



Examining Dosage: Comparisons of a High-Quality Program's Impact on Vocabulary and Social-Emotional Characteristics Between One- and Two-Year Cohorts.

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Introduction

- Background of Educare
- Who Educare Serves
- Why high-quality Early Childhood Education is Important



Study Purpose

- To examine the effectiveness of the Educare approach in improving receptive language, comprehension language, and social-emotional skills as a function of dosage.
- To add a Lincoln, Nebraska sample to the existing body of Educare research.

Research Questions

- **RQ1:** Does attending the Educare program affect children’s language skills as measured by fall to spring growth in a single year?
- **RQ2:** For children who have been in Educare for more than one year, does attending the Educare program affect children’s language skills by fall to spring growth in a single year?
- **RQ3:** Does attending Educare affect children’s language development differentially for ELLs and non-ELLs?
- **RQ4:** Does attending the Educare program affect one-year dosage children’s social-emotional characteristics as measured by fall to spring growth in a single year?
- **RQ5:** Does a higher dose of Educare attendance affect children’s social-emotional development from fall to spring in a single year?

Methods

- Data were collected for purposes of fall to spring Educare evaluation and were utilized in secondary analyses for the current study.
- Assessments were completed in the fall and spring of each year
- Receptive language skills were assessed using the PPVT-IV (Dunn & Dunn, 2007)
- Auditory Comprehension skills were assessed using the PLS-5 (Zimmerman, Steiner, & Pond, 2011) for monolingual English-speaking children and the Spanish PLS-5 for Spanish-speaking ELLs
- Social-emotional characteristics were assessed using the DECA-P2 (LeBuffe & Naglieri 1999)

Analyses

- **Paired samples t-tests**
- Used to calculate change scores for matched participants in both dosage groups.
- Used in secondary analyses to determine if change scores differed between ages by analyzing 36- and 48-month-olds separately in their respective cohort.

Participants

One-Year Dosage Cohort (G1) *n* = 128
75 males, 53 females
Mean age= 56.89 months, *SD*=6.86

Two-Year Dosage Cohort (G2) *n* = 101
57 males, 44 females
Mean age= 56.34 months, *SD*=7.10
Total *N* = 229
132 males, 97 females

Results

RQ1 (Group 1)

- PPVT-IV: Monolingual English-speaking children’s scores increased at a **trend level**, but did not change significantly $t(56) = 1.736, p = .088$.
- PPVT-IV: Spanish-speaking ELLs’ scores increased, but did not significantly, $t(12) = .095, p = .926$.

RQ2 (Group 2)

- PPVT-IV scores for monolingual English-speaking children **increased significantly** from fall to spring during the second year of attendance, $t(103) = 2.907, p < .005$.
- PPVT-IV scores for Spanish-speaking ELLs increased, but did not change significantly from fall to spring, $t(29) = 1.862, p = .073$, although there was a **trend effect**.
- Spanish PLS-5 scores decreased, but did not change significantly from fall to spring during the second year of attendance, $t(4) = 2.658, p = .057$, though these scores were **negatively trending**.
- Spanish PLS-5 fall-to-spring change scores for children who entered their second year of the program at 48 months **significantly decreased**, $t(1) = 27.00, p < .05$.

RQ3 (Group 1 & Group 2)

- For G1 and G2, Spanish-speaking ELLs increased fall-to-spring PPVT-IV change scores by 3 points while monolingual English-speaking children’s increased by 1 point
- G2 ELLs’ Spanish PLS-5 fall-to-spring change scores decreased by 7 points while monolingual English-speaking children’s increased by less than 1 point

Results (Continued)

RQ4 (Group 1)

- TPF increased, but scores did not change significantly from fall to spring in a single year, $t(28) = 1.148, p = .261$.
- Behavioral Concerns scores increased, but did not change significantly from fall to spring in a single year, $t(28) = 3.862, p = .825$.

RQ5 (Group 2)

- TPF scores increased but did not change significantly from fall to spring during their additional year of attendance, $t(83) = 1.732, p = .087$, although there was a **trend effect**.
- Behavioral Concerns scores increased, but did not change significantly from fall to spring during their additional year of attendance, $t(83) = .083, p = .934$.
- TPF Scores for children who entered their second year of the program at 48 months **increased significantly** from fall to spring, $t(62) = 2.087, p < .05$.

Discussion

Language growth for monolingual English-speaking children (RQ1 & RQ2)

- Trending increases in G1 PPVT-IV scores and significant increases in G2 suggest that language growth begins in year one and increasingly builds with dosage

Progress in language for Spanish-speaking ELLs (RQ1, RQ2, & RQ3)

- PPVT-IV change scores for Spanish-speaking ELLs in G2 reached a positive trend effect.
- Descriptively, Spanish-speaking ELLs in both dosage groups increased their fall-to-spring PPVT-IV scores at a higher rate (i.e., three points of gain compared to one point) than their monolingual English-speaking peers
- PPVT-IV change scores for Spanish-speaking ELLs—descriptively for three-year olds and a trend effect for 48-month-olds—further support Hypothesis 3
- As English skills increased (as evident by PPVT-IV change scores), Spanish skills appeared to decrease (as evident by Spanish PLS-5 scores) as has been found in some other studies (Paradis, Emmerzael, & Duncan, 2010)

Change in social-emotional characteristics (RQ5)

- Group 2 exhibited a positive trend effect in TPF scores and 48-month-olds’ TPF scores significantly increased, suggesting the time added by years beyond the first year of Educare contributes to increasing rates of adding protective factors over time
- A positive trend was also observed in 36-month-olds’ BC scores

Contributions, Future Directions, and Implications for Practice

- This study provides evidence that the Educare program can support low-income children in increasing English receptive language skills and promote resilience as evident by PPVT-IV and DECA-P2 change scores, respectively.
- This study also supports previous literature (viz., Yazejian, Bryant, Freel, & Burchinal, 2015) which suggested that the amount of time in care played a critical role in Educare’s impact on language and social-emotional development
- The next step in Educare dosage research would be to replicate the current study with dosage defined by actual days of program attendance instead of the quantity of assessments
- Educare teachers and administration should continue to work closely with the UNL team to monitor language and social-emotional growth on individual and classroom levels, particularly 36-month-old classrooms where it seems the program is least effective.