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Proposal ID: 13404**Proposal Type:** General Submission Form**Authors**

Order	Disclosure	Author Information
1	No Response	<p>Stephanie De Anda (PRESENTING AUTHOR: Author who will be presenting) (Submitter) sdeanda@uoregon.edu University of Oregon Eugene, OR 97404 United States ASHA Affiliation: ASHA Member Student: Not a student Certification: CCC-SLP Author Biographical Sketch: Stephanie De Anda, PhD CCC-SLP, is an Assistant Professor of Communication Disorders and Sciences at the University of Oregon. Her research interests include understanding language acquisition in typically and atypically developing English- and Spanish-speaking monolingual and bilingual children. As a Latina scholar and Speech-Language Pathologist, Stephanie's research aims to understand the developmental trajectories of Latinx children in the U.S. She has expertise in several measures of language acquisition in infants, toddlers, and preschoolers.</p>
2	No Response	<p>Megan Blossom (AUTHOR ONLY: Author, but will NOT be presenting a) megan.blossom@castleton.edu Castleton University Castleton, VT United States ASHA Affiliation: Neither SLP/Audiologist and not an ASHA Member Student: No Certification: None Author Biographical Sketch: Dr. Megan Blossom joined the Castleton Psychology Department in the Fall of 2014. Her area of expertise is the interdisciplinary field of child language which brings together perspectives from cognitive psychology, linguistics, and communication disorders to understand human language development and language processing. Her current work examines assessment of linguistic knowledge in toddlers with a particular focus on the development of grammatical knowledge that is vulnerable in children with language impairments.</p>
3	No Response	<p>Alyson Abel (AUTHOR ONLY: Author, but will NOT be presenting a) alyson.abel@mail.sdsu.edu San Diego State University San Diego, CA 92116 United States ASHA Affiliation: ASHA Member Student: Not a student Certification: None Author Biographical Sketch: Alyson Abel, PhD, is an Assistant Professor in the school of Speech Language and Hearing Sciences at San Diego State University. Dr. Abel's research incorporates behavioral and neurophysiological methods to examine 1) word learning, particularly verb learning,</p>

and 2) interactions between word learning and other linguistic domains in typically developing children and children with specific language impairment.

Requested Session Format: Poster (90 minute commitment)

Potential Format Alternative I am willing to have this submission considered for an ePoster or Technical Session. (You must understand what an ePoster is before you select this option.)

Topic Area: Language and Learning in School-Age Individuals

Title of Proposal

A Single-Subject Study of a Complexity Approach to Treatment of Tense and Agreement Delay

Instructional Level: Introductory

Abstract Type: Research Submission

Learner Outcomes

1. Discuss the complexity account of treatment efficacy
 2. Explain how to plan for treatment generalization in morphosyntax intervention
 3. Describe the application of complexity approach to treatment of morphosyntax delay in children
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Abstract of Proposal

This single-subject study investigates the efficacy of an intervention based on the Complexity Account of Treatment Efficacy in treating grammatical deficits in three children with morphosyntactic delays. By the end of treatment participants increased their production accuracy of the intervention target above 80%. Further, mean length of utterance increased by approximately one morpheme following the 8 week intervention.

Summary of Proposal

Introduction

Many children with language delays demonstrate unique and specific difficulty in morphosyntax, including grammatical forms marking tense and agreement in English, such as third person singular -s, past tense -ed, copulas, and auxiliaries (e.g., Bedore & Leonard, 1998; Rice & Wexler, 1996). Despite that pervasive tense and agreement difficulties are common in children with language deficits (e.g., Rice, Hoffman, & Wexler, 2009), there remains a paucity of effective treatment interventions. Extant approaches have shown either no gains from tense and agreement intervention or gains that are not reliably greater than what would be expected from maturation alone (Fey & Loeb, 2002; Leonard, Camarata, Brown, & Camarata, 2004; Leonard, Camarata, Pawlowska, Brown, & Camarata, 2006). The present single-subject multiple-baseline study examines the effect of a novel intervention approach following complexity models of treatment targeting tense and agreement in children with morphosyntax deficits. The Complexity Account of Treatment Efficacy (CATE) contends that training on more complex items leads to better generalization than treatments focusing on "building up" mastery from simple structures to more complex (e.g., Thompson & Shapiro, 2007). This approach has been used for treatment of

grammatical deficits in aphasia and in phonological delays in children, and preliminary evidence has extended this to word learning in young children (Owen Van Horne, Fey, & Curran, 2017). In the present study, we extend this work to the morphosyntactic domain by training a complex grammatical structure to ask whether this training generalizes to simpler structures in three children with tense and agreement deficits.

Method

Three male children (DA: 9 years 7 months, PM: 8 years 11 months, and JJ: 5 years 5 months) participated in the present intervention study. Participation consisted of 16 visits across 8 weeks (2 visits per week). At pre-test, the Test of Early Grammatical Impairment (TEGI, Rice & Wexler, 2001) and a language sample were administered. Although participants varied in their proficiency across tense and agreement structures, all three scored below criterion on auxiliary and copula BE probe (see Table 1).

Following pre-test, three baseline visits were completed that included sentence imitation and elicited production probes assessing generalization to multiple tense and agreement structures (i.e., auxiliary and copula BE in statements and questions, third person singular, and past tense). Following baseline, the intervention was introduced across nine sessions, with additional sentence imitation and elicited production probes collected in the middle and end of the intervention. A final language sample was also collected at post-test.

The treatment targeted a complex tense and agreement structure (auxiliary BE in questions) in three children with difficulties in this domain. Intervention consisted of a drilled task embedded within a play activity to elicit the target structure. Across 30 trials, story vignettes were acted out with manipulatives to maintain children's interest. In the vignettes, children were instructed to ask a puppet about the scenes. An attempt at the target structure was scored as correct if an auxiliary BE form was used in an obligatory question context ("is the girl crying?"). Three levels of prompting were used following incorrect responses to the initial request: 1) repetition of request, 2) modeling, and 3) imitation.

Results

Gains in Target Structure

To track gains within the intervention, the number of prompts required for children to produce the target structure (i.e., aux BE in questions) were calculated. As seen in Figure 1, all three participants demonstrated gains in the production of the target structure after a single prompt. In particular, by the end of the intervention, all three participants increased their production accuracy after a single prompt to levels above 80%. DA demonstrated the largest gains, with an increase in production accuracy to a single prompt from 28 to 93%.

Generalization

To examine generalization of the target structure to other tense and agreement markers we assessed production accuracy in three tasks: sentence imitation, elicited production, and spontaneous production.

Within elicited production (Figure 2), children generally demonstrated a stable baseline period followed by an increase in their production accuracy upon introduction of the intervention. However, within sentence imitation, a mixed pattern of growth was evinced (Figure 3). This could be due to ceiling effect in the two higher performing children who began above 60% accuracy before intervention (PM and JJ), since post-intervention growth was most notable for DA who started at 16% accuracy.

We next examined generalization by assessing spontaneous production within a language sample (Figure 4). DA, who presented with the greatest delay in tense and agreement across tasks at pretest, demonstrated an increase in productions in 5 out of 10 tense and agreement structures, with the greatest gains in copula relative to auxiliary BE and in singular relative to plural constructions. Notably, there were increases in two tense markers that were absent pre-intervention: 3s and past tense. Participant PM similarly demonstrated increases in 6 out of 10 structures, with the greatest gains in singular markers across auxiliary and copula BE. A similar pattern was evinced in JJ, who showed gains in 7 out of 10 structures. Across all participants, the greatest gains were evinced in statements relative to questions. Lastly, as shown in Figure 5, all participants increased their Mean Length of Utterance (MLUm) by approximately one morpheme.

Conclusion

The present study set out to examine efficacy of a complexity approach to the treatment of tense and agreement delays. During the intervention, all children increased their level of independence in producing the complex target structure (auxiliary BE in questions), with post-intervention accuracy levels above 80% following a single prompt. Generalization probes showed increased production accuracy across tense and agreement markers during and after intervention within elicited and spontaneous production. Notably, generalization patterns were such that production of statements showed the greatest increase relative to question forms. Thus, consistent with CATE, children evinced greatest gains in simpler grammatical structures following targeted intervention to a more complex structure. Together these findings provide growing support for the successful application of complexity accounts to the morphosyntactic deficits in young children.

References/Citations

- Bedore, L. M., & Leonard, L. B. (1998). Specific language impairment and grammatical morphology: A discriminant function analysis. *Journal of Speech, Language, and Hearing Research*, 41(5), 1185-1192.
- Fey, M. E., & Loeb, D. F. (2002). An evaluation of the facilitative effects of inverted yes-no questions on the acquisition of auxiliary verbs. *Journal of Speech, Language, and Hearing Research*, 45(1), 160-174.
- Leonard, L. B., Camarata, S. M., Brown, B., & Camarata, M. N. (2004). Tense and agreement in the speech of children with specific language impairment: Patterns of generalization through intervention. *Journal of Speech, Language, and Hearing Research*, 47(6), 1363-1379.
- Leonard, L. B., Camarata, S. M., Pawlowska, M., Brown, B., & Camarata, M. N. (2006). Tense and agreement morphemes in the speech of children with specific language impairment during intervention: Phase 2. *Journal of Speech, Language, and Hearing Research*, 49, 749-770.
- Rice, M. L., & Wexler, K. (2001). *Test of Early Grammatical Impairment*. San Antonio, TX: Pearson.
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- Thompson, C. K., Shapiro, L. P., Kiran, S., & Sobecks, J. (2003). The role of syntactic complexity in treatment of sentence deficits in agrammatic aphasia: The Complexity Account of Treatment Efficacy (CATE). *Journal of Speech, Language, and Hearing Research*, 46(3), 591-607.
- Van Horne, A. J. O., Fey, M., & Curran, M. (2017). Do the Hard Things First: A

Randomized Controlled Trial Testing the Effects of Exemplar Selection on Generalization Following Therapy for Grammatical Morphology. *Journal of Speech, Language, and Hearing Research*, 60(9), 2569-2588.

Time-Ordered Agenda

N/A

Keywords

Keyword 1: grammar

Keyword 2: intervention

Keyword 3: morphosyntax

Keyword 4: Developmental Language Delay

Keyword 5: Specific Language Impairment

Review and Confirm Your Title

*** Please confirm that your title has capital letters for principal words and has no quotation marks. Make sure your title is **not** in ALL CAPS. Also, remember to use person first language in your title. For example: SLPs Role in Treating Children Who are Hard of Hearing versus SLPs Role in Treating Hard of Hearing Children.**

In the spirit of our Convention theme, "Revolutionary Learning, Evolutionary Practice," how would you describe your proposal?

- Foundational: Proposals that discuss the underlying principle or basis of a concept, theory, evaluation or practical application. These are the guiding principles/theories, etc. that our practice is based on.
 - Evolutionary: Proposals that address gradual transition or changes that may impact or have impacted the discipline's status quo. This could include theory through application.
 - Revolutionary: Proposals that discuss new or innovative concepts, ideas, applications, or principles that may alter the course of our discipline by causing a dramatic change in how we think or do things. These new ideas and concepts must still include the evidence and solid theory behind them.
 - Not Applicable
-

Will this submission be of particular interest to any of the following audiences?

Students
Researchers
Assistants

Are you presenting as an interprofessional team that includes non-CSD presenters?

No

Will this proposed session focus on one specific approach, product or product line, tool, technique, service or model (without mention of or information about other similar approaches, products, services, techniques, tools or models)? Yes

If yes, describe:

The session describes a new intervention approach and its efficacy in treating morphosyntax delays in school-age children.

Would you like this session to be considered for the new hands-on lab session or demo? (For Oral Session – Seminar 2-hours only.) No

Would you and/or the presenters of this session be willing to speak with the media about your presentation? Yes

How much of this proposed presentation has been previously presented (I.e., at other meetings or conferences)? 0%

Has this proposal been developed by an ASHA Committee, Board or Council? No

I/We can present on any day (Thursday, Friday, and Saturday). Yes

Is this a panel presentation/discussion with five (5) or more presenters? No

Does any presenter listed in the proposal require a reasonable accommodation due to disability? This information will be solely used for scheduling purposes. No

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