

Susan M. Loftus, Ph.D.
Assistant Professor
School Psychology Program
Department of Psychology
University of Rhode Island
10 Chafee Rd.
Kingston, RI 02881
sloftus@mail.uri.edu
Phone: (401) 874-4246
Fax: (401) 874-2157

Personal Research Agenda

My research interests are in the area of early language and literacy development. Currently, my main focus is on vocabulary development, an important but often overlooked factor contributing to early literacy and later reading achievement. The primary goal of my research agenda is to develop effective vocabulary intervention strategies targeting children at-risk for language and literacy problems.

My previous research in this area includes involvement with two programs of research funded by the U.S. Department of Education Institute of Education Sciences aimed at developing and implementing vocabulary interventions for at-risk students. The first, Project VITAL (*Vocabulary Interventions Targeting At-Risk Learners*) produced results of five studies supporting the effectiveness of an extended vocabulary intervention strategy implemented through storybook readings that includes the use of within storybook definitions as well as interactive activities following storybook readings. Overall, these strategies were effective for students in small group and whole class settings. However, students with lower initial receptive vocabulary levels did not experience the same magnitude of gains as students with higher initial vocabulary levels. Therefore, the intervention was not effective in reducing the initial vocabulary gap that is commonly found between students at-risk for literacy problems and their typically developing peers (Coyne, McCoach, Loftus, Zipoli, & Kapp, in press).

Based on concerns about this vocabulary gap, the second project, Project IVI (*Intensifying Vocabulary Intervention for Kindergarten Students at Risk of Learning Disabilities*), was designed to intensify the previously developed vocabulary instruction in efforts to increase its effectiveness for at-risk students. My dissertation study, conducted within Project IVI, examined the effectiveness of adding a Tier 2 vocabulary intervention to research-based Tier 1

vocabulary instruction, implemented with students at-risk for language and learning difficulties. Findings indicated that at-risk students made greater gains in word knowledge on target words that received additional small group Tier 2 intervention as compared to words that received only whole-group classroom-based instruction (Loftus, Coyne, McCoach, & Zipoli, under review).

Over the next several years, my research agenda will expand on previous vocabulary intervention research with a focus on improving outcomes for students who are most at-risk. First, I will continue to investigate the relationships between instructional components, individually and in combination, that would create the most powerful interventions for differentially achieving students. This will be accomplished by varying individual instructional components of Tier 2 instruction such as amount of time, type of activities, and group size while carefully controlling for all other components. Additionally, I would like to include variables that have not yet been examined such as the use of technology or the addition of a home-based intervention component. Second, I plan to examine the effects of long-term implementation of vocabulary interventions on both targeted vocabulary knowledge and more generalized measures of vocabulary and comprehension. Third, based on the vast differences in vocabulary knowledge that students demonstrate at kindergarten entry, I plan to evaluate the effectiveness of vocabulary interventions implemented for children in preschool. Fourth, in addition to general receptive vocabulary knowledge, I would like to identify other variables (i.e. low income status, English Language Learner status) that might predict intervention outcomes and place students at-risk. Finally, I will continue to work toward the improvement of vocabulary intervention outcome measurement.

Vocabulary knowledge has been clearly linked to early language and literacy outcomes. The improvement of literacy related outcomes is an important area for all involved in education,

including school psychologists. Teachers commonly approach school psychologists for assistance with interventions focused on early literacy and reading improvement. Therefore, it is important for school psychologists to have a solid base of research and understanding on varying components of early language and literacy intervention strategies when collaborating with teachers.

References

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Abstract

Vocabulary knowledge is important for using as well as understanding language. Learning, in all areas of academics, is language based and therefore reliant on vocabulary knowledge (Adams, 1990). While the importance of vocabulary with regards to reading comprehension and academic success is becoming increasingly recognized, surprisingly little instructional time is spent on vocabulary in the classroom (Baumann, Kameenui, & Ash, 2003). Moreover, initial differences in vocabulary knowledge exist before children enter school and become even more discrepant over time, widening the gap between strong and struggling readers (Stanovich, 1986; Hart & Risley, 1995; Biemiller & Slonim, 2001). The limited vocabulary instruction that occurs in classrooms in the early grades does not appear to be effective in decreasing this gap (Stanovich, 1986; Robbins & Ehri, 1994). There is a great need for evidence-based practices that help at-risk students develop vocabulary knowledge early in their schooling, before they fall even further behind.

The purpose of the proposed program of research is to develop and evaluate the effectiveness of a direct vocabulary instructional strategy on the word learning of preschool students at-risk for language and literacy difficulties. The first phase of research will focus on (1) refining a previously developed intervention strategy to be most effective for use in a preschool population, and (2) developing outcome measures that are sensitive enough to detect intervention related word learning. During the second phase of research we will evaluate the effectiveness of the intervention on a larger scale. The intervention will be implemented at three geographically diverse sites including participants from various racial, ethnic, and language backgrounds. Outcome measures will include measures of general vocabulary knowledge, intervention specific word learning, and listening comprehension. Additionally, we will examine the relationship

between initial vocabulary knowledge, English language proficiency, and the effectiveness of the intervention.

Vision of a Collaborative Research Program

Vocabulary knowledge is an essential component of both reading success and school achievement (Anderson & Nagy, 1992; Carnine, Kameenui, & Coyle, 1984; National Reading Panel, 2000). Although the exact mechanisms are unclear, vocabulary knowledge has been associated with the ability to decode words, recognize sight words, and comprehend reading passages (Senechal, 2006; Nation & Snowling, 2004; Ouellette, 2006). Research shows that students learn a significant number of new vocabulary words through oral language experiences (Elley, 1989; Robbins & Ehri, 1994). Since children experience vast differences in exposure to rich oral and written language in their early years, it is not surprising that students enter school with considerable differences in vocabulary knowledge.

Growing evidence suggests that the limited vocabulary instruction provided in most preschool and kindergarten classrooms is insufficient to meet the needs of students at-risk for language-based literacy problems (Robbins & Ehri, 1994; Stanovich, 1986). As a result, there is a clear need for strategies that could help to increase the word learning of students with low initial vocabulary knowledge. And, this need is particularly urgent based on the findings that without intervention, the vocabulary gap between higher and lower achieving students rapidly grows wider throughout the primary grades (Biemiller & Slonim, 2001).

Consistent with my research agenda, I am proposing a collaborative, multi-site research program to develop and evaluate a vocabulary intervention for preschool students at-risk for language and literacy difficulties. There will be two phases of research as a part of this project: design and development of the intervention, followed by implementation and evaluation. First, the research team will work to refine a vocabulary intervention developed in a previous study for use with at-risk kindergarten students (Loftus, Coyne, McCoach, & Zipoli, under review). A

series of small-scale, carefully controlled intervention studies will be conducted to identify the combination of instructional components that results in the greatest gains in the vocabulary knowledge of preschool students over a period of two to three weeks. Approximately 60 preschool students will participate in this phase of the study. Additionally, the research team will develop and pilot outcome measures that are psychometrically sound and sensitive to intervention related changes in word knowledge.

Following the development of the intervention and outcome measures, we will evaluate the effectiveness of the intervention on a larger scale. My goal is to implement the intervention in preschool classrooms located in diverse geographical locations. Ideally, participants would include those of various races, ethnicities, and language backgrounds. Students identified as being at-risk based on initial vocabulary knowledge will participate in a small-group vocabulary intervention, delivered by a classroom teacher, teacher aide, or reading teacher two times per week over a period of approximately 18 weeks. Approximately 145 students will participate in this phase of the study. Measures of targeted vocabulary words, general vocabulary knowledge, and listening comprehension will be administered and results will be compared to students in a typical practice control group. Furthermore, we will examine whether responsiveness to the vocabulary intervention was moderated by initial vocabulary knowledge or English language proficiency.

Estimate of the Budget

Faculty co-directors: 3 at \$15,000 each = \$45,000

Fringe benefits: 3 at \$5,000 each = \$15,000

Graduate student research coordinators: 3 at 20 hours per week = \$90,000

Assessment and intervention supplies: \$3000 per site = \$9000

Indirect costs at 50% of direct = \$79,500

Total budget = \$238,500

Advantages and Challenges

As a graduate student I was fortunate to work on a collaborative, multi-site program of research under the direction of my advisor, Dr. Michael Coyne, at the University of Connecticut. I experienced the advantages of working with researchers from diverse disciplines who shared similar interests but offered expertise in different areas. It is advantageous to collaborate with professionals who provide new perspectives on various aspects of study design and implementation. In my proposed study, it would be beneficial to work with collaborators who have expertise in areas such as early childhood education, language development, and measurement and evaluation. Additionally, a multi-site program of research allows for a larger and more representative sample of participants which would increase the potential for the findings to be generalizable to the population at large.

The greatest challenge I anticipate for my proposed program of research is the coordination of the project across multiple settings and potentially great distances. This will require organization of people and materials and frequent communication across settings. I envision that a project coordinator would be assigned to each setting to direct and supervise the activities at that site. Project coordinators would need to communicate regularly to ensure the fidelity of implementation across settings.

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