

# Birth to Three Language Acquisition: Influences of Ambient Language in mixed aged Montessori settings

Claudine Campanelli, Ed.D



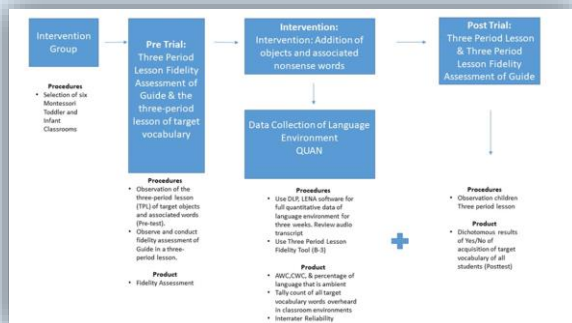
## General Statement of the Problem

What impact does incidental learning, such as ambient language have on language acquisition in infants and toddlers in mixed-age classrooms?

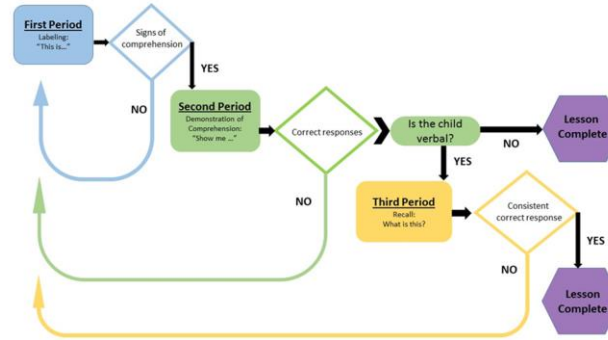
## The Study

- To measure ambient language in mixed aged classrooms as well as understand the correlation of ambient language to vocabulary acquisition in infant and toddlers in the Montessori setting.
- To provide empirical data to substantiate the theory of the Absorbent Mind and provide a mechanism to measure the Absorbent Mind
- To create a research tool to assess fidelity of Montessori presentations

## Research Design



Descriptive, correlational study design for language acquisition. Pre-post quasi-experimental design using an intervention



Montessori Birth-Three, Three Period Lesson Flow Chart. Adapted from Jackson (2011).

## Setting & Participants

Six AMI/AMS mixed aged Montessori classrooms. 56 children under three years of age and 12 adult teaching participants

## Method, Procedures & Materials

Convergent mixed method design of a quasi-experiment outlining the measurement and integration of both qualitative and quantitative data. LENA DLP and vest, nonsense objects with legal nonsense words with a variety of phoneme and phoneme placements.

## Dissertation Committee:

Lynn Cohen, Ph.D., Professor LIU –C.W. Post  
Heather Parrot, Ph.D., Associate Professor LIU- C.W. Post  
Phyllis Povell, Ph.D., Professor Emeritus, LIU-C.W. Post

## Three Period Lesson Fidelity Tool (B-3)

The fidelity criteria were developed with consideration for both pedagogy and practice: Language area of the classroom, Engagement and Pedagogical compliance of presentation. Cronbach's alpha test indicated high reliability ( $\alpha = .91$ , average inter-item covariance = 373).

## Results

- Older peers increased the target word exposure by 39.5%, as determined by the target word tally.
- Ambient Language is measurable in mixed-age classrooms
- There is a correlation that older peers' ambient language influenced language acquisition of younger classroom peers

## Conclusion

- The youngest children could acquire new vocabulary words through ambient language
- The acquisition of new vocabulary through ambient language demonstrates the absorbent mind at work.
- An indirect finding was that recognition and recall rates differ based on gender in young children
- Correlation between the amount of language the adults used, and the amount of language classroom children expressed.



## ABSTRACT

There is an expanse of literature looking at various topics supporting Montessori education, especially in preschool; however, there is a lack of research in infant and toddler Montessori classrooms. Most of the empirical data regarding language acquisition has focused on the child's acquisition of vocabulary through direct instruction, rather than the learning capability from overhearing a third party in a naturalistic setting. The purpose of this intervention study was to add to the limited empirical research on language acquisition in infant and toddler Montessori environments. More specifically, the intervention assessed if infants and toddlers could indirectly acquire new vocabulary through the Absorbent Mind from teachers and peers' ambient dialogue during the Montessori three-period lesson. The research utilized a descriptive, correlational pre-and-post quasi-experimental design to assess and analyze vocabulary and ambient language. Data collection occurred in three Association Montessori Internationale (AMI) and American Montessori Society (AMS) infant and toddler mixed-aged environments throughout New York State and Maryland. The Language Environmental Analysis (LENA) system was used to analyze audio recordings. Transcriptions of audio recordings quantified vocabulary acquisition and ambient language. Paired t-tests and ANCOVA were used to analyze children's acquired vocabulary. A fidelity scale analyzed the extent to which Montessori trained teachers adhered to the three-period lesson intervention. The findings provide opportunities to improve infant and toddler teachers' classroom practice related to language acquisition. Suggestions were offered for early childhood teacher preparation programs.

*Keywords:* Absorbent Mind, ambient language, infant-toddlers, language acquisition, LENA System, mixed-age classroom, Montessori, vocabulary

## Dissertation Chapters:

- Chapter 1: The Infant and Toddler Montessori Environment  
Including: History of the Montessori Assistant Infancy Curriculum.
- Chapter 2: Literature Review  
Including: Montessori pedagogy, language acquisition, ambient language.
- Chapter 3: Method  
Including: Language Environment Analysis (LENA), Three Period Lesson fidelity measurement, Pilot Study.
- Chapter 4: Findings of the Study  
Including: Quasi-experimental design-observing pre-post tests, quantitative results, descriptive statistics
- Chapter 5: Conclusions and Implications for Research, Theory, Policy and Practice  
Including Interpretations of findings, future research and limitations.

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## References

Refer to full dissertation