

Head Start Teachers' Complex Syntax Production

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INTRODUCTION

Potentially, preschool classrooms offer a rich learning environment that can promote language skills necessary for literacy and academic success. Preschool teachers play a critical role in the language learning opportunities in the preschool classroom. For several reasons, much of the language emphasis in preschool classrooms is on vocabulary. But language proficiency encompasses much more than vocabulary. Proficiency in complex syntax may also be critical for literacy and academic success.

Proficiency in complex syntax allows children to engage in verbal dialogue and to comprehend high-level text that is critical to learning (Jackson & Roberts, 2001). Complex sentences contain two or more clauses. Clauses are joined within a single sentence through coordinate (e.g., *and*) or subordinate (e.g., *because*) conjunctions or through embedding (e.g., *I know what you did*; Quirk, Greenbaum, Leech, & Svartvik, 1985).

Huttenlocher and colleagues (2002, 2008) reported that children from families of lower socioeconomic status (SES) are less proficient in complex syntax production than peers from families of higher SES. They attributed this difference to variations in parental complex syntax input. Children from low SES homes are increasingly in out-of-home care and hence, receive much of their daily language input in group care settings. Thus, we undertook a preliminary investigation of extant teacher talk data from Head Start classrooms to explore the complex syntax input children from low SES families receive in their preschool classrooms.

RESEARCH QUESTIONS

- What is the extent of complex syntax in teacher talk in Head Start classrooms?
- What is the proportional distribution of infinitival complements, embedded clauses, and subordinate conjunction clauses?
- Does the frequency of complex syntax differ based on preschool classroom activity?

PARTICIPANTS

Participants were 14 Head Start teachers (n = 12 females) from an urban city located in a midwestern state.

EDUCATION LEVEL

- early childhood certificate, n = 7
- associate degree, n = 1
- bachelor's degree, n = 4
- masters degree, n = 2

YEARS OF EXPERIENCE

- 1 – 3 years, n = 5
- 4 – 6 years, n = 3
- 7 – 9 years, n = 3
- 10 – 12 years, n = 1
- 13 years and over, n = 2

METHODS

Extant Data. The extant data from Combs (2009) involved video recordings and transcripts of teacher-class interactions. Teachers engaged a small group of four to five children in an art (n = 5) or dramatic play activity (n = 9).

Activity. During the art activity teachers students were instructed to draw a picture and engaged in conversation during the activity. The dramatic play activities settings included restaurant, kitchen, or library. Teachers engaged preschool children in conversations within the dramatic play activity.

Teacher talk samples. Each teacher was videotaped for at least 10 minutes during the activities. The middle 10 minutes was used for data analysis.

Transcription, coding and reliability. Videotapes from Combs (2009) were transcribed. Complete and incomplete utterances were coded for 11 types of complex syntax (Schuele, 2009; see Table 1). Transcript analysis for complex syntax was conducted with Systematic Analysis of Language Transcripts (SALT; Miller & Iglesias, 2010). The first author prepared initial transcripts and coding for all participant transcripts; all transcripts were checked by the second author. Disagreements were resolved by consensus.

Derived dependent variables.

- **proportion of complex syntax utterances** (# with at least one complex type/total number of utterances)
- **number of complex syntax tokens**
- **number of complex syntax types** (max 11)
- **proportion of complex syntax category:** infinitive, embedded, subordinate conjunction (number of tokens per category/ number of complex syntax tokens in all utterances)

Table 1. Complex Syntax Types

Complex Syntax Type	Code	Example
Marked Infinitive	SI	I want to watch.
Unmarked Infinitive	UIC	He made the bird eat.
WH Nonfinite Clause	WNFC	I know what to eat.
WH Finite Clause	WFC	I know what he eats.
Clausal Complement	FPC	I know (that) the bird eats here.
Nominal Relative	NRC	This is where the bird eats.
Subject Relative	SRC	The bird that landed flew away.
Other Relative Clause	RC	The bird (that) I saw flew away.
Participle Clause	PC	Birds flying in the air are neat.
Coordinate Clause	CC	The bird landed and ate the worm.
Subordinate Clause	SC	The bird ate when he landed.

RESULTS

Research Question What is the extent of complex syntax in teacher talk in Head Start classrooms?

VARIABLE	Mean (SD)
Total Number of Utterances	149.07 (77.28)
Total Number of Utterances with Complex Syntax	24.57 (13.52)
Proportion of Utterances with Complex Syntax	.17 (.09)
Number of Complex Syntax Types	7.14 (2.07)
Total Complex Syntax Tokens	33.21 (21.79)

Research Question What is the proportional distribution of infinitival complements, embedded clauses, and subordinate conjunction clauses?

COMPLEX SYNTAX CATEGORY	PROPORTION Mean (SD)
Infinitival Complements	.31 (.10)
Embedded Clauses	.31 (.12)
Subordinate Clauses	.36 (.07)

Research Question Does the frequency of complex syntax differ based on preschool classroom activity?

VARIABLE	Activity: Art Mean (SD) n = 4	Activity: Dramatic Play Mean (SD) n = 10
Total Number of Utterances	159.50 (24.14)	144.90 (91.46)
Total Number of Utterances with Complex Syntax	23.00 (8.12)	25.20 (15.51)
Proportion of Utterances with Complex Syntax	.15 (.06)	.18 (.10)
Number of Types of Complex Syntax	7.25 (.95)	7.10 (2.42)
Total Complex Syntax Tokens	30.00 (12.49)	34.50 (25.05)
Proportion of Infinitival Complements	.30 (.11)	.31 (.10)
Proportion of Embedded Clauses	.35 (.15)	.29 (.11)
Proportion of Subordinate Clauses	.34 (.07)	.37 (.07)

DISCUSSION

On average only 24 percent of Head Start teachers' utterances involved complex syntax. But there was substantial individual variation across teachers. The proportional distribution across infinitival complements, embedded clauses, and subordinate was comparable.

When variables were calculated based on context, the complex syntax in art activities appeared comparable to dramatic play. This comparison was limited as there were only four teachers in the art activity context.

Overall, these findings suggest that the language input available to Head Start children is limited in terms of complex syntax. However, because we only explored one type of classroom, we cannot draw conclusions about input dependent on family SES. Our next step is to collect complex syntax input data from preschool teachers serving children from various socioeconomic backgrounds (SES).

Our observations of the teacher talk indicated that teachers are focused on the completion of the activity and controlling student behaviors, and therefore, potentially miss opportunities to provide rich language input to their students. If future studies find differences in teacher complex syntax input that is contingent on family SES, we would argue that preschool teacher training should develop teachers' abilities to provide complex syntax input that might influence the development of the language skills of preschool children from low SES families (Vasilyeva et al., 2008).

Future Directions:

- Compare teacher talk in classrooms of preschool educators with varying educational backgrounds and with varying child characteristics.
- Analyze complex syntax production in pre-post samples of teachers who participated in a study to diversify vocabulary used in teacher talk.
- Consider implications of findings for enhancing the preschool classroom language environment.
- Detailed analysis of cognitive state verbs, subordinate conjunctions, and other complex syntax types within teacher talk.

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