The Relationship between Literacy Readiness and Auditory and Visual Perception in Kindergartners

Kate Schnobrich, MA, CCC-SLP
Cincinnati Children’s Hospital Medical Center, Cincinnati, OH

Joan Nolan, SLPD
Touro College, Brooklyn, NY

Nature of the Problem

- Teaching the ability to learn should be considered as equally important a goal as is a mastery of prescribed content (Meeker, 1969)
- Relationship between literacy skills as a predictor of future school success dates back to 1988 (Alexander & Entwisle, 1988)
- Relationships exist among abilities at a kindergarten level that serve to predict future performance in literacy skills at the third grade level (Foster & Miller, 2007)
- Literacy problems are often linked to an underlying linguistic deficit (Foster & Miller, 2007)
- Children must be identified as “at risk” for literacy delay as soon as possible (Catts, Fey, Zhang, & Tomblin, 2001)

Significance of the Problem

- A better understanding of the relationships between literacy readiness and individual variables will provide more effective intervention methods (Schuele & Bourdreau, 2008)
- Students who are not identified and treated for literacy problems until later elementary grades (third grade or later) have a poor chance of catching up to their typically developing peers (Foster & Miller, 2007)
- When a child becomes aware that his or her reading skills are inadequate in comparison to peers, an emotional lag occurs and the problem is amplified (Hayes & Pereira, 1972)
- Need for further research is to establish the relationship between visual memory & reading and auditory memory & reading (Hayes & Pereira, 1972)

Purpose of the Problem

- The purpose of the study seeks to identify the correlation between the previously described linguistic variables and literacy readiness at the kindergarten level and answer the following questions:
  1. Is auditory perception positively correlated with literacy readiness (as determined by DIBELS assessment) in kindergarteners?
  2. Is visual perception positively correlated with literacy readiness (as determined by DIBELS assessment) in kindergarteners?

Participants

- 30 kindergarten children at Fairfield Kindergarten Center in Fairfield, OH
- Random selection from within established groups determined by performance on the DIBELS assessment (defined by the DIBELS as “instructional recommendation”)
  - 10 “benchmark” children (low risk for literacy delay)
  - 10 “intervention” children (some risk for literacy delay)
  - 10 “substantial intervention” children (at risk for literacy delay)

Materials

- Children assessed using the following instruments:
  - Dynamic Indicators of Early Literacy Skills (DIBELS)
  - Test of Auditory-Perceptual Skills (TAPS)
  - Motor-Free Visual Perceptual Test, Third Edition (MVPT-3)

Procedures

1. DIBELS testing (as mandated by Fairfield City Schools in October 2008)
  - Children removed from classroom to work station on one occasion (session audio recorded with permission)
  - Child Permission Test read to student
  - TAPS (approximately 15-18 minutes)
    - Short break
  - MVPT-3 (approximately 7-10 minutes)

Data Analysis

1. Descriptive Analysis (for continuous/ordinal scaled variables)
   - Central tendency (means)
   - Dispersion (standard deviation)
2. Quantitative analysis
   - Pearson’s r correlation test (determine relationship between independent variable-DIBELS and dependent variables- MVPT-3 & TAPS)
   - One way ANOVA test & ANOVA-F test (significance between performance of MVPT-3 and TAPS for 3 groups)

Results

- Significant statistical difference was found between the DIBELS’ LNF score (r=.591) and the TAPS Auditory Quotient-strong, positive correlation (p=0.001)
- Significant statistical difference was found between the DIBELS’ ISF score (r=.604) and the TAPS Auditory Quotient-strong, positive correlation (p=0.005)

Conclusions

- Literacy readiness is significantly associated with auditory perception
- Literacy readiness is not significantly associated with visual perception
- Correlation exists between auditory perception and literacy readiness skills
- Early identification of children with delayed literacy skills specifically that of auditory memory may have the opportunity to be developed and provided earlier intervention
- Prevent children with delayed literacy skills from moving into the first grade with poor reading skills
- Efficacy of the DIBELS validated at the kindergarten level as a comprehensive assessment capable of evaluating these early literacy skills in young children and effective in predicting later reading performance

References


Insert Footer or Copyright Information Here