Comparison of Sentence Completion Procedures for the Elicitation of Copula and Auxiliary Verb Forms from Three-Year-Old Children

Teresa Ann Muchmore

Eastern Illinois University

This research is a product of the graduate program in Communication Disorders and Sciences at Eastern Illinois University. Find out more about the program.

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A COMPARISON OF SENTENCE COMPLETION PROCEDURES FOR THE ELICITATION OF COPULA AND AUXILIARY VERB FORMS FROM THREE-YEAR-OLD CHILDREN

BY

TERESA ANN MUCHMORE

THESIS
SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF SCIENCE
IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

1984
YEAR

I HEREBY RECOMMEND THIS THESIS BE ACCEPTED AS FULFILLING THIS PART OF THE GRADUATE DEGREE CITED ABOVE
A COMPARISON OF SENTENCE COMPLETION PROCEDURES FOR THE ELICITATION OF COPULA AND AUXILIARY VERB FORMS FROM THREE-YEAR-OLD CHILDREN

BY

TERESA ANN MUCHMORE

ABSTRACT OF A THESIS

Submitted in partial fulfillment of the requirements for the degree of Master of Science in the Graduate School of Eastern Illinois University

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ABSTRACT

Speech pathologists have several formal diagnostic methods available for the analysis of language. A diagnostician may elect to use a non-standardized procedure to supplement formal methods. A clinician-designed procedure can facilitate the transition from test result to treatment plan. Such a procedure may be constructed to account for an individual child's age, strengths, and weaknesses.

Previous research has indicated that two types of sentence completion tasks, syntactic elicitation and emphatic elicitation, are effective in the elicitation of copula and auxiliary forms of TO BE from kindergarten children. The purpose of this study was to compare the use of these two elicitation procedures with three-year-old children.

This study employed a repeated measures design to evaluate the effectiveness of the syntactic elicitation procedure as compared to the emphatic elicitation procedure for the elicitation of copula and auxiliary forms of TO BE from three-year-old children. During an initial session subject eligibility was determined. Each child demonstrated evidence of hearing and receptive and expressive language within normal limits. Comprehension of experimental vocabulary items and correct usage of copula
and auxiliary forms were also evidenced during the pre-experimental session. Subjects included ten three-year-old children who were seen for an experimental session at their respective day care centers or preschools within one week of the pre-experimental session. These children were presented with twelve syntactic elicitation items and twelve emphatic elicitation items. Responses were audio tape recorded and written on response forms for analysis.

Responses to the sentence completion items were considered correct if they duplicated the targeted verb form, person, and number. Analysis of variance yielded a significant F ratio for the difference in the number of correct copula forms elicited by the syntactic elicitation items as compared to the emphatic elicitation items. A significant F ratio was also obtained for the difference in the number of correct auxiliary forms elicited by the syntactic elicitation procedure as compared to the emphatic elicitation procedure. An analysis of error types revealed that a high percentage of the errors on emphatic elicitation items indicated confusion regarding how to respond to this procedure.

The results indicated that the syntactic elicitation procedure can be a useful diagnostic method with three-year-old children. The emphatic elicitation procedure was not appropriate for use with this age group. Further research regarding modifications in the use of these procedures is
warranted to determine if either procedure can be designed more effectively.
ACKNOWLEDGEMENTS

I would like to take this opportunity to thank those people who made the completion of this project possible. Special thanks must go to Mrs. Claire Thorsen, thesis advisor; Dr. Jill Nilsen and Dr. Scott Lowery, committee members; and Glenna Greever, research assistant. The time, energy, and support given by these people were invaluable contributions to this study. Thanks also goes to the faculties and children of the Little Red Schoolhouse, E.I.U. Child Development Lab, and Charleston Community Day Care Center, whose cooperation was deeply appreciated. Finally, I owe a debt of gratitude to my family, friends, teachers, and two very patient roommates. The constant support and encouragement of these people gave me the confidence to believe that I could complete this project.
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I. INTRODUCTION

When examining literature in the area of child development, it can be seen that the learning of language has always attracted a great deal of attention. This reflects the need for educators, parents and other professionals (including speech-language pathologists) to have adequate information to determine if a child's language development is progressing normally (Carroll, 1961). This need is of primary importance for speech-language pathologists. They must have appropriate information to identify language development that is not progressing normally and to establish a remedial program for the language disordered child.

Language samples have been used in obtaining data for studies of language development for many years. The use of a language sample in collecting diagnostic data for analysis and interpretation has been suggested by several authors (Bloom and Lahey, 1978; Brown, 1975; Lee, 1966; Lund and Duchan, 1983). The utterances obtained can be analyzed in several different ways yielding information about semantic, pragmatic and syntactic/morphologic skills.

Relying solely on a language sample as a measure of a child's acquired language skills may restrict the information
obtained by the diagnostician. Although a language sample provides a wide base of data from which to analyze a child's language, a specific structure in which the diagnostician is interested may not be displayed by the child. This could be a result of limited opportunities to use the structures or an actual language deficiency. If the diagnostician places restrictions on the child's utterances (i.e., controlling the topic of conversation) to elicit the structures of interest, the spontaneous nature of the language sample is violated (Leonard, Perozzi, Prutting and Berkley, 1978).

In order to examine specific grammatical areas outside the context of a language sample, a non-standardized elicitation procedure may be used. Several tasks have been identified and employed in formal tests as well as in clinician constructed elicitation procedures. These include imitation, response to wh-questions and sentence completion or cloze tasks (Hughes and Till, 1982; Leonard et al., 1978).

The selection of the specific structure for elicitation with clinician constructed procedures can be based on several rationales. These rationales include the structure's expected developmental age and its frequency of occurrence in conversation. Two commonly occurring structures that have been identified as difficult for language disordered children are the auxiliary and copula forms of the verb TO BE (Ingram, 1974; Lee, 1966). Hughes and Till (1982) hypothesized that a need existed for the identification of deficits in the use of these structures.
In their study of auxiliary and copula elicitation procedures, Hughes and Till (1982) employed two techniques: syntactic elicitation and emphatic elicitation. These procedures involve cloze/sentence completion tasks. Syntactic elicitation places a syntactic constraint on the selection of auxiliary or copula form (I'm not under the box, but I am/I'm under the box). Emphatic elicitation introduces the need for contrastive stress which emphasizes new or significant information in a sentence (Lund and Duchan, 1983). An example of an emphatic elicitation stimulus used by Hughes and Till (1982) follows.

"It's raining outside and your mom wants you in the house. You've come in, but she thinks you're still outside. She says: 'I want you in the house right now!' and you say: 'But Mom, I am in the house/I'm already in the house.'" (p. 318)

Hughes and Till used each of the above procedures with a group of 14 kindergarten children and concluded that both procedures were effective with this population. These two procedures have not been used with children younger than five years of age. Based on the Hughes and Till study and a need for specific evaluation techniques for younger children, the following questions have been posed:

1. Is there a difference between the number of present tense copula BE verbs elicited from three-year-old children using the syntactic elicitation procedure as compared to the emphatic elicitation procedure?

2. Is there a difference between the number of present tense auxiliary BE verbs elicited from three-year-old children using the syntactic elicitation procedure as compared to the emphatic elicitation procedure?
II. REVIEW OF LITERATURE

Introduction

The assessment of speech and language in individuals with communication problems is a difficult but challenging task for the speech pathologist. . . . assessment must be made in order that assistance may be given people with communication difficulties. (Carrow, 1972, p. 52)

Of all phases of child development, language and its development have traditionally received a great deal of attention. In order to determine if a child's language development is progressing normally, parents, educators, and other professionals (including speech-language pathologists) need information regarding the normal patterns of language development (Carroll, 1961). This need is of primary importance in the case of speech-language pathologists who have traditionally been concerned with language development and language disorders in children (McReynolds, 1974). Speech-language pathologists are the professionals responsible for determining if a child is language disordered or language delayed and for establishing an appropriate remedial program. To do so, they must be able to state with some degree of certainty that the child does or does not have a specific language problem that requires treatment (McReynolds, 1974).

Speech-language pathologists have been concerned with
the assessment of language disorders since the 1950s (Lund and Duchan, 1983). During that time, the dimension of language on which assessment concentrated has changed several times. Different areas of interest have included syntax, semantics, and pragmatics. These reflect the three dimensions of language: form, content, and use (Bloom and Lahey, 1978).

During the 1960s, syntactic analysis was the focus of language assessment (Morehead, 1975). The term syntax refers to the relationship of words in a sentence and the rules that specify a well-formed sentence (Siegel and Broen, 1976; Peterson and Marquardt, 1981). These rules are reflected by what is considered the appropriate use of word order, free morphemes, and bound morphemes. Evaluations concentrated on determining which language rules the child was using to understand and produce language (Lund and Duchan, 1983).

The next area of language to receive emphasis in assessment was the area of semantics, which emerged as the area of concentration in the mid-1970s (Lund and Duchan, 1983). Semantics refers to the content or meaning of a message (Bloom and Lahey, 1978). In a semantic analysis, the concentration is on the concepts and ideas the child is trying to convey, rather than solely the words he/she uses to convey them (Bloom and Lahey, 1978). Therefore, the utterance "baby basket" would be considered a correct expression of an object-place locative relationship and an
omission of a preposition.

Currently, the pragmatic approach to language assessment and intervention is the area in which research is concentrated (Craig, 1983; Lund and Duchan, 1983). Pragmatics, or use of language, deals with the rules for using language in context (Bates, 1976). The pragmatic aspect of language encompasses a wide variety of behaviors, with an emphasis on how context influences meaning and how individuals use language differently in various situations (Lund and Duchan, 1983).

In some instances, a reliance on the pragmatic approach to assessment and intervention has been taken to indicate that syntax and morphology are less important considerations. However, aspects of syntax and morphology are also important in assessment. For example, Trantham and Pederson (1976) indicated that a syntactically correct verb choice gives meaning to a sentence and enables a child to control and influence his environment. Therefore, methods for analyzing syntax and morphology should not be abandoned. Instead, they should continue to be refined and used in conjunction with pragmatic assessments.

**Formal syntactic/morphologic analysis**

One procedure commonly followed in a syntactic/morphologic analysis is the administration of a formal test. Following is a sample of available standardized tests and a description of the procedures they employ.
Illinois Test of Psycholinguistic Abilities (ITPA). The revised ITPA was published by Kirk, McCarthy, and Kirk in 1968. The revised ITPA contains a grammatic closure subtest that is designed to measure a child's use of grammatic forms (Paraskevopoulos and Kirk, 1969). Examples of grammatic forms tested include plurals, present progressive verbs, possessive forms, etc. (Kirk, McCarthy, and Kirk, 1968).

Carrow Elicited Language Inventory (CELI). The CELI (1974) was developed by Elizabeth Carrow to evaluate a child's expressive control of grammar through a sentence/phrase imitation task. The 51 sentences and one phrase, which the child must repeat immediately after the model is presented, test several grammatical forms including verbs, negatives, articles, etc. The test yields numerical error scores, which can be converted to percentile ranks for comparison with the standardization sample (Carrow, 1974).

Northwestern Syntax Screening Test (NSST). The NSST was designed by Laura Lee for use as a quick screening device to estimate a child's syntactic development. Receptive and expressive syntax are evaluated with 20 sentence pairs. The expressive task employs delayed imitation, in which there is some interruption between the presentation of the model and the response. The clinician presents two choices and asks the child a question. A sample test item is:
"The baby is sleeping. The baby is not sleeping. What is this picture? Now, what is this picture?"

The expressive portion of this test screens the child's use of such grammatical forms as future tense, passive constructions, etc. (Lee, 1969).

**Test of Language Development (TOLD).** The TOLD was developed by Newcomer and Hammill to measure a child's receptive and expressive language in the areas of phonology, semantics and syntax. Expressive syntactic abilities are examined in two subtests: sentence imitation and grammatic completion. The sentence imitation subtest emphasizes the child's familiarity with word order and grammatic markers. In the grammatic completion subtest, the child is required to provide the missing morphological form when an incomplete sentence is presented. Items are included to evaluate knowledge of plurals, possessives, verb forms, etc. These subtests are not designed to provide remedial direction. They indicate areas in which the child may have deficits (Newcomer and Hammill, 1977).

**Limitations of formal syntactic/morphologic analysis**

Administration and scoring or formal tests, such as those described above, generally yield quantitative results. These results may be in the form of a raw score, percentile rank, or language quotient that is designed to separate the disordered language user from the normal language user. This simple statement of "normal" or "abnormal" language
development makes the transition from test results to treatment plan difficult (Leonard et al., 1978). A test score alone does not give as reliable (or useful) information as a description of the child's pattern of responses (Peterson and Marquardt, 1981). Siegel and Broen (1976) stated that there is no prepackaged method that adequately describes the syntactic skills and weaknesses of an individual in terms of a score. For this reason, some analysis or evaluation techniques beyond a formal test may need to be employed.

It might appear profitable to perform an item analysis of a standardized test to assess a child's syntactic patterns (Leonard et al., 1978). However, this still may provide a limited language picture. The number of examples of specific grammatic and morphologic structures on a single test is often small. For example, the Test of Language Development contains only four grammatic completion items that require a present progressive (BE + Verb + ing) form (Newcomer and Hammill, 1977). Selection of a remediation target based on such a limited demonstration of knowledge would be questionable, at best (Leonard et al., 1978).

**Language sample collection**

A second method of language analysis involves the collection of a language sample from the child. This method has been described by several authors (Brown, 1973; Lee, 1974; Bloom and Lahey, 1978; Lund and Duchan, 1983) as
the preferred means of determining if a child's language is developing normally. This informal means of collecting a sample of language for analysis is considered more representative than formal tests because the assessment is made in a more natural context (Muma, 1978). However, authors vary in their descriptions of procedures and guidelines for the collection of a representative language sample.

Bloom and Lahey (1978). Bloom and Lahey suggest the ideal language sampling situation is relaxed and natural. Adult interactions should pertain to the activity in which the child is involved and should not be designed to elicit specific behaviors. They indicate that children respond naturally and spontaneously when a few objects and activities are presented. If the child is allowed to spontaneously verbalize about an activity, Bloom and Lahey reported, he/she is more likely to use many and various language behaviors (Bloom and Lahey, 1978).

Lee (1974). Lee provided several suggestions for the elicitation of a language sample representative of a child's conversation with an "interested, responsive, minimally directive adult" (1974, p. 58). Materials used should be appropriate to the child's interests and intellectual level. The clinician should present materials one at a time and vary them as needed to maintain the child's interest. Lee advocates participation by the clinician in the form of
comments on the activities in which the child and clinician are engaged and appropriate questions to encourage the child to expand his conversation (e.g., What else? and What's next?). According to Lee, the clinician's goal in collecting a language sample is to keep the child interested, talking, and thinking creatively (Lee, 1974).

Lund and Duchan (1983) indicate that the most representative sample of a child's language occurs in a natural conversational setting. They suggest collecting the sample while the child is engaged in some activity of "his own choosing which provides a natural topic of conversation" (1983, p. 19). This involves creating a situation where some activity which requires conversation is occurring or may occur. Their suggestions for language sample collection include (1) keeping the focus off the fact you want the child to talk (2) allowing silent pauses during the conversation (3) selecting materials appropriate to the child's functioning and (4) inserting your own comments and opinions to maintain a natural, rather than testing, atmosphere (Lund and Duchan, 1983).

Language Sample Analysis

The body of utterances elicited in a language sample can be analyzed in several different ways yielding information regarding pragmatic (Lund and Duchan, 1983), semantic (Bloom and Lahey, 1978), and syntactic/morphologic
skills (Templin, 1957; Brown, 1973; Lee, 1974). The following discussion will focus on two methods of measuring syntactic/morphologic skills displayed in a language sample.

**Mean Length of Utterance (MLU).** According to Brown, (1973) the MLU exhibited by children provided an excellent measure of grammatical development. Almost every increase in syntactic/morphologic knowledge and use results in an increase in utterance length. For this reason, Brown developed a scoring system that counts free and bound morphemes individually. Increases in morphologic knowledge and vocabulary use are reflected in utterance length increases. According to Brown, following his guidelines for calculating MLU and comparing MLU to expectations at the child's chronological age yields an accurate picture of the development of a child's language complexity (Brown, 1973). MLU is reported in terms of mean number of morphemes per utterance (i.e., MLU = 3.75 morphemes/utterance).

**Developmental Sentence Analysis.** Developmental Sentence Analysis is a method of evaluating a child's use of English grammatical rules through the analysis of a language sample. The language sample can be analyzed by Developmental Sentence Types (DST) or Developmental Sentence Scoring (DSS). DST is calculated by analyzing 100 utterances and determining whether a child's early utterances show progress toward appropriate grammatical
constructions. DSS yields a quantitative score based on the analysis of 50 subject + verb utterances. Grammatical forms in eight categories receive a specific point value, based on developmental order. Early developing structures are assigned low point values. Point values increase progressively for later developing structures. The total point value for each sentence is calculated, and the average score for the entire body of 50 utterances is obtained. This score can be compared to norms for the child's age, and the percentile at which the child is performing can be determined (Lee, 1974).

Limitations of language sample analysis

Although a language sample may give a larger base from which to analyze a child's language than a formal test, it still may be a limited indicator of a child's ability to use language. In a naturally spontaneous language sample, the examiner does not use any procedures which would dictate the content or specific linguistic features to be used by the child. If the sample is brief or covers only a narrow range of topics, some structures a child is capable of using may not be elicited by the linguistic and nonlinguistic contexts of the language sample. The results of such an analysis would yield an incomplete description of the child's natural language pattern, particularly if the diagnostician is interested in the child's use of a specific grammatical structure (e.g., copula or past tense
verbs). In such a case, the speech-language pathologist may attempt to elicit the structure of interest by placing a restriction on the child's utterances (Leonard et al., 1978; Rice, 1978; Lund and Duchan, 1983). An example of such a restriction would be controlling the topic of conversation. When the examiner manipulates the linguistic or nonlinguistic environment of the language sample, the sample is labeled evoked rather than spontaneous. This indicates some control was exerted over the child's utterances (Leonard et al., 1978).

Non-standardized elicitation procedures

In order to obtain a complete picture of a child's language, the speech-language pathologist may design a non-standardized elicitation procedure. An informal method can be used to obtain information in addition to a formal test or language sample, even when it has not been normed (Carrow, 1972). Several authors have advocated the use of clinician designed elicitation procedures that are constructed to evoke specific structures (Carrow, 1972; Leonard et al., 1978; Miller, 1981; Peterson and Marquardt, 1981; Lund and Duchan, 1983). As Siegel and Brown (1976) stated,

... the most reliable and useful assessment device is a clinician who has a good grasp of language in its various aspects and a willingness to probe and be inventive in creating new approaches to language assessment. (p. 118)

There are two major considerations involved in the
construction of a non-standardized language measure: selection of elicitation procedure and selection of structure for elicitation.

A clinician has several options of elicitation procedures that can be used to evoke certain structures. The specific task must be chosen with care, as a child's performance on a non-standardized measure may be influenced by the nature of the task (Leonard et al., 1978). Three procedures that have been used in both formal and informal assessment have been summarized by Hughes and Till (1982).

**Imitation.** Hughes and Till (1982) summarized three types of imitation strategies that have been employed in the elicitation of specific structures. The first of these is immediate imitation. This procedure involves presentation of a verbal stimulus by the speech-language pathologist, followed by the child's repetition of the stimulus. Immediate imitation is the type of imitation employed by the **CELI** (Carrow, 1974). A second type of imitation task is delayed imitation, which requires a separation between stimulus presentation and response. An example of delayed imitation is the task employed on the **NSST** (Lee, 1969). A third form of imitation, described by Leonard et al. (1978) uses a paraphrase task. The clinician presents a story that is three or four sentences in length and heavily loaded with the target structure (i.e., seven targets in three sentences). The child is instructed to
tell the same story to the clinician. Leonard et al. (1978) provided the following example of a paraphrase task for the elicitation of past tense verbs:

Once there was a little boy who walked home from school every day. When he walked home, he jumped in puddles, kicked dirt on other children, and laughed at them, too. One day, though, a bigger boy saw what was going on and pushed the little boy in a puddle and all the other children laughed. (p. 372)

The assumption behind imitation tasks is that, for short stimuli, rote memory may be involved (Siegel and Broen, 1976), but that longer sentences will be processed for meaning. The imitation, although shorter and inexact, will contain structures that are a part of the child's productive language system (Bloom, 1974). If the sentence is short enough to be retained in the child's short term memory system, it may be repeated without being processed and the purpose of the task nullified (Dale, 1976). In any type of imitation task, if the child is able to hold and retrieve the stimulus from short term memory, the information gained is only indicative of the child's short term memory retrieval skills. This is not a measure of productive language, as it may overestimate the child's ability. Therefore, although imitation tasks may provide a rapid means of assessing language, they should not be used exclusively (Siegel and Broen, 1976).

**Wh-questions.** Wh-questions have also been used in the elicitation of specific grammatic structures. Questions
such as "What is he doing?" and "Where is that boy?" can be incorporated into picture description tasks and play situations. The advantage of using questions to elicit structures is that they approximate conversation patterns more closely than other elicitation techniques. A potential difficulty is that a wh-question does not always require a complete sentence response (Lee, 1974) and may not elicit the complete form of a target structure (i.e., "What is he doing?" "Jumping/He is jumping").

**Cloze procedures.** The third type of elicitation technique summarized by Hughes and Till (1982) involves the completion of an open-ended stimulus sentence. In this type of cloze procedure, the speech-language pathologist presents a carrier phrase or incomplete sentence that requires a target structure. The *Test of Language Development* (Newcomer and Hammill, 1977) and *Illinois Test of Psycholinguistic Abilities* (Kirk, McCarthy, and Kirk, 1968) contain grammatic completion subtests which utilize cloze tasks. The following is a stimulus item from the *Test of Language Development* test form:

"Joey likes to play. Right now he is playing_____."

The cloze procedure has also been used in the *Modelling Procedure for Elicitation of Wh-Questions* (Marks, Frye-Osier, Riechle, and Schwimmer-Gluck, 1981). An example of the first step of their procedure follows:

Research with children who are developing language normally has been conducted successfully using cloze procedure tasks. DeVilliers and Tager Flusberg (1973) used the procedure with children as young as two years, two months in the elicitation of negative forms. Hughes and Till (1982) employed cloze tasks with kindergarten children to elicit auxiliary and copula BE verbs. They showed an appropriately designed cloze procedure task to have the following advantages:

1. Elimination of the interference of short term memory effects on productive language testing
2. Requirement of a complete target response that may not be elicited by questions
3. Elicitation of several target responses in a brief time span rather than over the span of an entire language sample.

Selection of structure for elicitation

The second consideration in the design of a non-standardized elicitation procedure is the selection of the target structure. A structure may be targeted for elicitation if (1) it is developmentally appropriate but not observed in the child's conversational utterances and/or (2) it is a commonly occurring structure which calls attention to deviant speech or interferes with communication when it is omitted or misused (Hughes and Till, 1982).

As previously discussed, a child's ability to use verb forms correctly is an important part of his/her language development and should be considered in assessment
and remediation. Ingram (1974) indicated that auxiliary and copula forms of the verb TO BE have been important in both theoretical and applied discussions of children with language disorders.

Verbal auxiliary and copula forms can be defined in terms of different verb functions and different allomorphs. A form of TO BE is considered an auxiliary verb when it is used in conjunction with another verb to express tense or mood (i.e., is running vs. was running). A verb functions as a copula when it serves as the primary verb in a sentence without adding any content information (i.e., He is big). The only verbs that function as copulas are forms of TO BE (Lund and Duchan, 1983).

There are six present tense allomorphs of TO BE. Table 1 summarizes these six allomorphs with regard to person and contracted/uncontracted form.

<table>
<thead>
<tr>
<th>Person/Verb Form</th>
<th>Uncontracted</th>
<th>Contracted</th>
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<tr>
<td>1st Person</td>
<td>I am, we are</td>
<td>I'm, we're</td>
</tr>
<tr>
<td>2nd Person</td>
<td>you are</td>
<td>you're</td>
</tr>
<tr>
<td>3rd Person</td>
<td>he/she/it is, they are</td>
<td>he/she/it's, they're</td>
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</table>

As shown in Table 1, the allomorphs of TO BE can occur in full form or contracted form. The contracted form may be used only when the verb occurs in a contractible
sentence position. The uncontracted form may be used in both contractible and uncontractible sentence positions (Ingram, 1974). Contractible and uncontractible sentence positions are defined in terms of what forms would be allowed in correct adult language. Table 2 provides examples of sentences in which contracted forms would or would not be allowed.

Table 2

<table>
<thead>
<tr>
<th></th>
<th>Contractible</th>
<th>Uncontractible</th>
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<tbody>
<tr>
<td>Copula</td>
<td>I'm hungry/I am hungry</td>
<td>Here I am.</td>
</tr>
<tr>
<td>Auxiliary</td>
<td>I'm coming/I am coming</td>
<td>I am coming.</td>
</tr>
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In normal language development, forms of the verb TO BE can be seen developing as early as 18 months (Trantham and Pederson, 1976). According to Trantham and Pederson, some present tense auxiliary and copula forms are established as early as 24 months (i.e., copula "are"). In children who exhibit deviant language development, auxiliary and copula forms of TO BE have been found to cause difficulty. Lee (1966) indicated that children with language disorders had difficulty with the allomorph "is". Ingram (1974) found that language disordered children used utterances requiring auxiliary and copula forms of TO BE as often as children with normally developing language, but
used the verb forms less often. Twenty-seven percent of normal children's utterances and 25% of the disordered children's utterances required one of these forms. Hughes and Till (1982) cited four language intervention programs that include verbal auxiliary and copula forms as goals. They hypothesized that the existence of these programs, in addition to information regarding children's difficulty with auxiliary and copula forms, indicated a need existed for the identification of deficits in the use of these structures. The early age of acquisition of auxiliary and copula forms would suggest that methods of identification should be designed for young children.

Research regarding the developmental order of auxiliary and copula forms in terms of contractible and uncontractible sentence positions has yielded contradictory results with regard to which normally is acquired first. In his longitudinal study of three children, Brown (1973) found that uncontractible copula and auxiliary forms of TO BE reached his criteria for acquisition (90% over three consecutive language samples) before contractible copula and auxiliary forms. A cross-sectional study of 21 children's use of Brown's fourteen grammatical morphemes found that the contractible copula was established first (DeVilliers and Devilliers, 1973). This was followed by the uncontractible copula and contractible auxiliary, with the uncontractible auxiliary forms of TO BE being established last. Obviously, this pattern of acquisition does not
support Brown's findings. Kuczaj (1979) has hypothesized that neither pattern of acquisition may be "typical". He suggested that Brown's conclusions may have been intended to describe tendencies rather than norms (Kuczaj, 1979). Whether there is or is not a typical pattern of development, data does indicate individual differences exist. For this reason, in the evaluation of young children's use of auxiliary and copula forms of TO BE, opportunities to use these verbs in contractible and uncontractible positions should be provided.

Summary

In Hughes and Till's study of auxiliary and copula elicitation procedures, correct responses in contractible and uncontractible positions were allowed in two types of elicitation tasks: syntactic elicitation and emphatic elicitation (Hughes and Till, 1982). Both of these procedures involve cloze/sentence completion tasks. In the procedure labeled syntactic elicitation, a syntactic constraint determines if the auxiliary or copula form is in a contractible position. When grammatical ellipsis is used in response to a syntactic elicitation item, the auxiliary or copula falls in an uncontractible position. Grammatical ellipsis involves the deletion of a portion of a sentence that is redundant with previously expressed information (Bloom and Lahey, 1978). The following is an example of a syntactic elicitation item use by Hughes and Till:
"I'm not under the box, but I'm under it/I AM!"

Emphatic elicitation items are designed to evoke responses which require contrastive stress, or emphasis on new or significant information in the sentence (Lund and Duchan, 1983). When the auxiliary or copula form falls in the position of stress, it is in an uncontractible position. An example of an emphatic elicitation stimulus used by Hughes and Till is:

"It's raining outside and your mom wants you in the house. You've come in, but she thinks you're still outside. She says: 'I want you in the house right now!' and you say: 'But Mom, I AM in the house/I'm ALREADY in the house.'"

Hughes and Till used each of these procedures with a group of fourteen kindergarten children. A $2 \times 2 \times 2$ Analysis of Variance revealed a significant main effect for the two procedures, for this population. Hughes and Till concluded that these results indicated both syntactic and emphatic elicitation were effective procedures for eliciting auxiliary and copula forms of TO BE from kindergarten children (Hughes and Till, 1982).

Because research regarding normal language development has shown auxiliary and copula forms of TO BE may be established in children three years of age and younger, (Trantham and Pederson, 1976) diagnostic procedures should be developed that are appropriate for these young children. The syntactic and emphatic elicitation procedures employed by Hughes and Till (1982) have been effective with children between the ages of 5-6 and 6-1. It cannot be
assumed that these procedures will be equally effective with children of different ages. As Carrow indicated, it is advantageous to know which specific assessment procedures can be considered effective for different age groups (Carrow, 1972). Therefore, a need exists for research regarding the effectiveness of specific assessment procedures with various age groups for whom they may be appropriate.
III. METHODS

Subjects

Ten three-year-old children from Charleston-Mattoon area day care centers and preschools served as subjects for this study. The subjects, six girls and four boys ranged in age from 3-1 to 3-11, with a mean age of 3-6. Specific information for each subject is included in Appendix A.

In order to participate in this study, each subject met certain speech, language, and hearing requirements. These requirements were as follows:

1. Hearing within normal limits: Each subject passed a bilateral audiometric screening for 500, 1000 and 2000 Hz at 25 dB. These frequencies were selected as representative of speech frequencies (Katz, 1978).

2. Normal receptive language: Each subject scored within one standard deviation below and two standard deviations above the mean for his/her age on the Test for Auditory Comprehension of Language (TACL). The TACL was chosen to evaluate both concept and vocabulary knowledge (Carrow, 1973).

3. Adequate vocabulary/concept knowledge: A picture identification test of verbs and concepts included in the experimental procedures was developed. Each subject passed 8/9 items. The pre-test was included to control the possible effect of vocabulary knowledge on experimental task performance (Aram and Nation, 1978).

4. Normal expressive language: Each subject achieved a Developmental Sentence Score at or above the 50th percentile for his/her age. Developmental sentence scoring was completed using a language
sample gathered following procedures described later in this chapter.

5. Production of auxiliary and copula forms: Each subject provided the correct auxiliary or copula BE form in 90% of the available contexts used in one language sample. This criterion is a modification of Brown's standard of 90% correct usage in three consecutive language samples (Brown, 1973). This modification was made due to time constraints.

Examiners

Each subject was seen twice by one of two examiners. Two graduate students in speech-language pathology at Eastern Illinois University conducted the pre-experimental and experimental testing. Both examiners had been trained in the administration of hearing and language tests during the course of their professional training programs. This investigator served as one of the examiners. The second examiner was trained in the administration and scoring of the experimental procedures by the investigator, using an audio-tape of the administration of both experimental procedures and simultaneous demonstration of the procedures.

Pre-experimental procedures

Descriptions of this study and notes of parental consent were distributed to three day care centers/preschools in the Charleston-Mattoon, Illinois area (Appendices B and C). A positive note of consent was necessary for a child to be considered as a subject.

Pre-experimental testing was conducted in a room at the child's day care center or preschool. The examiner and
child were seated side by side at a table. A General Electric 3-5091 cassette tape recorder was present on the table to audiotape the language sample for later scoring and inter and intra-examiner reliability determination. The pre-experimental procedures were administered to each subject in the following order.

1. Hearing screening: Each child passed a bilateral audiometric screening at 25 dB for 500, 1000 and 2000 Hz. All subjects were screened using a MAICO 1900 portable audiometer or had passed a hearing screening within one week prior to testing, according to teachers' reports.

2. Test for Auditory Comprehension of Language: The TACL was administered following directions provided in the examiner's manual. Responses were recorded in the response section of test forms for later scoring and analysis.

3. Comprehension Screening: Nine 14cm x 21.5cm test plates were designed and included as a part of the administration of the TACL. Each test plate contained three different black and white line drawings. The drawings corresponded to vocabulary included in the experimental procedures. The positions of items on the plates and order of presentation of plates were assigned randomly using a table of random numbers (Kerlinger, 1973). The plates were inserted at the end of the TACL test plates. The new items were designed to follow the administration procedures of the TACL. A sample test plate can be found in Appendix D. Responses were recorded for later scoring and analysis (Appendix E).

4. Language Sample Collection: A sample of each subjects conversational speech was obtained following guidelines described by Lee (1974). A standard set of toys and pictures was used for this study. Toys and pictures were presented one at a time; materials were changed at the discretion of the examiner, as the child's interest seemed to decrease. The examiner began by playing with the toys and encouraging the child to do the same. Open-ended questions such as "What happened?" and "What else?" were used to
encourage verbalizations. Language sample materials and order of presentation are listed in Appendix F. The examiner continued the language sample collection until approximately 70 scorable utterances had been collected. The entire language sample was audio recorded for later scoring and intra and inter-rater reliability determination. The final 50 scorable utterances collected from each child were transcribed and scored following Lee's Developmental Sentence Analysis procedures (Lee, 1974).

Design of experimental procedures

Twenty-four stimulus items were used with each subject; twelve syntactic elicitation items (SE) and twelve emphatic elicitation items (EE). These items were based on the twenty-four items designed by Hughes and Till (1982). Nine items (SE 1, 2, 3, 4, 6, 7, 8, 10, 12) were used in their original forms. The remaining items were altered to allow for linguistic differences between three and five-year-old children and to make changes suggested by Hughes and Till. The procedures were modified for one or more of the following reasons:

1. To reflect the shorter Mean Length of Utterance typically found in younger children (Brown, 1973),

2. To employ concepts that were identified by Carrow as comprehended by 90% of three-year-old children used in the norming of the TACL (Carrow, 1973),

3. To avoid role-shifting confusions that lead to errors encountered by Hughes and Till (1982) by eliminating second person plural responses.

Four training items (two SE and two EE) were designed to familiarize the subjects with the task requirements. The training items were not included in the final analysis
of data. A list of stimulus and training items is included in Appendix G.

Administration of experimental items

Following completion of the pre-experimental procedures, a period of not more than one week elapsed before administration of experimental procedures. This time was necessary for scoring pre-experimental measures. All subjects were seen between March 22 and April 13, 1984 for administration of all procedures. Each subject was seen by the same examiner at his/her day care center or preschool.

The subject and examiner were seated side by side at a table in a room separated from the other children in his/her day care center or preschool. These directions were presented to the subject before any materials were presented:

"We're going to play a game. I'm going to (tell you a story and then) start to say something, but I won't finish it. I want you to finish it for me. Let's try one."

The examiner then presented the materials and stimulus item for the first training item for the appropriate experimental procedure. If the subject responded incorrectly or did not respond, the examiner repeated the training item and provided the desired response. The second trial item was then presented and the same procedure followed in the event of an incorrect response. Because the purpose of this study was to determine the effectiveness
of the experimental procedures, not the child's knowledge of verbs, testing continued if the child did not respond correctly to the training items.

Presentation of either the SE or EE items followed the corresponding training items immediately. All materials were kept from the child's sight until the appropriate stimulus item was to be presented. The materials then were placed on the table to depict the stimulus item being presented. If the child did not respond within five seconds of the completion of the stimulus item, No Response was recorded and the next item was presented. The same procedure was followed until all stimulus items for the first experimental procedure were presented. The directions for the second procedure and corresponding training items were administered following the same guidelines.

The order of presentation of syntactic and emphatic elicitation procedures was randomized and counterbalanced. The entire experimental session was recorded using a General Electric 3-5091 cassette tape recorder for later analysis and inter and intra-rater reliability measurement. All responses were hand recorded on the response form (Appendix H).

Data Analysis

Data will be analyzed using a Treatments-by-Subjects design (Bruning and Kintz, 1977). Intra and Inter-rater
reliability were calculated for pre-experimental and experimental measures using a Pearson product moment correlation coefficient for stability of measurement.
IV. RESULTS AND DISCUSSION

Introduction

The purpose of this investigation was to compare the effectiveness of two sentence completion procedures used with three-year-old children. Present tense copula and auxiliary BE verbs were elicited using syntactic elicitation (SE) and emphatic elicitation (EE) procedures. Two questions were posed at the onset of this study:

1. Is there a difference between the number of present tense copula BE verbs elicited from three-year-old children using the syntactic elicitation procedure as compared to the emphatic elicitation procedure?

2. Is there a difference between the number of present tense auxiliary BE verbs elicited from three-year-old children using the syntactic elicitation procedure as compared to the emphatic elicitation procedure?

Twenty-four sentence completion items, twelve SE and twelve EE, were presented to ten three-year-old children. The responses were tape recorded and written on answer sheets for analysis. A repeated measures design was used to compare the number of auxiliary or copula verb forms elicited from each subject using the SE or EE procedure. This statistical design permits an analysis of multiple measures administered to the same subjects and is appropriate for a sample size of ten. An ANOVA was
performed and a .05 level of confidence set for each comparison.

Statistical Analysis

Intra-rater Reliability

Experimental procedures. Intra-rater reliability was measured using a point-to-point reliability procedure (McReynolds and Kearns, 1983). Reliability was calculated for each examiner through the random selection and rescoring of 20 syntactic and emphatic elicitation items. The following equation was applied to compare the original scoring to the second scoring:

\[
\frac{\text{Total number of agreements}}{\text{Total agreements and disagreements}} \times 100
\]

Use of this equation yields percentage of agreement. Point-to-point intra-rater reliability of 100% was obtained for each examiner, for both the SE and EE procedures.

Inter-rater reliability

Pre-experimental DSS. Inter-rater reliability for the pre-experimental Developmental Sentence Score was determined using a Pearson-product-moment correlation (Bruning and Kintz, 1977). The calculation of \( r \) is the statistical procedure most frequently used to assess inter-rater reliability (McReynolds and Kearns, 1983). Four, two-minute language sample segments, two collected by each examiner, were selected randomly, transcribed and scored by the examiner not responsible for the language
sample collection. The original sentence scores for each segment were extracted from the total language samples, and the four sets of scores were compared. An $r$ of +.987 was observed to describe the relationship between the DSS scores obtained by each examiner.

**Experimental Procedures.** Inter-rater reliability for the scoring of syntactic and emphatic elicitation items was calculated using the point-to-point reliability procedure described for intra-rater reliability calculation. Twenty syntactic and emphatic elicitation items from the experimental sessions conducted by each examiner were selected randomly. These items were then scored by the examiner not responsible for the initial scoring. Point-to-point inter-rater reliability of 100% was obtained for syntactic elicitation items and 95% was obtained for emphatic elicitation items.

**Data Analysis**

Responses were considered correct when they duplicated the targeted pronoun person and the contracted or uncontracted verb form. If a child made a pronoun person substitution, the response was considered incorrect. An example of a stimulus item and possible answers follows.

Stimulus: They're not in the circle, but ________.
Correct Responses: We are in the circle/
We're in the circle.
Incorrect Responses: ' I am in the circle.
He is in the circle.
I is in the circle.
Table 3
Correct Verb Responses By Each Subject

| Subject | Copula Forms | | Auxiliary Forms |
|---------|--------------| |-----------------|
|         | Syntactic Elicitation | | Syntactic Elicitation |
|         | Emphatic Elicitation | | Emphatic Elicitation |
| 1       | 5              | | 5               |
|         | 0              | | 0               |
| 2       | 5              | | 6               |
|         | 2              | | 2               |
| 3       | 4              | | 3               |
|         | 0              | | 0               |
| 4       | 6              | | 6               |
|         | 6              | | 5               |
| 5       | 6              | | 5               |
|         | 2              | | 5               |
| 6       | 1              | | 4               |
|         | 0              | | 0               |
| 7       | 3              | | 5               |
|         | 0              | | 0               |
| 8       | 0              | | 1               |
|         | 0              | | 0               |
| 9       | 6              | | 6               |
|         | 6              | | 6               |
| 10      | 4              | | 5               |
|         | 2              | | 4               |
| Totals  | 40             | | 46              |
|         | 18             | | 22              |
This criterion was incorporated in the original Hughes and Till (1982) study.

Six correct responses of each verb type were possible for each procedure. Table 3 shows the number of correct responses made by each subject. Table 4 shows the mean numbers of auxiliary and copula BE forms elicited by each procedure.

Table 4

Means and Standard Deviations of Correct Responses to Syntactic (SE) and Emphatic (EE) Elicitation Items

<table>
<thead>
<tr>
<th>Verb type/Procedure</th>
<th>X</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copula/SE</td>
<td>4.0</td>
<td>2.1</td>
</tr>
<tr>
<td>Copula/EE</td>
<td>1.8</td>
<td>2.4</td>
</tr>
<tr>
<td>Auxiliary/SE</td>
<td>4.6</td>
<td>1.6</td>
</tr>
<tr>
<td>Auxiliary/EE</td>
<td>2.2</td>
<td>2.5</td>
</tr>
</tbody>
</table>

A repeated-measures design for analysis of variance was used in this study. An ANOVA was performed and an F-ratio calculated for each verb type. The results of the test of significance for copula verbs are included in Table 5. A significantly greater number of copula verbs was elicited by the syntactic elicitation procedure as compared to the emphatic elicitation procedure (F=14.24; df 1, 9; p<.005).
Table 5

ANOVA: Copula Forms

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>ms</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>115.8</td>
<td>19</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Subjects</td>
<td>75.8</td>
<td>9</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Treatments</td>
<td>24.2</td>
<td>1</td>
<td>24.2</td>
<td>14.24</td>
<td>p&lt;.005</td>
</tr>
<tr>
<td>Error</td>
<td>15.8</td>
<td>9</td>
<td>1.7</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

The results of the ANOVA for auxiliary verbs elicited by the two experimental procedures are presented in Table 6. A significantly greater number of auxiliary verbs was elicited by the syntactic elicitation procedure as compared to the emphatic elicitation procedure ($F=14.26$, df 1, 9; $p<.005$).

Table 6

ANOVA: Auxiliary Forms

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>ms</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>108.8</td>
<td>19</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Subjects</td>
<td>61.8</td>
<td>9</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Treatments</td>
<td>28.8</td>
<td>1</td>
<td>28.8</td>
<td>14.25</td>
<td>p&lt;.005</td>
</tr>
<tr>
<td>Error</td>
<td>18.2</td>
<td>9</td>
<td>2.02</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Error Analysis. Specific errors were classified into three types which correspond to the error analysis performed
by Hughes and Till (1982). Type A errors were responses that contained an auxiliary or copula form, but in which the pronoun person or verb form used was incorrect, i.e., for SE No. 1 "you are" or "I is" rather than "I am". Type B responses were responses that were appropriate given the context of the stimulus, but did not contain an auxiliary or copula form, i.e., for EE No. 4 "we like to play in bed" rather than "we are in bed". Type C errors were responses which were inappropriate given the context of the stimulus, i.e., for SE No. 12 "you silly" rather than "they are holding the baby". Hughes and Till (1982) reported that Type C errors indicated uncertainty or lack of comprehension of how to respond to the stimulus item. Instances of "I don't know" or no response were included in this category. Table 7 shows the results of the error analysis of responses by three-year-old children.

Table 7

Breakdown of Errors Made By 3-Year-Old Children In Response To SE and EE Items

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Type A</th>
<th>Type B</th>
<th>Type C</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE- Copula Items</td>
<td>4</td>
<td>1</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>SE- Auxiliary Items</td>
<td>10</td>
<td>--</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>EE- Copula Items</td>
<td>6</td>
<td>5</td>
<td>31</td>
<td>42</td>
</tr>
<tr>
<td>EE- Auxiliary Items</td>
<td>5</td>
<td>2</td>
<td>39</td>
<td>46</td>
</tr>
</tbody>
</table>
**Interpretation**

Several conclusions can be drawn as a result of this study. The syntactic elicitation procedure elicited significantly more copula verb forms as compared to the emphatic elicitation procedure. The syntactic elicitation procedure also elicited significantly more auxiliary forms as compared to the emphatic elicitation procedure. Post-hoc analysis (Bruning and Kintz, 1977) indicated that there was not a significant relationship between the subjects' pre-experimental DSS percentile and the number of correct responses to SE copula items ($r=+.55; \text{df 8}; t=1.86; \text{p<.1}$), SE auxiliary items ($r=+.44; \text{df 8}; t=1.38; \text{p<.5}$), EE copula items ($r=+.50; \text{df 8}; t=1.63; \text{p<.5}$), or EE auxiliary items ($r=+.51; \text{df 8}; t=1.68; \text{p<.5}$). Further analysis revealed no significant relationship between the subjects' TACL percentile and the number of correct responses to SE copula items ($r=-.24; \text{df 8}; t=.70; \text{p<.5}$), SE auxiliary items ($r=-.24; \text{df 8}; t=.40; \text{p<.5}$), EE copula items ($r=-.18; \text{df 8}; t=.52, \text{p<.5}$), and EE auxiliary items ($r=.02; \text{df 8}; t=.06; \text{p<.5}$). These calculations indicate that despite wide performance ranges on these pre-experimental criteria, performance on the experimental items was not related to differences in these measures of expressive and receptive language. This supports the fact that the subjects' performance on experimental items was a factor of the copula and auxiliary elicitation procedures under investigation. The overall effectiveness of using each sentence completion
procedure with three-year-old children must be questioned in view of the results obtained.

In the original Hughes and Till (1982) study, five-year-old children used correct verb forms for approximately 83% of the syntactic elicitation items and 66% of the emphatic elicitation items. In the present investigation, three-year-old children responded correctly to 72% of the SE items (77% auxiliary and 66% copula) and 33% of the emphatic elicitation items (37% auxiliary and 30% copula). Three-year-old children might be expected to respond correctly less frequently than five-year-old children, because they have had less time for the copula and auxiliary forms to stabilize in their language systems. Trantham and Pederson (1976) indicated that as children mature the frequency with which they use correct verb forms increases. However, in light of the 90% correct auxiliary and copula usage required in the pre-experimental language sample, the 33% correct verb forms elicited by the emphatic elicitation procedure appears to be quite low. This suggests that the emphatic elicitation procedure used in this study affected the performance of three-year-old children, while the syntactic elicitation items were more indicative of the subjects' command of copula BE forms and auxiliary BE forms. The error analysis previously described supports this contention.

The number of Type C errors made in response to emphatic elicitation items indicated frequent uncertainty
regarding how to respond to this procedure. Type C errors were made in response to 58% of the emphatic elicitation items (52% copula and 65% auxiliary) presented in this investigation. Type C errors were made in response to 16% of the syntactic elicitation items (25% copula and 6% auxiliary). The emphatic elicitation sentence completion procedure used in this study does not appear to be appropriate for eliciting copula or auxiliary BE forms from three-year-old children.

The syntactic elicitation items were more effective at eliciting both copula and auxiliary BE forms from three-year-old children. Taking into consideration the pre-experimental criterion (90% correct usage) and the average numbers of experimental items correctly completed (61% copula and 65% auxiliary), it may be concluded that the responses to SE items give some indication of the stability of these verb forms in the subjects' language. Specific auxiliary and copula forms which may not have been required by the context of the language samples were required in the sentence completion items. Thus, the performance on the syntactic elicitation items can give an indication of the copula and auxiliary BE forms over which the child has command, in terms of verb person and number. An analysis of the error patterns indicated certain task modifications could improve the effectiveness of the syntactic elicitation procedure.
Task modifications

Task modifications to make these experimental sentence completion procedures more effective for three-year-old children were suggested by the types of response errors made by the subjects. The modifications that follow relate to the methods of administration of both syntactic and emphatic elicitation procedures as well as changes in the emphatic elicitation items.

Familiarization with test objects. Using unfamiliar items occasionally elicited responses that were comments on the objects rather than responses to the verbal stimuli, for example,

Stimulus: They're not under the box, but ______.
Target response: they are/they're under the box
Off-task response: them match

Allowing each child a short period in which to become familiar with the items prior to presenting the test stimuli might have eliminated such off-task responses. This might be accomplished by using all experimental stimuli objects during a language sample collection prior to the use of the non-standardized elicitation procedure. A set of simpler stimulus materials might be less distracting for three-year-old children.

Decrease of stimulus length. The emphatic elicitation stimuli consisted of paragraphs rather than single sentences for completion. One half of the subjects responded correctly to 25% or fewer of the emphatic elicitation items.
Some of the subjects seemed confused by the paragraphs presented, as indicated by the number of Type C errors. Decreasing the length of the EE stimuli further than was done for this study might increase the effectiveness of the procedure for three-year-old children. A possible modification would be to decrease the stimuli to approximate the length of SE No. 5 and No. 11. These syntactic elicitation items were each 13 morphemes in length and were the sources of one and two Type C errors, respectively. This stimulus length did not cause confusion for the three-year-old subjects in this study.

The results of this study showed the syntactic elicitation (SE) procedure elicited a significantly greater number of copula and auxiliary BE forms from three-year-old children as compared to the emphatic elicitation (EE) procedure. The error analysis indicated that while the SE procedure may be useful in analyzing a child's command of various copula and auxiliary forms, the EE procedure under investigation was not appropriate for three-year-old children.

Summary

Conclusions. Based on the results of this investigation the following conclusions have been drawn.

1. The syntactic elicitation procedure elicited a significantly greater number of copula BE verb forms from three-year-old children as compared to the emphatic elicitation procedure.

2. The syntactic elicitation procedure elicited a
significantly greater number of auxiliary BE verb forms from three-year-old children as compared to the emphatic elicitation procedure.

3. An item-by-item analysis of responses to syntactic elicitation items can be used to indicate which copula and auxiliary BE forms over which the child has command.

Implications for further research. Results of this study suggest the following questions merit further research.

1. Is there a relationship between increasing age and performance on syntactic elicitation items among three-year-old children indicating that this procedure shows increasing stability of verb forms?

2. Would allowing a three-year-old child to become familiar with stimulus objects prior to presentation of SE or EE items increase the effectiveness of either procedure by decreasing off-task responses?
V. SUMMARY

The speech-language pathologist is the professional responsible for identifying language that is progressing normally as well as abnormally (McReynolds, 1974). Several formal and informal techniques are available for the analysis of language in its various aspects: phonology, semantics, pragmatics, and morphology/syntax. In terms of syntactic evaluation, these techniques include language sample analysis, imitation tasks, response to wh-questions and sentence completion tasks (Leonard et al., 1978; Hughes and Till, 1982).

In their study of auxiliary and copula elicitation procedures, Hughes and Till (1982) chose two types of sentence completion procedures: syntactic elicitation and emphatic elicitation. The Hughes and Till (1982) study found that these sentence completion procedures were effective for use with kindergarten children. The auxiliary and copula verb forms might be of interest to a diagnostician evaluating younger children (Trantham and Peterson, 1976), but it cannot be assumed that the same diagnostic procedures would be appropriate (Carrow, 1972). The present study was undertaken to examine the effectiveness of these procedures in the elicitation of auxiliary
and copula verb forms from three-year-old children.

The purpose of this study was to compare the effectiveness of syntactic elicitation and emphatic elicitation when eliciting auxiliary and copula BE forms from three-year-old children. Two questions were posed at the onset of this investigation:

1. Is there a difference between the number of present tense copula BE verbs elicited from three-year-old children using the syntactic elicitation procedure as compared to the emphatic elicitation procedure?

2. Is there a difference between the number of present tense auxiliary BE verbs elicited from three-year-old children using the syntactic elicitation procedure as compared to the emphatic elicitation procedure?

A review of the related literature concentrated on various techniques available to a language diagnostician. Since the 1950's the diagnostician's focus in a language analysis has shifted within the different dimensions of language. Various areas of concentration have been identified in the literature: syntax/morphology, semantics and pragmatics. Although the pragmatic approach currently receives a majority of attention in research (Craig, 1983; Lund and Duchan, 1983), evaluation of syntax/morphology remains important in a thorough evaluation of a child's language system.

Syntactic/morphologic analysis commonly involves the collection of a language sample and/or administration of a formal test. Several limitations in these procedures were identified:
1. If a language sample is brief, some structures a child is capable of using may not be elicited by the context of the language sample.

2. When evaluating a child who is hesitant to talk, the initial time in a language sample collection is spent making him/her comfortable in the situation.

3. The topics a child chooses in a conversation may not elicit contexts requiring specific structures in which the diagnostician is interested.

4. A numerical score differentiating a normal from an abnormal language user makes the transition from test results to treatment plan difficult.

5. An item analysis of a standardized test gives a limited amount of information on specific structures in which the diagnostician is interested.

Non-standardized elicitation procedures can be designed to perform a thorough assessment of specific grammatic structures. Leonard, Perozzi, Prutting and Berkley (1978) summarized tasks frequently used in formal and informal assessment: immediate imitation, delayed imitation, paraphrased imitation, wh-question response, sentence completion. Hughes and Till (1982) identified these advantages of an appropriately designed sentence completion task:

1. Elimination of the interference of short term memory effects on productive language testing

2. Requirement of a complete target response that may not be elicited by questions

3. Elicitation of several target responses in a brief time span.

Hughes and Till (1982) used two sentence completion procedures to elicit auxiliary and copula BE forms from
kindergarten children. These verb forms have been identified as common sources of difficulty for language disordered children. Syntactic elicitation and emphatic elicitation procedures were found effective with the kindergarten population.

In order to answer the questions posed at the onset of this investigation, ten three-year-old children participated in two experimental sessions at their preschools or day care centers. In the pre-experimental session each subject demonstrated hearing and receptive and expressive language within normal limits. Comprehension of experimental vocabulary items and a command of copula and auxiliary structures were also criteria for inclusion as a subject. Subjects who qualified were seen within one week following the pre-experimental session for presentation of the experimental items. In the experimental session, each subject was presented with twelve syntactic elicitation items and twelve emphatic elicitation items. Responses were audio tape recorded and written on response forms for analysis.

Data analysis included calculation of intra-rater and inter-rater reliability for each procedure. Point-to-point intra-rater reliability of 100% was obtained for each examiner, for each procedure. Point-to-point inter-rater reliability of 100% was obtained for syntactic elicitation items and 95% was obtained for emphatic elicitation items.

An analysis of variance was performed and an F ratio
calculated for each verb type elicited by both the syntactic elicitation and emphatic elicitation procedures. Both F ratios were significant at the p<.005 level. A post hoc analysis of error types was conducted to compare incorrect responses in terms of the three error types described by Hughes and Till (1982). This analysis separated incorrect responses according to errors which (1) included an incorrect or untargeted form of TO BE (Type A errors), (2) were appropriate responses but did not contain a form of TO BE (Type B errors), or (3) were inappropriate and indicated uncertainty regarding how to respond to the sentence completion procedure (Type C errors). The emphatic elicitation procedure under investigation was deemed inappropriate for three-year-old children, due to the large number of Type C errors made in response to this procedure.

Based on these results, the following conclusions were drawn:

1. The syntactic elicitation procedure elicited a significantly greater number of copula BE verb forms from three-year-old children as compared to the emphatic elicitation items.

2. The syntactic elicitation procedure elicited a significantly greater number of auxiliary BE verb forms from three-year-old children as compared to the emphatic elicitation items.

3. An item-by-item analysis of responses to syntactic elicitation can be used to indicate which copula and auxiliary BE forms of which the child has command.
## APPENDIX A

**Subject information**

<table>
<thead>
<tr>
<th>Subject</th>
<th>DOB</th>
<th>CA</th>
<th>Sex</th>
<th>TACL Percentile</th>
<th>DSS Percentile</th>
<th>Day Care Center/Preschool</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6/9/80</td>
<td>3-10</td>
<td>M</td>
<td>91</td>
<td>50</td>
<td>LRS</td>
</tr>
<tr>
<td>2</td>
<td>9/21/80</td>
<td>3-6</td>
<td>M</td>
<td>72</td>
<td>&gt;90</td>
<td>LRS</td>
</tr>
<tr>
<td>3</td>
<td>12/8/80</td>
<td>3-4</td>
<td>F</td>
<td>94</td>
<td>50</td>
<td>LRS</td>
</tr>
<tr>
<td>4</td>
<td>5-16-80</td>
<td>3-9</td>
<td>F</td>
<td>90</td>
<td>&gt;90</td>
<td>CCDCC</td>
</tr>
<tr>
<td>5</td>
<td>12/19/80</td>
<td>3-4</td>
<td>F</td>
<td>92</td>
<td>&gt;90</td>
<td>CCDCC</td>
</tr>
<tr>
<td>6</td>
<td>8/26/80</td>
<td>3-7</td>
<td>F</td>
<td>81</td>
<td>50</td>
<td>CDL</td>
</tr>
<tr>
<td>7</td>
<td>12/24/80</td>
<td>3-4</td>
<td>M</td>
<td>64</td>
<td>90</td>
<td>CDL</td>
</tr>
<tr>
<td>8</td>
<td>3/20/81</td>
<td>3-1</td>
<td>F</td>
<td>97</td>
<td>75</td>
<td>CDL</td>
</tr>
<tr>
<td>9</td>
<td>5/7/80</td>
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<td>F</td>
<td>70</td>
<td>90</td>
<td>CDL</td>
</tr>
<tr>
<td>10</td>
<td>8/23/80</td>
<td>3-7</td>
<td>M</td>
<td>99</td>
<td>50</td>
<td>CDL</td>
</tr>
</tbody>
</table>

**Abbreviations:**
- LRS - Little Red Schoolhouse/Mattoon
- CCDCC - Charleston Community Day Care Center/Charleston
- CDL - Child Development Lab/Charleston
Parent information form

(Explanation of procedures)

Each child's hearing will be screened to determine if his or her hearing is within normal limits. A language test consisting of pointing to pictures that have been described by the examiner will be used to see how close to his/her own age level the child's language is. A sample of each child's language will be gathered using pictures and toys. Each sentence the child uses will be scored as another measure of how he/she uses different language structures. The actual study involves creating 24 different situations with toys (i.e., dolls, toy furniture, toy cars, doll clothes). After each situation is presented, one of the following procedures will be used:

1. The child will be given a sentence to complete
2. The child will be read a three or four sentence story that ends with a sentence that must be completed

The purpose behind these activities is to compare the responses given by the children to the two different procedures. We hope this information will be useful in determining what methods are most appropriate for examining a child's understanding and use of certain grammatical forms.
Dear Parent,

Teresa Muchmore, a graduate student at Eastern Illinois University, is currently involved in a study of different procedures for gathering samples of language from children. In order to complete this study effectively, we need the participation of several three-year-old children. Your cooperation in allowing your child to participate would be appreciated greatly.

This study is looking at a sentence completion task as a way of gathering language information. Each child who participates will be given a language test to determine if he/she can be included in the study. He/she will also be presented with different toys and stories and be asked to complete sentences about the situations created with the toys. The attached sheet explains the procedures in greater detail. Each child will be seen twice, and neither session should last more than 30-45 minutes. The procedures are not designed to change behavior, and there is no risk to your child. If your child is included in the study, he/she will not be identified by name when the results are reported.

I hope that you will allow your child to participate in this study. All cooperation will be a great help in completing this project.

Thank you,

Teresa Muchmore
581-2712
I __________________________ give my voluntary permission for my child to be included in the study being conducted by Teresa Muchmore. I understand that I may withdraw my child at any time after the study is begun, my child will not be identified by name when the results are reported, and there is no risk involved for my child. I have had the opportunity to ask any questions that I have regarding this study.

Child's birthdate: __________________________

Parent: __________________________

Witness: __________________________

Date: __________________________

Please return by Friday, March 9, 1984.
Vocabulary comprehension screening test plate
Vocabulary comprehension response from

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>STIMULUS</th>
<th>CHILD'S RESPONSE</th>
<th>CORRECT RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>He is washing his hands.</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>103</td>
<td>She is watching the baby.</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>104</td>
<td>He is pinning the tail on the donkey.</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>105</td>
<td>He is pouring juice.</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>106</td>
<td>He is drinking.</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>107</td>
<td>He is in bed.</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>108</td>
<td>He isn't wearing shoes.</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>109</td>
<td>She is sitting.</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>110</td>
<td>He is putting on his pajamas.</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
APPENDIX F

Language sample materials in order of presentation

1. Two cans of Play Dough (Red and Blue) and plastic Play Dough toys and cookie-cutters
2. Lego blocks
3. Mickey Mouse Colorforms set
4. Three 8½ x 11 inch sheets of white paper and box of 24 crayons
5. The Monster at the End of This Book (Stone, 1971).
6. Four 7-3/4 x 12 inch cartoon pictures depicting
   a. children playing in a park
   b. children playing in the snow
   c. children playing in a mud puddle
   d. children playing in a treehouse
Stimulus materials and training items

Materials

Two adult female dolls (Mom)
Two adult male dolls (Dad)
Baby doll
Child female doll
Child male doll
Toy furniture—sink, bed
Pajamas for child dolls
Toy car
Two toy puppies and a saucer
Red and blue paper squares
Blindfolds for dolls
"Pin the Tail on the Donkey" game
Toy pitcher
Cigar box—to use as a house
String circle
Toy cup

Syntactic Elicitation Training Items

A. Show child bed and car
   This is not a car, but
   ________________
   this is/this is a car.

B. Examiner claps
   You're not clapping, but
   ________________
   you are/you are clapping.

Emphatic Elicitation Training Items

A. Arrange doll figures
   You're running home.
   You're sister's in the
   house and can't see you.
   She says: "You're
   supposed to be running
   home." And you say: "But
   silly, ____________
   I am running home.

B. Arrange doll figures
   You're holding the puppy
   so it can't run away.
   You're sister can't see
   you and she doesn't want
   the puppy to run away.
   She says: "You should be
   holding the puppy." And
   you say: "But silly, ____________
   I am holding the puppy."
APPENDIX H

Experimental procedure stimulus items
(Syntactic elicitation)

1. I'm not under the box, but ___ I am/I'm under . . .
2. You're not on the table, but ___ you are/you're on . . .
3. She's not in the box, but ___ he is/he's in . . .
4. They're not in the circle, but ___ we are/we're in . . .
5. Let's talk about this family: We aren't on the box,
   but ___ they are/they're on . . .
6. They're not under the box, but ___ they are/they're under . . .
7. I'm not standing, but ___ I am/I'm standing .
8. You're not standing, but ___ you are/you're standing .
9. He isn't drinking, but ___ he is/he's drinking .
10. They aren't sitting, but ___ they are/they're sitting .
11. Let's talk about this family: They aren't wearing
    shoes, but ___ we are/we're wearing . . .
12. They're not holding the baby, but ___ they are/they're
    holding . . .

Corresponding examiner behaviors*

1. Hold box over child's head
2. Sit on the edge of the table
3. Place male doll in the box, female doll beside it
4. Stand in the string circle with child, place doll
   family beside the circle
APPENDIX H--Continued

5. Place doll family on the box

6. Place one doll family under the box, one family beside it.

7. Have child stand

8. Stand

9. Place toy cup to male doll's mouth, as if to drink

10. Stand one doll family

11. Remove shoes from one doll family

12. Place dolls so one set of parents is holding the baby

*NOTE: Examiner behaviors did not appear on each response sheet used during the administration of the experimental procedures.
APPENDIX I

Experimental procedure stimulus items
(Emphatic elicitation)

1. It's raining outside, and your Mom wants you in the house. You are in the house, but she thinks you're still outside. She says: "I want you in the house now!" And you say: "But Mom, I am/I'm in . . . ."

2. You're playing a game with your sister and she's on the red square. She can't see where she is because she is wearing a blindfold. She says: "I'm supposed to be on the red square." And you say: "But silly, you are/you're on . . . ."

3. Your sister is telling you that she wants the man in the car. He's already there, but she doesn't know it. She says: "I want the man in the car!" And you say: "But silly, he is/he's in . . . ."

4. You and your brother are in bed, but you are making noise. Dad hears you and thinks you're not in bed. He yells: "You two are supposed to be in bed!" And you both say: "But Dad, we are/we're in . . . ."

5. You and your Mom and Dad are in the car. Your brother and sister are in the car, too, but Mom can't see them. She says, "Go tell brother and sister to get in the car!" And you say, "But Mom, they are/they're in . . . ."

6. Your brother is telling you how he wants the toys set up. You've already put the dolls in the box, but he doesn't know it. He says: "I want the dolls in the box!" And you say: "But silly, they are/they're in . . . ."

7. Your Mom's in the kitchen where she can't see you. She told you to wash your hands and now you are doing it. She says: "You're supposed to be washing your hands!" And you say: "But Mom, I am/I'm washing . . . ."

8. Your Dad's making breakfast. He doesn't have his glasses, so he can't see what he's doing. He's pouring juice but doesn't know it. He says: "I should be pouring juice!" And you say: "But Dad, you are/you're pouring . . . ."
9. Mom's in the kitchen and tells sister to watch the baby. Your sister is watching the baby, but Mom can't see her. Mom says: "Your sister's supposed to be watching the baby!" And you say: "But Mom, she is/she's watching . . .

10. You and your sister have been told to put on your pajamas. Now you're doing it, but Dad thinks you are playing. Dad says: "You two are supposed to be putting on your pajamas!" And you say: "But Dad, we are/we're putting . . .

11. You and your friends are playing pin the tail on the donkey. You're all wearing blindfolds. You think you are pinning the tail on the wall. You peek and see that your pins are on the donkey. They say: "We are supposed to be pinning the tail on the donkey!" And you say: "But sillies, we are/we're pinning . . .

12. Dad wants the puppies to drink their milk before they go out to play. He can't see that they are doing it. He says: "The puppies are supposed to be drinking their milk!" And you say: "But Dad, they are/they're drinking . . .

*NOTE: Experimental items for emphatic elicitation procedure administration were placed on Ditto pages, front to back.
BIBLIOGRAPHY


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