providers reported that children had easy access to books in their settings before the NGR program. After the program, this percentage rose to 98.9%. This improvement was statistically significant ($p < 0.001$), suggesting that the program may have contributed to creating more book-rich and accessible learning environments for children.

## Change in Frequency of Reading

Early care providers reported spending more time reading with children following the NGR book distribution, indicating a positive shift (Figure 2). The proportion of providers reading with children for more than 10 minutes per day increased across all reported time categories. Meanwhile, the percentage of providers reading less than 10 minutes per day dropped from 15.7% to 8.8%. These findings suggest that the NGR book distribution may have encouraged longer and more consistent daily reading practices in early childhood settings.

**Figure 2. Changes in daily reading time with children for early childcare providers**



Among the 243 sites that responded to the retrospective survey on daily reading time in their childcare settings, the average amount of time spent reading with children increased following the NGR book distribution (Table 5). Before the program, providers reported an average of 28.4 minutes of daily reading time (SD = 1.12). After the program, this average rose to 30.5 minutes (SD = 1.07). Overall, 21% of providers (50 of 243) reported an increase in daily reading time in their childcare settings.

**Table 5. Average reading time in childcare**

| | n | mean | sd | p-value |
|---|---|---|---|---|
| Pre Reading Time | 243 | 28.4 | 1.12 | 0.001 |
| Post Reading Time | 243 | 30.5 | 1.07 | |

*Note: The average value is derived from midpoints of the reading time category responses.*

## Correlation between number of books and frequency of reading

Lastly, we examine the correlation between the number of books in the classroom setting and the frequency of reading in that classroom. A Spearman rank correlation indicated a statistically significant, positive association between the change in the number of books in the classroom and the change in class reading time ($\rho = 0.23$, $p < 0.001$). This suggests that classrooms that added more books also tended to report increased reading time with children. While the correlation is significant, the strength of the relationship is modest.

## Correlation between number of books and easy access to books

There was no significant correlation between the number of books and reported measure of easy access to books. This likely reflects limited response variability as approximately 92% of providers already reported easy access to books before the NGR distribution.

## Sixpence Home-Visitation Families

Sixpence home visitors were given books to distribute to the families they visited for six months. Families also received coaching from home visitors about the importance of shared reading practices in the home. Parents and caregivers led these children through the Early Communication Indicator assessment before and after this distribution to provide insights into the impact this effort had on the child's early literacy skills.

### Number of Children's Books in Home

Parents and caregivers reported having an average of 66.4 children's books in the home (Table 6). Approximately 30% (32 out of 106) of families reported having 100 or more books after the NGR distribution. When asked about the number of new books brought to the home in the last month, parents and caregivers reported bringing an average of 7.8 new books home in the past month.

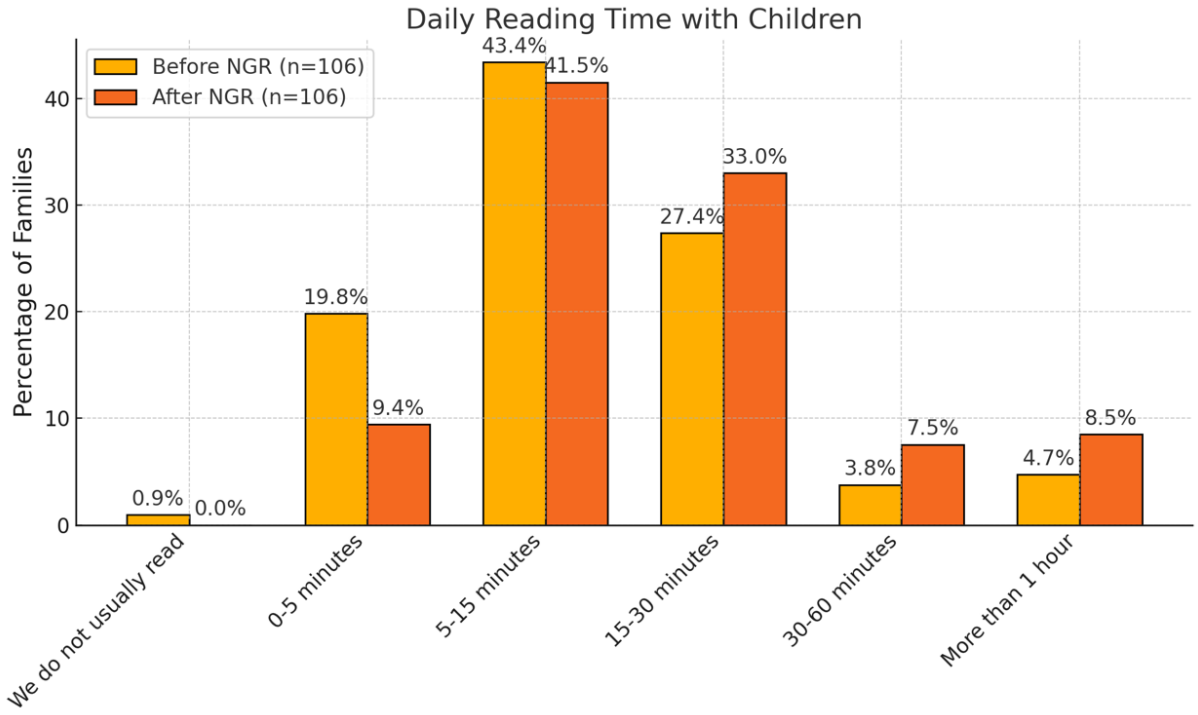
**Table 6. Summary of number of books in home**

| | n | mean | sd | median | min | max |
|---|---|---|---|---|---|---|
| Total # of children's books | 106 | 66.4 | 42.71 | 50 | 7 | 200 |
| # of new books last month | 106 | 7.8 | 9.07 | 5 | 2 | 75 |

### Change in Frequency of Reading

Among the 106 families who responded to the retrospective survey, daily reading time with children generally increased following the NGR book distribution (Figure 3). The proportion of families reading with children for more than one hour nearly doubled, increasing from 4.7% to 8.5%. Meanwhile, the percentage of families reporting 0-5 minutes or no reading dropped from 20.7% to 9.4%. These trends suggest an encouraging shift toward longer and more consistent reading practices in families.

**Figure 3. Changes in daily reading time with children in Home-Visitation Families**




The average time parents and caregivers spent reading with children at home increased from 15.6 to 20.4 minutes per day following the NGR book distribution (Table 7). This 4.8-minute gain was statistically significant ($p < 0.001$), suggesting improved shared reading practices at home.

**Table 7. Average reading time in home**

| | n | mean | sd | p-value |
|---|---|---|---|---|
| Pre Reading Time | 106 | 15.6 | 13.70 | < 0.001 |
| Post Reading Time | 106 | 20.4 | 16.00 | |

*Note: The average value is derived from midpoints of the reading time category responses.*

## Changes in ECI Scores

Changes in children's early communication indicators (ECI) were assessed before and after the NGR book distribution (Table 8). While no statistically significant changes were observed in gestures ($p = 0.411$), vocalizations ($p = 0.945$), or the percentage of children meeting the ECI benchmark ($p = 0.658$), there were statistically significant increases in both expressive language domains. Children's use of single words increased from an average of 7.3 to 10.2 ($p = 0.002$), and multiple word combinations increased from 4.1 to 7.3 ($p = 0.002$). These improvements indicate meaningful advancement in children's expressive vocabulary and syntactic development following the book distribution.

**Table 8. Summary of ECI scores**

| | | n | mean or % met benchmark | sd | p-value |
|---|---|---|---|---|---|
| Gestures | Pre | 74 | 7.1 | 5.25 | 0.411 |
| | Post | 74 | 7.9 | 6.93 | |
| Vocalizations | Pre | 74 | 19.1 | 15.63 | 0.945 |
| | Post | 74 | 18.9 | 16.00 | |
| Single Word* | Pre | 74 | 7.3 | 10.40 | 0.002 |
| | Post | 74 | 10.2 | 9.86 | |
| Multiple Word* | Pre | 74 | 4.1 | 9.46 | 0.002 |
| | Post | 74 | 7.3 | 11.10 | |
| ECI benchmark, % | Pre | 72 | 38.9% | 5.8% | 0.658 |
| | Post | 72 | 36.1% | 5.7% | |

*Note: For Gestures, Vocalizations, Single Word, and Multiple Word, the value reflects the mean; for the benchmark indicator (binary), the value reflects the percentage of children meeting the benchmark.*

**Statistically significant difference between pre- and post-scores ($p < 0.05$).*

## Correlation between number of books and frequency of reading

A Spearman rank correlation indicated a statistically significant, positive association between the total number of children's books in the home with average reading time at home after the NGR distribution ($\rho = 0.28$, $p < 0.05$). This suggests that households with more books tended to engage in more reading. While the correlation is significant, the strength of the relationship is modest.

## Association between number of books and ECI benchmark

Table 9 presents marginal effects of total number of children's books after the NGR program predicting the likelihood of a child meeting the ECI benchmark. The logit regression model controlled for recent book additions, change in reading time, meeting the ECI benchmark at pre-assessment, caregiver's educational level, and caregiver's reading identity. Results indicate that each additional 10 children's books in the home was associated with a 4.0 percentage point increase in the likelihood of meeting the benchmark at post-assessment ($p = 0.019$). This suggests that increased access to books at home may meaningfully support early communication development.

**Table 9. Marginal effects of predictors on meeting ECI benchmark**

| | Marginal Effect (dy/dx) |
|---|---|
| Total number of children's book after NGR | 0.004* |
| | (0.002) |
| Additional books in the past month | -0.013 |
| | (0.010) |
| Change in reading time | 0.005 |
| | (0.007) |
| Pre-ECI benchmark | 0.290** |
| | (0.079) |
| Age at post ECI assessment | 0.001 |
| | (0.007) |
| Caregiver is minority | 0.283* |
| | (0.137) |
| Child's primary language at home non-English | -0.086 |
| | (0.189) |
| Caregiver is high school grad | -0.194 |
| | (0.138) |
| Caregiver sees themselves as readers | 0.035 |
| | (0.112) |
| | |
| Observations | 69 |

*Standard errors in parentheses*

*** p<0.01, * p<0.05*

Regression results for individual ECI scores are available in Appendix Table 6.

## Kindergarteners

Across the state, parents and caregivers of incoming kindergarteners were given the opportunity to register to receive book mailings through Nebraska Growing Readers. A total of 3,217 Kindergarteners registered to receive these books. Unite for Literacy books were sent to these families at a rate of four books per week for 25 weeks with the goals of providing access to age-appropriate reading materials and fostering shared reading habits in the home. Data were gathered from partner schools in Lincoln, Omaha, Hastings, and Schuyler to gauge the impact.

### Number of Children's Books in Home

Parents and caregivers of students entering kindergarten reported having an average of 97.9 children's books in the home (Table 10). When asked about the number of new books brought into their home in the last month, parents and caregivers reported bringing an average of 11.7 new books into their home in the past month.

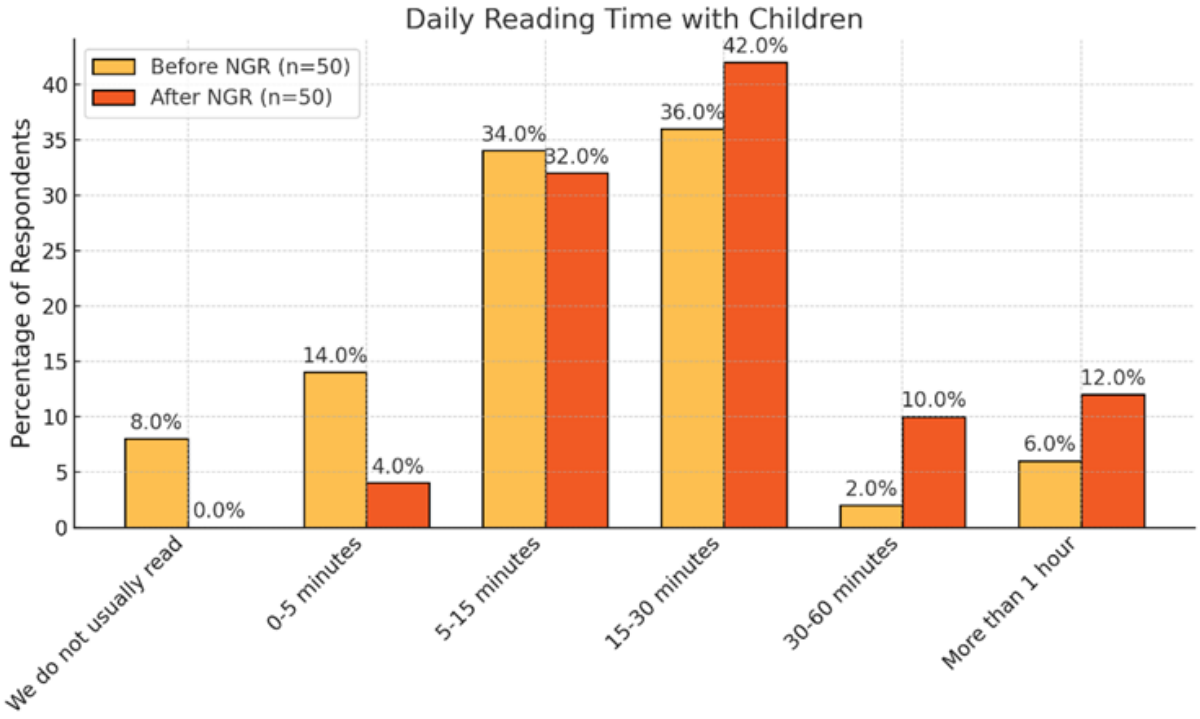
**Table 10. Summary of number of books in home**

| | n | mean | sd | median | min | max |
|---|---|---|---|---|---|---|
| Total # of children's books | 50 | 97.9 | 194.39 | 50.0 | 2 | 1000 |
| # of new books last month | 50 | 11.7 | 12.55 | 9.5 | 0 | 70 |

### Change in Frequency of Reading

Among the 50 kindergarten families who responded to the retrospective survey, daily reading time with children generally increased following the NGR book distribution (Figure 4). The proportion of families reading with children for more than one hour nearly doubled, increasing from 6.0% to 12.0%. Notably, the percentage of families reporting 0-5 minutes of reading dropped from 14.0% to 4.0%. These findings suggest an encouraging shift toward more frequent and sustained shared reading practices in the home.

**Figure 4. Changes in daily reading time with children in Kindergarten Families**




The average time parents and caregivers spend reading with children at home increased from 16.4 to 24.5 minutes per day following the NGR book distribution (Table 11). This 8.1-minute increase was statistically significant ($p < 0.001$), suggesting improvement in shared reading practices at home.

**Table 11. Average reading time in home**

| | n | mean | sd | p-value |
|---|---|---|---|---|
| Pre Reading Time | 50 | 16.4 | 14.44 | < 0.001 |
| Post Reading Time | 50 | 24.5 | 16.92 | |

*Note: The average value is derived from midpoints of the reading time category responses.*

## Changes in Language & Literacy, protective factors, and behavioral concern scores

Changes in children's early language and literacy were assessed using t-test before and after the NGR book distribution (Table 12). Statistically significant improvements were observed in STAR Early Literacy scores ($p < .001$) and in the percentage of children meeting the benchmark for Acadience Reading ($p = .014$). However, the small sample sizes for each assessment limit the interpretation of these findings.

**Table 12. Summary of literacy scores**

| | | n | mean or % met benchmark | sd | p-value |
|---|---|---|---|---|---|
| PPVT | Pre | 13 | 92.5 | 13.99 | 0.072 |
| | Post | 13 | 88.2 | 16.72 | |
| STAR Early Literacy* | Pre | 17 | 632.3 | 54.15 | <0.001 |
| | Post | 17 | 732.4 | 78.51 | |
| Acadience Reading*, % | Pre | 16 | 43.8% | 51.2% | 0.014 |
| | Post | 16 | 87.5% | 34.2% | |

*Note: For PPVT and STAR Early Literacy, the value reflects the mean; the Acadience Reading reflects the percentage of children meeting the benchmark.*

**Statistically significant difference between pre- and post-scores ($p < 0.05$).*

Changes in children's protective factors and behavioral concerns were assessed before and after the NGR book distribution (Table 13). There were no statistically significant changes observed across all DECA measures.

**Table 13. Summary of protective factors and behavioral concern scores**

| | | n | mean | sd | p-value |
|---|---|---|---|---|---|
| Initiative | Pre | 32 | 53.7 | 9.98 | 0.245 |
| | Post | 32 | 50.9 | 11.63 | |
| Self-Regulation | Pre | 32 | 55.3 | 10.44 | 0.224 |
| | Post | 32 | 52.7 | 12.04 | |
| Attachment | Pre | 32 | 50.7 | 10.40 | 0.607 |
| | Post | 32 | 49.3 | 11.29 | |
| Total Protective Factors | Pre | 32 | 54.0 | 10.06 | 0.231 |
| | Post | 32 | 51.3 | 10.81 | |
| Behavioral Concerns | Pre | 32 | 51.1 | 12.19 | 0.650 |
| | Post | 32 | 52.1 | 9.99 | |

### Correlation between number of books and frequency of reading

There was no significant correlation between the number of books and changes in frequency of reading at home.

### Correlation between number of books and literacy, protective factors and behavioral concerns

Due to the small sample size, we did not conduct correlation analyses between the number of books and children's literacy and protective factors and behavioral concerns.

## 6. Limitations

Extensive efforts were made by the MMI evaluation team, in collaboration with NCFF, to collect child assessment data across Omaha, Lincoln, Schuyler, and Hastings. Data collection strategies were tailored to each community's context, ranging from outreach during preschool graduation events and back-to-school nights to direct engagement with families during drop-off and pick-up times. Evaluation staff contacted families multiple times via phone and email to support recruitment and follow-up. All communication was available in both English and Spanish and families who completed all assessments were incentivized with a $50 gift card. To accommodate families' language preferences and availability, retrospective surveys and assessments were conducted on-site when needed, with support from bilingual staff members.

Despite extensive outreach, participation rates varied by location and the final sample size was much smaller than anticipated. Some possible factors such as recruitment timing, coordination with schools, and requiring families to travel to MMI or NCFF facilities for child outcome assessments may have contributed to this variability. Evaluation staff used various approaches to coordinate data collection including text and phone call reminders and rescheduling appointments. However, challenges in connecting with individual families in these contexts still led to low response rates for kindergartener families.

Overall, the child assessment data collection approach was adaptive and responsive to local needs, but variations across sites and the heavy reliance on manual outreach introduced limitations. The lack of consistent child assessment protocols across locations also presented challenges to data comparability.

## 7. Conclusion

This report presents findings from the Nebraska Growing Readers (NGR) pilot program. We examined the relationship between book distribution, reading behaviors, and children's early language and literacy along with protective factors and behavioral concerns across three groups: Early Childcare Providers, Sixpence Home-Visitation Families, and Kindergartners in four locations (Lincoln, Omaha, Hastings, and Schuyler).

Across all groups, reading behaviors improved significantly in both early childcare settings and homes. Early childcare providers reported notable increases in reading frequency with children and the availability and ease of access to books in classrooms. Sixpence Home-Visitation Families also reported increased reading frequency at home. Additionally, the total number of children's books at

home after the NGR book distribution correlated positively with reading frequency and meeting the ECI benchmark. This underscores the NGR program's potential positive influence on children's communication skills development. Kindergarten families also showed increased daily reading time. While there were some improvements in language and literacy outcomes, no significant changes were observed in protective factors and behavioral concerns. However, small sample sizes limited the scope of further correlational analysis and the interpretation of these findings.

Overall, the NGR program was associated with improvements in book accessibility, reading behaviors, and improvement in selected language and literacy skills. These findings highlight the program's potential benefits for early childhood literacy development. If the pilot program is scaled in the future, we recommend involving the research and evaluation team early in the planning and design stages to support the implementation of robust study methodologies and effective data collection strategies. Additionally, incorporating a comparison group would strengthen the evaluation with rigorous assessment of the program's impact on early language and literacy as well as protective factors and behavioral concerns.

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# Appendix

**Appendix Table 1. Demographic characteristics of Sixpence home-visitation families with ECI scores**

| | n | Mean or Proportion | sd | min | max |
|---|---|---|---|---|---|
| Child's age at post-ECI assessment (in months) | 72 | 26.1 | 7.73 | 10 | 41 |
| Child's primary language at home non-English, % | 71 | 21.1% | 41.11% | 0 | 1 |
| Caregiver is a high school grad, % | 72 | 80.6% | 39.85% | 0 | 1 |
| Caregivers see themselves as readers, % | 70 | 67.1% | 47.31% | 0 | 1 |

**Appendix Table 2. Changes in number of books for early childcare providers (Figure 1)**

| | Before NGR | | After NGR | |
|---|---|---|---|---|
| | n | % | n | % |
| 1-10 books | 16 | 6.2 | 24 | 9.23 |
| 11-25 books | 32 | 12.4 | 5 | 1.92 |
| 26-50 books | 44 | 17.05 | 39 | 15 |
| 51-100 books | 66 | 25.58 | 63 | 24.23 |
| More than 100 books | 100 | 38.76 | 129 | 49.62 |
| **Total** | **258** | **100** | **260** | **100** |

**Appendix Table 3. Changes in frequency of reading for early childcare providers (Figure 2)**

| | Before NGR | | After NGR | |
|---|---|---|---|---|
| | n | % | n | % |
| None | 4 | 1.65 | 1 | 0.4 |
| 1-10 minutes | 34 | 13.99 | 21 | 8.43 |
| 11-20 minutes | 61 | 25.1 | 66 | 26.51 |
| 21-40 minutes | 79 | 32.51 | 88 | 35.34 |
| 41-60 minutes | 47 | 19.34 | 53 | 21.29 |
| More than 60 minutes | 18 | 7.41 | 20 | 8.03 |
| **Total** | **243** | **100** | **249** | **100** |

### Appendix Table 4. Changes in frequency of reading in Home-Visitation Families (Figure 3)

| | Before NGR | | After NGR | |
|---|---|---|---|---|
| | n | % | n | % |
| We do not usually read | 1 | 0.94 | 0 | 0 |
| 0-5 minutes | 21 | 19.81 | 10 | 9.43 |
| 5-15 minutes | 46 | 43.4 | 44 | 41.51 |
| 15-30 minutes | 29 | 27.36 | 35 | 33.02 |
| 30-60 minutes | 4 | 3.77 | 8 | 7.55 |
| More than 1 hour | 5 | 4.72 | 9 | 8.49 |
| **Total** | **106** | **100** | **106** | **100** |

### Appendix 5. Distribution of reading time after NGR distribution for Sixpence Home-Visitation Families

| | n | mean | sd | median | min | max |
|---|---|---|---|---|---|---|
| Post Reading Time | 106 | 20.4 | 16.00 | 10.0 | 3 | 60 |

### Appendix Table 6. Predictors for individual ECI assessments

| | Gestures Count | Vocalizations Count | Word Count | Multiple Word Count |
|---|---|---|---|---|
| Total number of children's books after NGR | -0.015 | 0.061 | 0.055* | 0.040 |
| | (0.023) | (0.047) | (0.027) | (0.027) |
| Additional books in the past month | -0.055 | -0.122 | -0.056 | -0.098 |
| | (0.088) | (0.178) | (0.103) | (0.103) |
| Change in reading time | 0.212* | -0.021 | 0.008 | 0.073 |
| | (0.097) | (0.197) | (0.115) | (0.113) |
| Pre-scores | 0.121 | 0.249* | 0.142 | 0.520** |
| | (0.163) | (0.108) | (0.125) | (0.121) |
| Child's age at post-assessment | -0.055 | -0.126 | 0.501** | 0.464** |
| | (0.102) | (0.210) | (0.152) | (0.142) |
| Caregiver is minority | -5.174 | 0.672 | 4.144 | 0.033 |
| | (2.604) | (5.208) | (3.090) | (3.013) |

| | | | | |
|---|---|---|---|---|
| Child's primary language at home non-English | 6.448 | -2.475 | 0.863 | -0.306 |
| | (3.291) | (6.688) | (3.937) | (3.857) |
| Caregiver is a high school grad | -2.001 | -8.549 | 3.207 | -1.374 |
| | (2.454) | (4.942) | (2.878) | (2.851) |
| Caregiver sees themselves as readers | 0.283 | -3.381 | 1.354 | 0.831 |
| | (1.792) | (3.631) | (2.103) | (2.095) |
| Constant | 10.820* | 23.428** | -12.073* | -8.456 |
| | (4.140) | (8.073) | (5.113) | (4.878) |
| | | | | |
| Observations | 71 | 71 | 71 | 71 |
| R-squared | 0.175 | 0.154 | 0.437 | 0.565 |

*Standard errors in parentheses*

*** p<0.01, * p<0.05*