AN ANALYSIS OF SYNTACTIC ERRORS

IN THE LANGUAGE OF HEARING IMPAIRED STUDENTS

by

KENNETH ARTHUR PUDLAS

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Dip. Ed. Deaf, University of British Columbia, 1976

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Department of _Special Education_

The University of British Columbia
2075 Wesbrook Place
Vancouver, Canada
V6T 1W5

Date _1980- 11- 12_

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ABSTRACT

This study examined student responses to those items from the Test of Syntactic Abilities (TSA) which assess complementation. The students who formed the sample had hearing threshold levels (HTL) of 90 dB or greater in the better ear. They ranged in age from 8 to 19 years. Students' responses were analyzed in terms of syntactic errors rather than correct responses. The primary purpose of this study was to determine if the students' responses indicated any consistent syntactic deviancies. The results proved inconclusive. Limitations and implications of this research are discussed.

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CHAPTER ONE

Introduction

Background of the Problem

While there is apparent disagreement in many areas concerning the deaf, ranging from disagreement concerning terminology (Harris, 1971, p. ix) to disagreement regarding the efficacy of various communication methods (Moores, 1978), there can be no disagreement regarding the importance of language as a fundamental tool to facilitate learning. S.R. Silverman (1971) makes reference to the various controversies surrounding the education of deaf students and states, "But one point on which we have reached almost universal agreement is that language is the keystone upon which successful education of the deaf ultimately rests." (P. vii). Harris (1971) concurs, stating that, "The language element must be given priority over any other in the training of the deaf child, especially the young deaf child." (p. 17). Streng, Kretschmer, and Kretschmer (1978) acknowledge that the education of the hearing impaired child involves considerably more than language instruction, but they perceive, "...the central mission of any educational program for children who cannot hear to be the establishment of language and communication." (p. vii).

Early Language Teaching

The language of deaf children has long been a concern of educators. Schmitt (1966) gives an historical perspective of language instruction for the deaf from before the 16th century to the mid 1960's. The history reviews several major changes in instruction

of and in attitudes toward the deaf, beginning with
Jerome Cardin, a sixteenth century Italian mathemati-
cian and physician who theorized that the deaf could
be taught to hear by reading, to speak by writing, and
to understand abstract ideas through signs. Schmitt
succintly summarizes his historical overview with the
conclusion that, "The history of language instruction
for the deaf proves to be evolutionary rather than
revolutionary in nature." (p. 94).

Early Language Research

This evolution has also manifested itself
in research into language development in and language
acquisition by the deaf. Much of the early language
research is summarized by Cooper and Rosenstein (1966).
These authors propose that language studies may be
tentatively placed within a two dimensional framework
consisting of four cells: data collection by either
(1) free sample or (2) controlled method, and subjected
to either (a) linguistic or (b) non-linguistic analyses
(p. 60). They further suggest that, in terms of the
above proposed framework, nearly all the studies
of deaf children's language published to date [1966]
have been essentially non-linguistic. That is, that
studies have reported such details as the average
sentence length or the number of certain types of
words used but have failed to describe the grammar of
the language studied. They further note that, "Another
difference [from studies of hearing children's
language] appears to be the greater attention placed
upon conventional achievement tests as indicators of
language development. The bulk of the studies of
deaf children's language which have relied upon other
sources than free language samples, have been based
on achievement test scores." (p. 61).

Studies summarized by Cooper and Rosenstein (1966) have reported deaf children to be retarded in their development (Goetzinger and Rousey, 1959; Myklebust, 1960; Pintner and Paterson, 1916; Pugh, 1946). In addition to these achievement test analyses, written language sample analyses have shown deaf children to use shorter and simpler sentences, to display a somewhat different distribution of the parts of speech, to write more rigidly and in a stereotyped fashion, and to exhibit numerous errors or departures from standard English usage (Heider and Heider, 1940; Myklebust, 1960; Simmons, 1962; Templin, 1952).

These results reported in early investigations are of limited usefulness, however, because as with non-linguistic studies in general, the data have not been related in any useful or meaningful way to what deaf children know about language (Cooper and Rosenstein, 1966, p. 66). The last two decades have seen a change in perspective, largely because of the work of Chomsky (1957, 1965) who made an important distinction between a child's linguistic performance and his/her linguistic competence.

Contemporary Language Research

According to McNeill (1966), evidence is accumulating that children have a general capacity to acquire syntax; that is, an inborn ability to develop a complex and rich grammar exists in deaf and hearing children alike. The changed perspective offered by Chomsky (1957, 1965) was in the distinction between the child's implicit knowledge of syntactic rules, his linguistic competence, and the child's productions of language, his linguistic performance. The difficulty

for deaf children lies in the fact that although they have a general capacity to acquire syntax (McNeill, 1966), they must attempt to test and retest their grammatical hypotheses to develop these grammatical rules based on limited input information, due to their auditory deficiency.

Limitations of previous studies

The previously mentioned achievement tests did not assess the linguistic competence of the deaf children studied. The observed deviations on these tests were not necessarily related to the underlying rules of English or to a grammar of the deaf children's language. Methods used in more recent language studies based on transformational generative grammar (Chomsky, 1957, 1965) have begun to yield more relevant information.

Transformational generative grammar

In his theory of generative grammar, Chomsky (1957, 1965) proposed that an infinite number of sentences of varying degrees of complexity can be generated once a child has derived the structural regularities of his native language. Figure 1, adapted from Russel, Quigley, and Power (1976) presents a model of the levels of a transformational grammar.

It is suggested (Menyuk, 1969) that "normal-speaking" children expand the rules of their grammar, observe more contextual constraints and, in some instances, reorganize rules to achieve greater definition and economy as their memory capacity and their linguistic experiences increase (p. 142). The deaf child, however, by virtue of his/her hearing deficit, is limited in obtaining, through normal auditory reception sufficient linguistic experiences on which to base his/her hypothesis regarding grammatical rule generation.

Phrase Structure Rules

Lexicon

Semantic

Deep Structure ──────────────────────────> Meaning

Rules

Transformational
Rules

Morphological and

Surface Structure ──────────────────────> Production

Phonological Rules
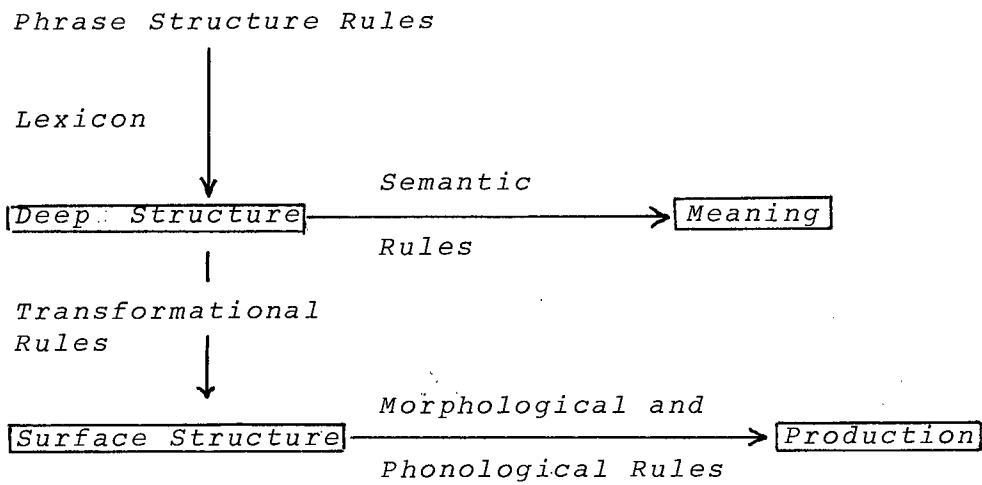
Figure 1.   A model of the levels of a transformational
grammar (Adapted from Russel, Quigley, and
Power, 1976, p. 22).

As a result, this internalized set of grammatical rules
or transforms is thought to be less well developed in
deaf students. This deficiency in language competence
is postulated to be the root of their poor linguistic
performance (Quigley, Smith, and Wilbur, 1974).

Recent Linguistic Research with the Deaf

The work of linguists in the last two decades
have included some impressive descriptions of the consti-
tuents of language (Streng, Kretschmer, and Kretschmer,
1978). From these contemporary descriptions linguists
have identified four components of language: (1) the
morphophonemic or sound component; (2) the syntactic
or grammatical component; (3) the semantic or meaning
component; and (4) the pragmatic or communicative com-
ponent (Dale, 1976).

The syntactic component of deaf children's
language has been the primary focus of recent linguistic
research. Much of this research was conducted through
the Institute for Child Behavior and Development at the
University of Illinois by Quigley and his associates
(Power and Quigley, 1973; Quigley, Smith, and Wilbur,
1974; Quigley, Wilbur, and Montanelli, 1976; Russel,
Quigley, and Power, 1976; Wilbur, Montanelli, and Quigley,
1976; Quigley, Power, and Steinkamp, 1977; Steinkamp
and Quigley, 1977; Quigley, Steinkamp, Power, and
Jones, 1978.

As a result of this research, Quigley et al.
(1978) developed the Test of Syntactic Abilities (TSA).
The TSA is made up of twenty subtests each containing
seventy multiple choice items designed to assess the
competence of subjects on various syntactic structures.
Table 1 gives an outline of the syntactic structures
which are tested by the TSA.

Table 1

Syntactic Structures Assessed by the

Test of Syntactic Abilities (TSA) (Quigley et al., 1978)

1.   *Negation*

           Conjunction
2. *Conjunction*
3. *Disjunction and Alternation*

4.   *Determiners*

           Question Formation
5. *Wh - words*
6. *Answer Environments*
7. *Yes/No Questions*

           Verb Processes
8. *Verb Sequences in Conjoined Structures*
9. *Main Verbs, Linking Verbs, and Auxiliaries*
10. *Passive Voice*

           Pronominalization
11. *Possessive Adjectives*
12. *Reflectives*
13. *Possessive Pronouns*
14. *Forward and Backward Pronominalization*

           Relativization
15. *Comprehension*
16. *Relative Pronouns and Adverbs*
17. *Embedding*

           Complementation
18. *That-Complements*
19. *Infinitives and Gerunds*

20.   *Nominalization*

The TSA, while providing valuable information, takes up to ten hours to administer. Thus the authors decided to produce two parallel screening tests, known as T.S.A. Screens One and Two, each containing 120 of the psychometrically best items from the TSA.

Use of the TSA in British Columbia

Screens One and Two and the TSA Diagnostic Battery have been used to gather data on the syntax of students in British Columbia who have varying degrees of hearing loss. These data have then been analyzed in terms of a number of demographic characteristics commonly held to be related to linguistic development (Anderson, 1979; Clarke, Leslie, Rogers, Booth, and Horvath, 1977; Clarke and Rogers, 1980; Clarke, Rogers, and Booth, 1979; Rogers, Leslie, Clarke, Booth, and Horvath, 1979). Thus there is a growing body of knowledge regarding the syntax of deaf students as measured by their responses to items on the TSA and TSA Screens. As yet, however, little has been reported regarding the nature of syntactic errors and possible consistency of error patterns of deaf students as revealed by the TSA or TSA Screen.

The Problem

The purpose of this research was to examine the nature and possible consistency of syntactic errors in the language of deaf students. It was decided, for reasons which will be detailed in Chapter 3, to use only the items assessing the syntactic structure of complementation from Screens One and Two. Thus the study was at the same time a feasibility study, testing the efficacy of the Screen as a research instrument for error

diagnoses in a relatively large sample.

Initially it was considered that the data
base would allow analysis of students' incorrect
responses to TSA Screen items across age groups. As
outlined in Appendix A, however, a preliminary analysis
of the data revealed several procedural difficulties.

Thus the main research question became:
do students respond to distractors in TSA Screen com-
plementation items according to any discernable pattern
or are their responses randomly distributed between
the three distractors on each test item?

Definition of Terms

The subjects and test instrument are described
in subsequent chapters. For the sake of clarity the
following definitions are provided:

> Complements — are embedded sentences which
> function as noun phrases.

> deaf - when referring specifically to students
> in this study the term describes students
> with hearing threshold levels (HTL) of
> 90 decibels (dB) obtained by calculating
> the arithmetic mean of the pure tone thres-
> holds in the better ear at frequencies of
> 500, 1000, and 2000 Hertz (H_z) using Amer-
> ican National Standards Institute (ANSI)
> criteria
> — when used in the literature, the term
> usually refers to students who are unable
> to understand speech through the ear alone.

> distractor — those items included in the multi-
> ple choice test which are alternatives to
> the correct choice in each item.

> hearing impaired - a generic term encompassing
> all degrees of hearing loss, including
> the conditions known as hard of hearing
> and deaf.

> syntax - the study of rules which determine
> order and grouping of words into
> sentences.
>
> syntactic deviancies - the literature purports
> that deaf children make syntactic errors
> which are unique to deaf students.

Hypotheses

From the review of the literature and previous research and from the preliminary analyses, the following hypotheses were developed:

H_o : Deaf students who make errors will not select distractors exhibiting a particular syntactic deviancy more frequently than distractors exhibiting other syntactic deviancies on TSA Screen complementation items.

$(H_o : \overline{X}_i = 33.3\%)$

H_1 : Deaf students who make errors will choose distractors exhibiting certain syntactic deviancies more frequently than others.

$(H_1 : \overline{X}_i \neq 33.3\%)$

Rationale

The literature reports the existence of deviant syntactic patterns or deviant rules of grammar that is, rules which differ from standard English, in the language of hearing and deaf children (Menyuk, 1969; Myklebust, 1964; Quigley, Steinkamp, Power, and Jones, 1978; Russel, Quigley, and Power, 1976; Taylor, 1969). Menyuk (1969) points out that descriptions of the language of children whose language does not conform to standard English can define in a detailed manner the ways in which their linguistic behavior deviates from the norm.

Myklebust (1964) emphasizes that we need to know not only that the deaf may be inferior in language, but whether their errors show characteristic patterns, in order to develop the most effective remedial procedures.

The TSA provides information beyond simply which aspects of syntax a child finds most difficult (Quigley et al., 1978) it yields information on specific deviances appearing in his language (p. 15). Table 2, taken from (Quigley et al., 1978) shows some of the distinct deviant syntactic structures which were found to occur frequently in deaf students' responses to the TSA and in their written language (Quigley et al., 1976).

Given the importance of knowing specific deviances in order to develop effective remediation procedures and given the relative ease of administration of the TSA Screens, it was decided to examine the efficacy of using the TSA Screens as an instrument to examine syntactic deviances in the language of deaf students. Complementation was chosen as the syntactic structure for study for several reasons: (1) Previous studies (Quigley, Power, and Steinkamp, 1977; Rogers and Clarke, in press) had shown complementation items on the TSA to be sufficiently difficult so as to be maximally discriminating, thus providing sufficient errors for analysis; (2) complementation items occured frequently (36 items) so as to provide enough items for analysis; (3) complementation was one of the more difficult syntactic structures which appeared frequently in students' reading material.

Table 2

Examples of Distinct Syntactic Structures Observed in the
Language of Deaf Students (Quigley et al., 1978, p. 16)

Structural environment	Description of Structure	Example sentences
Verb system	–Verb deletion	The cat under the table.
	–Be or have deletion	John sick. The girl a ball.
	–Be have confusion	Jim have sick.
	–Incorrect pairing of auxiliary with verb markers	Tom has pushing the wagon.
	–By deletion (passive voice)	The boy was pushed the girl.
Negation	–Negative outside the sentence	Beth threw the ball and Jean catch it.
Conjunction	–Marking only first verb	
	–Conjunction deletion	Joe bought ate the apple.
Complementation	–Extra for	For to play baseball is fun.
	–Extra to in POSSing complement	John goes to fishing.
	–Incorrectly inflected infinitive	Bill liked to played baseball.
	–Unmarked infinitive without to	Jim wanted go.
Relativization	–NP's where whose is required	I helped the boy's mother was sick.
	–Copying of referent	John saw the boy who the boy kicked the ball.
Question formation	–Copying	Who a boy gave you a ball?
	–Failure to apply subject-auxiliary inversion	Who the baby did love?
	–Incorrect inversion	Who TV watched?

Table 2 (continued)

Structural environment	Description of Structure	Example sentences
Question formation, Negation	—Overgeneralization of contraction rule	I amn't tired. Bill willn't go.
Relativization Conjunction	—Object-object deletion	John chased the girl and he scared. (John chased the girl. He scared the girl.)
	—Object-subject deletion	The dog chased the girl had on a red dress. (The dog chased the girl. The girl had on a red dress.)
All types of sentences	—Forced subject-verb-object pattern	The boy pushed the girl. (The boy was pushed by the girl.)

CHAPTER TWO

Review of Literature

The purpose of the literature review is to
help further define the problem and to provide an empir-
ical basis for the development of the hypotheses (Tuckman,
1972, p. 313). This chapter will attempt to fulfill this
purpose by first providing some historical background
and then tracing recent linguistic research up to the
development, by Quigley and his associates (1978), of
the Test of Syntactic Abilities (T.S.A.) which is the
instrument which was used to gather the data for this
study.

This study is primarily concerned with syntac-
tic errors as one aspect of research into deaf children's
language. Thus an historical review of language teach-
ing for the deaf and of research into the language of
the deaf will serve to illustrate the evolution of these
two areas to their present state.

Early Language Teaching

Language Teaching in Europe

Education of the deaf in North America has
naturally been strongly influenced by the much older
European traditions. In Europe, an important advance
in attitude toward the deaf occurred in the sixteenth
century in Italy when Jerome Cardin (1501-1576) theorized
that the deaf could be taught to hear by reading, to
speak by writing and to understand abstract ideas through
signs (Moores, 1978). This was a radical change from
the attitude exemplified by the early Greeks who

considered language as intuitive rather than learned
and thus thought the deaf incapable of speech, language
or reason (Schmitt, 1966). The theories of Cardin were
first put into practice by Ponce de Leon (Spain, 1520-
1584) who began by associating objects with written
words and later taught speech through articulation of
written words and ultimately advanced to teaching aca-
demic subjects (Schmitt, 1966).

A major advancement in the seventeenth century
was the interest of a number of educated professional
people in teaching language to the deaf. These included
Juan Pablo Bonet (Spain; 1579-1620), John Wallis (England;
1616-1703), and George Dalgarno (England; 1626-1687).
Bonet began by teaching fingerspelling and moved to
articulation of sounds, syllables, and words to reading
and writing. He emphasized logical and sequential
development of grammar but also stressed connected or
more natural language activities (Schmitt, 1966).

Both Wallis and Dalgarno used fingerspelling
or manual alphabet and writing in their instruction, but
Wallis' method was more grammatical and structured where-
as Dalgarno favored a more natural approach. Accord-
ing to Dalgarno, the deaf child's mother was to build
a receptive vocabulary through constant use of finger-
spelling, and formal grammar was deferred until connect-
ed language was well established (Schmitt, 1966).

Language instruction in the eighteenth century
was dominated by the grammatical approach. Among the
more prominent figures of the time were John Amman
(Holland; 1669-1724). Amman began by teaching lists of
nouns and other parts of speech. Heinicke, one of the
chief proponents of the German "oral" method, advocated
speech and speech reading for expressive and receptive
language but still retained a formal analytical

approach to language development. The two Englishmen,
Braidwood and Baker also reportedly used more formal
grammatical techniques, although they tried to keep
their methods secret (Schmitt, 1966).

According to Bender (1960) the most prominent
figure of the eighteenth century was the Abbé de l'Epée
who lived in France from 1712 to 1789. L'Epée's contri-
bution to language instruction was the development of
a system of signs, including signs for all grammatical
components of the French language. These signs, complete
with inflections, articles and tenses were signed in proper
word order so as to approximate proper French syntax.
The recognition of syntax as a essential aspect in language
instruction was clearly an important step. The work of the
Abbé de l'Epée was expanded upon by Abbé Sicard (1742-1822)
who developed a theory of ciphers, a language teaching device
consisting of five numbered columns:
1. Nominative 2. Verb 3. Objective 4. Prep. 5. Object of
   Case   Case   Preposition
Sicard's students constructed sentences by filling in the
appropriate parts of the framework (Schmitt, 1966).

While the grammatical approach was the most
common in the eighteenth century, there were a few educators
experimenting with a more natural approach (Moores, 1978);
(Schmitt, 1966). Some of these educators included: Arnoldi,
who, in Germany began with students aged four or five
and used pictures to instill and elicit language, and;
Pereire in France who used oral and natural manual communi-
cation to develop useful connected language in his pupils,
and took care to express thoughts in a variety of ways
including the use of idioms or natural expressions.

The nineteenth century saw the continuation of
a controversy between the French "manualists" and the
German "oralists", with the oral approach becoming the

predominant method in Europe in the latter half of the
century. This century also saw education extended to
deaf children of all social and economic levels.

Increasingly during the nineteenth century,
supporters of a more natural language teaching method
voiced their disagreement with the formal grammatical
approach to instruction. Among the dissenters were Joseph
Watson (England; 1765-1829) an oralist, and Guilio Tarra
(Italy; 1832-1889) who stated in his writings that a
teacher should be acutely aware of grammar but should
not "inflict it on the feeble understanding" of the
pupils (Schmitt, 1966, p. 29). In the latter half of
the century, Friedrich Moritz Hill (Germany; 1805-1874)
became the most influential advocate of the natural
approach and his "mother's method" attempted to parallel
the manner in which hearing children learn speech and
language. Hill suggested that children must be motiva-
ted to learn language by seeing its usefulness.

Education of the deaf in Europe in the early
twentieth century was influenced to a large extent by
the recommendations of the International Congress at Milan
in 1880. At the Congress, delegates strongly endorsed
oral communication and a natural approach to language
development and instruction.

Language Teaching in America

The education of the deaf in America during
the nineteenth century was influenced primarily by
Thomas Hopkins Gallaudet. He was instrumental in
founding the first permanent school for the deaf in
the United States in Hartford, Connecticut, in 1817,
The American Asylum for the Deaf and Dumb, known today
as the American School for the Deaf. Gallaudet initially
went to study teaching methods used by Braidwood in
England. Braidwood was unwilling to share his techniques,

so Gallaudet went to France. He subsequently decided
to adopt the French method of signs as developed by
the Abbée de l'Epée and Abbé Sicard. Schmitt (1966)
reports that because of the paucity of written reports
it is difficult to determine the language instruction
methods used during the early nineteenth century in
America. However, since the communication methods
had been influenced by the French, it is likely that
language instruction too was so influenced and was
thus grammatical and analytic in nature.

The development and popularity of various
symbol systems was characteristic of the era. The
first such symbol system, developed by Barnard in
1836, consisted of six straight-line and curved-line
symbols which were intended to represent word relation-
ships that were "substantive, attributive, connective,
or showed assertion, influence, or time." (Nelson,
1949) in Schmitt (1966, p. 90).

During the mid-nineteenth century in America
the grammatical approach dominated language instruction.
There were, however, at the same time arguments being
presented in favour of a more natural approach. Green-
berger (1879) was among the first American educators to
adopt a completely natural approach. He advocated that
students practise language in realistic situations.
Alexander Graham Bell also adopted a natural approach,
using his student's play activities as a basis for
language instruction.

Toward the end of the nineteenth century
several more symbol systems were developed. Some of
these included, "Storrs' symbols" devised by Richard
Storrs of the Hartford School, and the Wing Symbols
devised by George Wing of the Minnesota School for
the Deaf.

The beginning of the twentieth century in
America saw an emphasis on the development and use of
language teaching devices such as the *Five Slate System*
published by Katherine Barry (1899) which gave a visible
sentence outline or "skeleton" to which sample language
was fit. Barry's system was not too dissimilar from
that introduced by Sicard a century earlier. In the
1920's, Croker, Jones and Pratt (1920-1928) introduced
their widely used series of language practice books.
In 1926, Edith Fitzgerald wrote her book entitled
Straight Language for the Deaf which introduced and
described yet another sentence pattern guide or "key".

Also during the early nineteen hundreds,
various schools and programs developed language
curriculums and guides for teaching language. Buell
(1934, 1954) published her own *Outline of Language for
Deaf Children*, Books I and II, containing language
teaching techniques and suggestions. In the mid nine-
teen hundreds language books were published by Pugh
(1955), Lassman-Harris (1951, 1963), Streng (1955),
and Groht (1958) who makes a strong case for natural
teaching order and method and points out that language
is a means to an end and should not be taught in
isolation.

Current Language Teaching

Current language instruction methods and
techniques vary widely. Some methods emphasize a more
structured formal approach while others place emphasis
on more natural approaches, (Schmitt, 1966). Certainly
no method has been totally successful as is evidenced
by the generally poor language performance of deaf

students on a variety of test instruments. Clearly,
however, Schmitt (1966) is accurate in suggesting that,
"The history of language instruction for the deaf
proves to be evolutionary rather than revolutionary."
(p. 94).

Early Language Research

This evolutionary process is also evident in
the research into the language of the deaf. The first
half of this century saw very little research on lang-
uage published in the professional literature. In the
past several decades, however, there has been a resur-
gence of interest in studies of language in general and
especially into deaf children's language. The evolution
which occurred saw a change from essentially non-linguis-
tic studies to the present linguistic focus on syntax
and even more recent research into the semantic and
pragmatic components.

Cooper and Rosenstein (1966) summarized, up
to the mid '60's, studies of deaf children's language.
Much of the early research was, as pointed out in
Chapter One, non-linguistic in nature. That is, the
data gathered were not related to an underlying system.
Not surprisingly, the studies found that language achieve-
ment of deaf students was retarded in relation to the
language achievement of hearing students. Pintner and
Paterson (1916) in one of the earlier studies reported
that the average scores of 18 year old deaf subjects
on a test of reading comprehension were lower than the
score of the average eight year old hearing subject.
Pugh (1946), Goetzinger and Rousey (1959), and Mykle-
bust (1960) report low scores on standardized reading,
paragraph meaning, and vocabulary tests.

In addition to these reported results, Cooper
and Rosenstein (1966) outline some of the studies
reporting data obtained from language samples which
examined aspects of productivity, complexity, flexi-
bility, distribution of the parts of speech, and
correctness. Studies by Heider and Heider (1940),
Templin (1950), Myklebust (1960), and Simmons (1962)
all found that average sentence length in compositions
written by deaf subjects was less than hearing subjects
of the same chronological age, but the total number of
words written did not distinguish between deaf and
hearing groups.

Studies of complexity, primarily by Heider
and Heider (1940) found deaf subjects used a larger
proportion of simple sentences, as opposed to complex
and compound sentences, than did hearing subjects. On
measures of complexity, the scores of deaf seventeen
year old subjects were equated with scores of ten year
old hearing subjects.

These same researchers (Heider and Heider,
1940) as well as Myklebust (1960) and Simmons (1962)
reported that the written language of the deaf showed
a relatively rigid style. Language samples contained
stereotyped or fixed phrases which could be learned
and repeated as units, and Simmons found little varia-
tion in syntactic patterning.

Studies reporting the distribution of the
parts of speech in compositions by deaf and hearing
subjects reported that the deaf subjects used more
nouns, determiners, or articles, and simpler verbs
than did hearing subjects. The hearing subjects
also used more adverbs.

Early Reports of Deviant Language

In analyses of correctness, several early

investigators reported deviations from standard English
in written compositions by deaf students. Fusfeld
(1955) noted misuse of the definite article, incorrect
use of verb forms, substitution of incorrect words,
lack of subject-verb agreement, and improper sequences
of words. One of the most characteristic errors
observed by Simmons (1962) was the use of extrinsic
words in the written compositions of the deaf.

One of the earliest reported studies of
errors found in deaf children's written compositions
was by Thompson (1936). Thompson counted the number
of errors per 1000 words in the four categories of:
(1) syntax and case, (2) clauses, (3) words and vocab-
ulary, and (4) punctuation. Thompson reported that
almost half the errors fell into category (3) and
within that category most errors were either of
ommission of necessary words, the use of wrong words
or the addition of unnecessary words. The largest
group of errors he reported involved omissions. His
results, although interesting, must be interpreted
with caution, however, since Thompson failed to adequately
describe the basis on which errors were assigned to
each classification.

Myklebust (1960) used similar categories to
those of Thompson in computing the percentage of deaf
and hearing subjects who made errors involving:
addition, omission of essential words, substitution,
and word order. The error found to be committed
with the greatest frequency across all ages was the
error of omission. Like Thompson's study, Myklebust's
is flawed by the lack of operational definition of
category parameters. He does, however, give examples
of each error type. An example of an [is] omission
error would be, "A boy playing." (Myklebust, 1964,
p. 296).

Limitations of Previous Research

Cooper and Rosenstein (1966) in their
summary of research into language of deaf children and
adults point to several limitations of that research.
They point out that these early studies have not been
directed to the issue of what language rules are known
implicitly by the child, but have merely described
deaf children's productions and comprehension of
written language. These language rules are important
in that it is to the extent that the deaf child's
language rules deviate from standard English that
his/her productions will also deviate from standard
or acceptable English. These language rules may not
be consciously applied, but the ability to implicitly
apply them to produce and understand sentences is
what determines a person's linguistic competence.

Contemporary Linguistic Theory and Research

Chomsky (1957, 1965) is credited with delineat-
ing the important difference between linguistic competence
and linguistic performance. His work is primarily
responsible for the renewed interest in the field of
linguistics in the past several decades. It has been
stated, in fact, that his enunciation of a theory of
language description known as transformational gener-
ative grammar revolutionized the study of the relation-
ship between Man and his language (Kretschmer and
Kretschmer, 1978, p. 9). It is perhaps more apt to
state that Chomsky's contribution has proven to be a
revolutionary step in the long evolution of language
research, since Chomsky's theories were based in part

on the work of earlier philosophers, psychologists,
and linguists (Lyons, 1970).

In light of Chomsky's theory of generative
transformational grammar and his distinction between
linguistic competence and linguistic performance,
the deficiencies of earlier non-linguistic language
studies become apparent. Reports of deaf children's
poor performance as measured on certain atomistic
features have done little to improve the efficacy of
language instruction techniques as evidenced by the
fact that these poor performance scores have not improved
appreciably over time.

As further background to the present study, an
outline of recent linguistic theory is in order. As was
suggested in Chapter One, language can be described as
consisting of four dimensions, including: pragmatics,
semantics, syntax, and phonology (Kretschmer and Kretschmer,
1978; Streng, Kretschmer and Kretschmer, 1978).

Pragmatics concerns the role of context or
communicative intent in the production and comprehension
of sentences. That is, language is used to communicate
a message, and the communicative intent will shape syntax,
semantics, and phonology. Five major concepts are con-
sidered in discussing pragmatics: speech acts, sentence
utilization, presupposition, informational organization,
and conversational constraints (Kretschmer and Kretschmer,
1978).

Semantics or meaning is said to exist on at
least two levels in language: sentences are meaningful,
and; words are meaningful (Kretschmer and Kretschmer,
1978). Semantic intent determines which language forms
or syntactic structures are slected for a sentence.
That is, the choice of which syntactic arrangement to
use is governed by the intended meaning the speaker

wishes to convey (Streng, Kretschmer, and Kretschmer, 1978). The meaning of each word within the sentence must also be consistent with the intended meaning or message to be conveyed.

Phonology, another of the four aspects of language, refers to the actual speech sounds which are produced. Kretschmer and Kretschmer (1978) indicate that phonology should be considered in light of several important concepts: phonetic distinctions, phonological distinctions refer to the raw speech sounds and how they are produced; phonological distinctions refer to speech sounds as they are part of the system of language, and; suprasegmental distinctions refer to the rhythm and stress patterns of speech.

Knowledge of syntax enables the speaker to arrange sounds and words into meaningful strings or sentences (Streng, Kretschmer, and Kretschmer, 1978). Chomsky (1957, 1965) defined syntax as the study of the principles and processes by which sentences are constructed in particular languages and postulated that there are syntactic rules at the base structure level and at the transformational level. Syntactic theory has changed in recent years, and thus following the example of Kretschmer and Kretschmer (1978) a distinction will be made here between early syntactic theory and current syntactic theory.

Early Syntactic Theory

Chomsky (1957) originally postulated a distinction between deep structure and surface structure in language. Phrase structure rules, those rules which allowed for the generation of basic sentence patterns or kernel sentences, were said to be present in deep structure. Through

application of these phrase structure of rewrite rules, kernel sentences would be produced. Streng (1972) postulated the existence of five basic sentence types or kernel sentences. Transformations were considered by Chomsky to be grammatical operations which were used to produce or generate more complex syntactic patterns from the basic kernel sentences. These early assumptions have been challenged by linguists including Chomsky himself (Francis, 1973).

Current Syntactic Theory

Current syntactic theory has added a feature — the lexicon insertion rule — to explain the transformation in a sentence from deep structure to surface structure (Chomsky, 1965; Langacker, 1973). The three constructs now postulated by linguistic theory to explain deep structure to surface structure transformation are: base structure, lexicon insertion rule, and transformational rule.

The base structure of a sentence is now said to represent the underlying constituents and their ordering for that sentence (Kretschmer and Kretschmer, 1978). The entire sentence frame is thought to be encoded at one time within the deep structure. This differs somewhat from earlier theory which proposed that all sentences were derived from kernel sentences. The branching modes (or tree diagrams) and the application of rewrite rules in current syntactic theory have been altered to allow, for example, a noun phrase (NP) to be written as a NP + sentence. These changes allow for more complete grammars to be written.

Lexical insertion rules are thought to be applied to determine which lexical items are included in a sentence. Once the speaker has decided upon the

message he wishes to convey and the appropriate sentence
frame or syntax, the range of appropriate words he may
use is restricted. Lexical items, or words, have constraints
imposed upon them which dictate their use. These constraints
as described by Kretschmer and Kretschmer (1978) include:
contextual features, inherent features, strict subcategor-
ization features, selectional features, and transformation-
al restriction features. The deep structures into which
lexical items may be correctly inserted are determined
by the above mentioned restrictions.

Three primary types of lexical selection errors
are mentioned by Kretschmer and Kretschmer (1978). These
errors are: violations of subcategorization restrictions;
violations of selectional restrictions; and violations
such as application of a past tense marker to the gramma-
tical subject of a sentence.

Transformational generative theory as origin-
ally proposed by Chomsky (1957) held that complex
sentences were generated through transformational oper-
ations on kernel sentences. Transformations are still
defined as those steps that the speaker goes through
to bring deep structure to the surface. Contemporary
syntactic theory, however, confines transformational
operations to addition, omission, substitution, and
word-order change. These transformations are carried
out within three categories: generalized transformations,
local transformations, and lexically based transformations
(N. Chomsky, 1965). Transformational operations are
another potential source of error in sentence production
or reception.

Reasons for the Study of Syntax

Of the four dimensions of language described

earlier (pragmatics, semantics, phonology, and
syntax) the latter, syntax, is the subject of this
study. In investigations of the language of deaf
students, many, if not most recent linguistic studies
(as opposed to earlier non-linguistic investigations)
have been investigations of students' syntactic
abilities. Several reasons for the emphasis on the
study of syntax may be proposed.

The nature of language is such that the
basic linguistic unit for receiving and expressing
information is the sentence. And, as Chomsky (1957)
has stated, syntax is the study of principles and
processes by which sentences are constructed in parti-
cular languages (p. 11). Thus by studying the syntax
of deaf students, that is, the manner in which they
construct and interpret sentences, it is hoped that
current linguistic research will lead to more effective
language teaching and consequently more efficient
language learning by deaf students.

Further reasons for studying deaf children's
language in terms of syntax are delineated by Russell,
Quigley, and Power (1976) who restricted their research
to syntax because, "...research has demonstrated that
syntactic structure is an area of great difficulty for
deaf students (see, for example, Quigley, Smith and
Wilbur, 1974), and the major part of innovative work
in transformational grammar has taken place in the area
of syntax, and therein lies its major promise for
teachers." (p. xii). As Streng, Kretschmer, and
Kretschmer (1978) have stated, unless the teachers of
deaf children are as well grounded in the fine points
of English syntax as delineated by modern transforma-
tional and case grammarians, they will be handicapped in

*guiding the establishment of language in their pupils
(p. 30).*

Types of Language Samples

*Much of the language research involving
deaf students has been done using written language
samples. Written language is chosen for study
because it provides a static, relatively unambiguous
sample for the researcher (Kretschmer and Kretschmer,
1978). These written language samples have involved
either a specific pencil and paper task or they may
have gathered from subject-generated written samples.*

*Early studies of the written language of
deaf children used data which were gathered primarily
from freely produced samples of writing. The research
and analyses of these data reflected the more classical
and structural teaching models which were prevalent
at the time, as described earlier. Recently, invest-
igators using transformational generative grammar
theories (Chomsky, 1957, 1965), have found that,
although freely produced data are useful for descriptive
studies, careful manipulation of stimulus and responses
can give a clearer insight into the dynamics of
language acquisition (Steinkamp and Quigley, 1977).*

*Focusing on written language samples has an
advantage over studying oral language of deaf students.
By focusing on written language, researchers preclude
the necessity of establishing techniques for differentia-
tion between problems of language form or function and
those problems related to poor phonology.*

Summary

Thus review of the literature indicates that

research into language of the deaf has evolved from primarily non-linguistic quantitative studies of atomistic features of deaf children's language to current linguistically based grammatical studies using a transformational generative framework to describe the syntax of deaf children as revealed, primarily, in their written language. Due to the evolutionary nature of linguistic theory and language research, it may be wise to heed the caution of Kretschmer and Kretschmer (1978) who write that, "Syntactic theory should be viewed as an adjunct to semantic and pragmatic descriptions of language." (p. 39).

An attempt has been made in the chapter to expand upon the context and background of the present study by providing an historical perspective of language teaching and language research involving deaf students, showing how linguistic research has evolved to its present state. Reasons for the study of syntax and syntactic errors were presented within the framework of current linguistic theory. The next chapter contains a description of the development of the test instrument and a rationale for analyzing syntactic error patterns and for concentrating on complementation items on the TSA Screen.

CHAPTER THREE

The Test Instrument

The purpose of this chapter is to describe the development of the test instrument and its contents. In addition a description of complementation errors is provided. Finally, the data gathering procedures and preparations for analysis are described.

Development of the Test of Syntactic Abilities (TSA)

Of the recent linguistic studies, the most comprehensive exploration of specific transformational rules to date has been conducted by Quigley and his associates (Kretschmer and Kretschmer, 1978). Between 1968 and 1976, Quigley and a number of his associates conducted a program of research on the syntactic structure of the language of deaf children and youth. This research was influenced mainly by the theory of transformational-generative grammar (Chomsky, 1957, 1965) as detailed in the previous chapter. The theoretical formulations, procedures, major findings and conclusions of the research are presented in a final report entitled Syntactic Structures in the Language of Deaf Children (Quigley, Wilbur, Montaneilli, Power, and Steinkamp, 1976).

In conducting the original research, Quigley and his associates constructed a number of tasks which were used to elicit specific syntactic structures in a controlled manner. This series of tasks became collectively known as the research version of the Test of Syntactic Abilities (TSA). Two basic types of test format were used: sentence-completion tasks and sentence-correction tasks (Steinkamp and Quigley, 1977).

The research version of the TSA was revised
and pilot tested. It was determined statistically
that 70 items per subtest would be required to obtain
reliabilities of between .94 and .96. The results of
the pilot testing and data analysis produced 19 tests
of 70 items each, with each item containing one correct
choice and three distractors. A twentieth test, nominal-
ization, was later included.

The TSA is both a domain referenced and a
normative test. The domain assessed by the TSA is the
syntax of standard English. The 20 individual tests
of the diagnostic battery cover nine of the major syn-
tactic structures of English: negation, conjunction,
determiners, question formation, verb processes, pronom-
inalization, relativization, complementation, and nomin-
alization. Thus the TSA includes most of the structures
which occur frequently in standard English and are of
importance for its comprehension and production (Quigley
et al., 1978, p. 2). The TSA is also normative in
that it was standardized under controlled conditions
with a random stratified sample of the target population
which resulted in norms being established on the sample
and selected sub-samples for its individual tests.

Development of the TSA Screen

The TSA - Diagnostic Battery contains 1400
multiple choice items assessing recognition and com-
prehension of the nine syntactic structures mentioned
above. The total test administration time is about
10 hours. Thus, to provide a relatively quick assess-
ment of a student's general knowledge of syntax and
provide a profile of his strengths and weaknesses on

individual structures the TSA - Screening Test was constructed (Quigley et al., 1978, p. 5).

The Screening Test has two forms which are parallel with respect to content, difficulty, and discriminating power. Each form contains 120 of the psychometrically best items from the Diagnostic Battery, and assesses the same syntactic structures as the Diagnostic Battery.

Syntactic Errors

As stated earlier, the subject of this study was the syntax of deaf students. More specifically, this study examined the nature and type of syntactic errors made by deaf students as revealed by their choice of distractors in complementation items on the Test of Syntactic Abilities Screen. An attempt will be made here to provide an empirical basis for studying syntactic errors and reasons for choosing complementation as the structure to be studied.

C. Chomsky (1969) points out that "...differ-ences in the command of syntactic structures can be revealed most readily by comprehension tests involving selected constructions of a relatively complex nature." (p. 2) She further states that "...the nature of the children's mistakes in interpreting these constructions is important in bringing out various aspects of the implicit linguistic knowledge which they do possess." (p. 2) She points out that children do not fail to understand them wrongly.

Earlier studies of deaf children's written language errors have been reported by various researchers (Fusfeld, 1955; Myklebust, 1960; Simmons, 1962; Thompson, 1936). As outlined in Chapter Two, however,

these early studies did not relate the errors and
deviations to the subjects' linguistic competence.
More recent studies have described lexical selection
errors and transformational errors, but the bulk of
recent linguistic research into syntax of the deaf
was done by Quigley and his associates (Kretschmer and
Kretschmer, 1978).

The research summarized by Quigley, Power,
and Steinkamp (1977) had five main questions in regard
to syntactic structures in the language of deaf
children. These questions concerned: (1) order of
difficulty, (2) how well established syntactic rules
were, (3) possible developmental stages for syntactic
rules, (4) acquisition of possibly distinct syntactic
rules, and (5) comparison of understanding of syntactic
structure to their rate of occurrance in reading
material.

The researchers (Quigley, Power, and Stein-
kamp, 1977) found the order of difficulty of the various
structures for deaf and hearing was similar but not
identical. They report that syntactic structures become
better established as age increases, but even the oldest
deaf subjects did not have mastery of most of the rules
whereas hearing students were reported to have mastered
all but the most difficult structures. Another conclu-
sion drawn was that syntactic structures develop similar-
ly in deaf and hearing children. The research showed
that deaf subject's language often had a number of rule-
generated structures not found in English. Finally, the
authors showed that there was a large gap between the
subjects knowledge of specific syntactic structures and
the appearance of those structures in a widely used
reading series.

The results of immediate concern to this

study are those which point to the existence of certain
distinct syntactic structures, the fourth research
question addressed by Quigley and his associates. To
quote from Quigley, Power and Steinkamp (1977, p. 78),
the value in the data, "...lie not in showing there is
a large gap between deaf and hearing children, but in
showing precisely where the problems are for the deaf
children as evidenced by their performances on the
specific tests and by the particular deviant (from
standard English) structures they use...". The authors
had found that, "...the similarities in development
within structures and in order of difficulty of structures
for deaf and hearing children seem to be greater than the
differences, except for the rate of development. An
important exception to this general rule was the presence
in many deaf subjects' language (both in comprehension
and production) of certain distinct syntactic structures
that rarely or never appeared in the language of the
hearing subjects." (p. 79).

As outlined in Chapter Two, previous studies
of deaf childrens' problems with English have generally
described the errors by categorizing them and counting
their frequency. These studies, though interesting,
provided little useful information as to why the students
made these errors. The investigations of deaf students'
difficulties with English syntax carried out by Quigley
and his associates provide evidence which is more useful
in that it provides evidence that deaf students approach
language learning in the same manner that hearing students
do, that is, by searching for generalizations (Wilbur,
1977). By examining students' syntactic deviances,
teachers can perhaps develop teaching strategies which
will enable the student to generalize the correct rule

rather than the deviant one (Russell, Quigley, and
Power, 1976).

The present study focused on complementation
items on the TSA Screen to examine the possiblity of
consistent syntactic deviancies. A rationale for choosing
complementation is presented below.

Complementation

Complementation is one of the three recursive
processes in English, the others being pronominalization
and relativization. Recursiveness is a major feature
of all grammars, and it refers to the generation of
complex sentences consisting of two or more simple
sentences joined into one (Quigley, Wilbur and Montanelli,
1976). Complementation processes may be either gerundive,
infinitival or clausal.

Gerundive complements. Gerundive complements
are referred to as POSS-ing complements because they
involve the possessive form such as, "Bryan's smoking
irritates me.", which is the complex form of the two
simple sentences: "Bryan smokes." and "It irritates
me." Thus, because it contains the possessive morpheme
('s) and an "ing" ending, this type of complement is
referred to as a POSS-ing complement.

Infinitival complements. Infinitives are
often referred to as "for-to" complements because the
complement in its complete form contains these morphemes.
For example:

My wife wants for me to take out the garbage.
The sentence would more usually be written with the
"for" deleted.

That-complements. Transformational grammarians
refer to clausal complements as "that-complements". This

is due to the use of the complementizer "that" to join
two simple sentences such as "She knows it." and "I
love my wife." to form the complex sentence, "She knows
that I love my wife." In some instances it is grammati-
cally acceptable to delete the "that" from the complex
sentence.

Complementation transformations according to
transformational generative theory are relatively complex.
Thus it is likely that deaf students would find this
particular syntactic structure relatively difficult to
master. Results of various studies have proven this to
be the case (Anderson, 1979; Clarke et al., 1979;
Quigley et al., 1978). Since this study examines
errors in the syntax of deaf children, complementation,
which has been shown to be a difficult structure and
thus likely to contain sufficient errors to analyse
was chosen for study.

Other syntactic structures have been shown
to be complex and difficult as well. In a summary of
their research, Quigley, Power and Steinkamp (1977)
report that of the syntactic structures assessed, the
more difficult structures were pronominalization (60%
correct), the verb system (58% correct), complementa-
tion (55% correct), and relativization (54% correct).
The authors stated that, "Transformational generative
grammar would predict that the recursive processes of
relativization and complementation would be difficult
for deaf children, partly because of the number of
transformations involved and partly because of departure
from the subject-verb-object surface order which deaf
students tend to impose on sentences." (Quigley, Power
and Steinkamp, 1977, p. 77).

Complementation was chosen for study over
some of the aforementioned structures, which also prove

difficult for deaf students, because it reportedly
appeared more frequently in the reading material.
Smith, Dudas and Quigley (reported in Quigley, Wilbur
and Montanelli, 1976) analyzed a reading series (McKee
et al., 1966) used by deaf and hearing students. The
series consisted of eleven texts (including three
primers) for grades up to sixth. Complement structures
(for-to and POSS-ing) appeared at the rate of four per
one hundred sentences in the sixth grade reader. Noun
complements or that complements did not appear until
the fourth grade reader, but in the fourth through
sixth grade reader appeared at least twenty-one times
per one hundred sentences.

Complementation Errors

The existence of some error patterns in
complementation has been reported in various studies.
Quigley, Wilbur and Montanelli (1976) analyzed data
gathered using a research version of the TSA. They
examined errors including: for-to complement sentences
with an extra "for"; POSS-ing complements with an extra
"to"; infinitival complements used in place of gerunds,
and; incorrectly inflected infinitives. They found
that these error types interracted significantly with
age, with students' scores improving with age.

Quigley, Power, and Steinkamp (1977) report
a strong tendency for deaf subjects to impose a subject-
verb-object pattern on sentences, and a related tend-
ency to connect the nearest noun phrase (NP) and verb
phrase (VP). Other complement errors, some of which
have already been mentioned, include: extra for, extra
"to" in POSS-ing complement, infinitive in place of
gerund, incorrectly inflected infinitive, unmarked

infinitive without "to" (Quigley et al., 1976b).

Data Preparation

Assignment of Error Types

As a result of previous research, Quigley et al., (1978) used as distractors in the TSA examples of syntactic deviancies produced by deaf students and deviancies which in previous research deaf students had accepted as being correct. The test authors (Quigley et al., 1978) state that besides revealing which aspects of syntax a child finds most difficult, the TSA yields information on specific deviancies appearing in his language (p. 15). In the TSA Guide to Administration and Interpretation, Quigley et al. (1978) provide diagnostic information concerning the possible types of errors assessed by the various items of the TSA.

Since the Screen test items are taken directly from the TSA Diagnostic Battery, the first step in assigning distractors into a syntactic error type was to match the items from the Screen with the corresponding Diagnostic Battery items for which information is provided in the Guide. Table 3 gives a summary of the complementation items on the Screen forms One and Two, the corresponding items from the TSA Diagnostic Battery, and the description of the types of errors as given in the TSA Guide (Quigley et al., 1978).

The TSA (commercial version, Quigley et al., 1978) has two subtests assessing complementation. The first tests infinitives and gerunds, the second tests that-complements in both recognition and comprehension questions. Thus each of the 108 (36 items x 3 distractors)

Table 3

Revised Screen Distractors and Parallel TSA Distractors

Class I Errors - Infinitives and Gerunds

Screen Form One		TSA Diagnostic Battery		
Item	Distractor	Item	Distractor	Error
21	C	38	C	-incorrectly inflected infinitive
46	C	55	C	-incorrectly inflected infinitive
48	D	23	D	-"to" in POSS-ing complement
49	C	9	C	-incorrectly inflected infinitive
50	A	8	C	-"to" in POSS-ing complement
52	A	5	B	-incorrectly inflected infinitive
53	D	43	D	-"to" in POSS-ing complement
54	B	21	B	-incorrectly inflected infinitive
Screen Form Two		TSA Diagnostic Battery		
21	D	66	D	-incorrectly inflected infinitive
48	B	2	B	-"to" in POSS-ing complement
49	A	52	A	-incorrectly inflected infinitive
50	D	70	D	-"to" in POSS-ing complement
52	D	16	D	-incorrectly inflected infinitive
54	D	32	D	-incorrectly inflected infinitive

Table 3 (continued)

Class II - That Complement Errors - Recognition

Screen Form One		TSA Diagnostic Battery		
Item	Distractor	Item	Distractor	Error
35		35		
38		13		
43		4		
45		14		
51	A	6	A	-That-deleted subject

Screen Form Two		TSA Diagnostic Battery		
35		2		
38		5		
43		1		
45		7		
51	A	33	A	-That-deleted subject complement

Class III That Complement - Comprehension

Screen Form One		TSA Diagnostic Battery		
95		50		
96		57		
98	C	68	C	-Surface-reading-order
100		67		
105	D	55	D	-Surface-reading-order

Screen Form Two		TSA Diagnostic Battery		
95		44		
96		41		
98	B	43	B	-Surface-reading-order
100		54		
108	D	48	D	-Surface-reading-order

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complementation distractors was assigned to an error
type in one of three classes corresponding to the type
of complementation item being assessed:

    I   infinitives and gerunds
    II   that complements - recognition
    III   That complements - comprehension

    Thus the three groups within which distractors
were classified for error analysis in this study are
in keeping with the grouping of items on the TSA.

    As can be seen in Table 3, it was not possible
to assign all of the complementation distractors to an
error type based on the information provided by Quigley
et al. (1978) in the TSA Guide. The second step in
classifying errors, therefore, involved a grammatical
analysis of each of the unclassified distractors.

    <u>Infinitives and gerunds</u>. Within this group
of distractors two types of errors were purportedly
tested by the TSA (incorrectly inflected infinitive
and "to" + POSS-ing verb). The remainder of distractors
in this error class were grouped according to the
specific nature of the error. For example, some distrac-
tors involved an "ing" deletion (The boys are good at
read.) and they were classified together as type five
while others involved a "for" insertion (I ran to
the park for to play.) and they were classified to-
gether as type six. Thus all errors in error class I
were assigned to a type based on similarity of surface
structure.

    <u>That complement-recognition</u>. Within this
error class all distractors were once again assigned
to a type based on similar surface structure. Errors
in this class involved verb agreement, incorrect
insertions, deletions, and substitutions. Errors of
"that" deletion, type ten, are purportedly assessed by

the TSA (Quigley et al., 1978).

     That complement-comprehension. The error
purportedly assessed by the TSA within this class was
an imposed surface-reading-order strategy (S-R-O)
(Quigley et al., 1978). In making this type of an error,
labeled type 13 in the present research, deaf students
impose a subject-verb-object (S-V-O) order. That is,
in gathering information from a complementized sentence,
students tend to connect two noun phrases (NP) with
a verb phrase (VP) and assume that they contain the
required information. For example in response to
"Billy knew the truck smashed the car.", a student
might respond with, "Billy knew the truck.". In
essence, all errors in class III were of this type
or variations of this type. In addition, two dis-
tractors did not fit in any of the six types in class
III and were labelled as an "other" category.

     Surface-reading-order refers to the strategy
of lifting information from the surface structure of
a sentence. That is, the student does not transform
the surface structure of a complementized sentence
back to its base structure component features, but
rather relies solely on the surface structure to derive
the meaning of the sentence.

     Within the Screen items assessing compre-
hension of that complements, the S-R-O strategy is
assessed by distractors in which the syntactic pattern
is subject-verb-object (S-V-O). Thus S-R-O refers to
the apparent strategy whereas S-V-O refers to the gramma-
tical features of the distractor.

     Within class III, it is possible to classify
distractors into two main groups because of the basic
similarity of error types 13, 15 and 16 and of types 14,
17 and 18. The two main groups correspond to type 13

(S-R-O) with types 15 and 16 as derivations, and type 14 (order reversal) with types 17 and 18 added as derivations. These two main groups are renamed A (13, 15, 16) and B (14, 17, 18) respectively for the purpose of discussion here.

Research has shown that deaf children appear to impose a subject-verb-object (S-V-O) order on sentences (Quigley et al., 1976, 1978; Wolff, 1973). Both groups A and B have a S-V-O pattern, the major difference being that group A responses begin with the initial noun phrase (NP) from the complementized sentence as the subject (S) whereas group B responses begin with the final NP, which is in fact the object (O), resulting in an O-V-S order or, a mirror image of the group A errors.

Thus, in the broadest sense all the distractors in the comprehension test items could be considered as assessing a surface-reading-order strategy in that students respond to one rearranged form of the surface structure of the stimulus sentence. Certainly the high score of type 13 distractors, those measuring S-R-O as specified by Quigley et al. (1978) would seem to support the existence of such a deviant rule in the language of deaf students. Also, items in which an S-R-O strategy produced a correct answer had a disproportionately high number of correct responses. Several, examples may serve to clarify.

The S-R-O items cited by Quigley et al. (1978) in the TSA Guide correspond to Screen One items 98 C and 105 B and Screen Two items 98 B and 105 D. An example from the group would be:

Screen One 98. The man learned a box fell on the girl.

    A. The man learned the girl.
    B. The girl fell on a box.
    C. The man learned a box.
    D. A box fell on the girl.

Distractor C in this case was the distractor which
tested for a S-R-O strategy (Type 13 error) and dis-
tractors of this type were chosen more frequently than
any other. Several other distractors, however, employ
a similar strategy.

To make the example more explicit, the surface
structure will be reduced to its component deep structure
parts. The stimulus sentence is actually made up, accord-
ing to transformational grammar, of:

The man learned something. + A box fell on the girl.

NP_1 VP_1 NP_2 NP_3 NP_2 NP_4

S_1 V_1 O_1 S_2 V_2 O_2

The correct surface structure is made up of:

NP_1 + VP_1 + NP_3 + VP_2 + NP_4 or

S_1 + V_1 + S_2 + V_2 + O_2

In this example distractor A is made up of:

The man learned the girl.

NP_1 VP_1 NP_4

S_1 V_1 O_2

Thus this distractor does conform to a S-V-O pattern,
albeit the incorrect object. Also it does conform to
a type of S-R-O strategy which in this case connects the
initial NP + VP of the stimulus sentence with the final
NP of the stimulus sentence. Distractor A in this item
is an example of error type 16.

In this particular example, distractor B is
classified as a reversal or mirror S-R-O error (type 14)
wherein the final NP of the complementized sentence, which
is actually the object, becomes the subject of the response.
This type of error is similar to the given-new contract
(Clark and Clark, 1977) as described by Kretschmer and

Kretschmer (1978). In employing such a strategy, the
student appears to connect or match the last information
in the response choice. That is, in the example above,
"the girl" is the final phrase of the stimulus sentence
and first phrase in distractor B. Thus, the dis-
tractor begins with the "given" information from the
stimulus sentence.

Table 4 gives a list of the error types
within the three classes as they were assigned for
the study. It should be noted that the study was
primarily concerned with the existence of identifiable
patterns of syntactic deviancies. Thus distractors
were assigned to an error type based on the similarities
of their surface structures. In some distractors the
error was a simple omission or substitution while in other
distractors the error may have been caused by a more
complex transformational error. The groupings by type,
however, were based on surface structure similarity,
regardless of the complexity of the possible cause of
the error.

Data Collection

The syntactic Abilities Screening Tests were
administered by school personnel, most often a trained
teacher of the deaf. The administrators were instructed
to use the same means of communication in giving in-
structions and examples to each student as were normally
used in classroom instruction with the student. Thus
instructions and examples were variously given using
speech, sign language, finger spelling, graphics and
gesture in order to ensure that subjects understood
what was required on the tests. Once the actual testing
was begun, however, no assistance was to be provided
(Rogers and Clarke, in press).

Table 4

Error Types Identified for Analysis

Class I - Infinitives and Gerunds		
Type	Description	Examples
*1.	-incorrectly inflected infinitive	David watched the elephant ate. Tom watched the men worked.
*2.	-"to" + ing verb (substitution)	David watched the elephant to eating. Tom watched the elephant to eating.
3.	-"to" deletion	The children ran home eat. The teacher told me where sit.
4.	-infinitive/gerund substitution	Tom watched the men to work. I showed the little boy how jumping.
5.	-"ing" - deletion	The boys are good at read. The man was good at spell.
6.	-"for" - insertion	I ran to the park for to play. The girls went for to fish.

Class II - That Complement - Recognition		
Type	Description	Examples
7.	-verb + ing (verb agreement)	John knowing that the lady loved ice-cream. Susan hearing that Jim helped the lady.
8.	-for/that sub (for insertion)	John knew for the lady. The man said for David won the game.
9.	-to/that substitution (to insertion)	The man said to David won the game. John knew to the lady loved ice-cream.
*10.	-"that" deletion	The baby was asleep surprised father.
11.	-that/it substitution	That was sad the cows were hungry.
12.	-so/that substitution	So the girl dropped the ball surprised the boy. So the baby was asleep surprised father.

Table 4 (continued)

Class III - That complement - Comprehension		
Type	Description	Examples
*13.	Surface Reading Order	S. John knew the car hit the policeman.
		R. John knew the car.
14.	Order Reversal (Mirror)	S. The teacher learned that Tom chased Sally.
		R. Sally chased Tom.
15.	NP + (final VP = NP)	S. The teacher learned that Tom chased Sally.
		R. The teacher chased Sally.
16.	(NP + VP) - final NP	S. The boy knows that the woman loves children.
		R. The boy knows children.
17.	final NP + initial	S. It scared Linda that the dogs hurt the boy.
		R. The boy scared Linda.
18.	(final NP + VP) + initial NP	S. That Billy was chasing birds surprised Billy.
		R. Mary surprised Billy.
19.	Other	S. It scared Linda that the dogs hurt the boy.
		R. Linda scared the dogs. [May be: "Linda (is) scared (of) the dogs."]

*Indicates error type specified by the T.S.A. (Quigley et al., 1978).

The subjects were tested in March 1978 with eight calendar days between the two testing dates. Test order was counterbalanced within each school district and students were randomly assigned in order to avoid possible order effects.

Test Format

Since data collection was completed prior to the availability of the commercial edition of the TSA (Quigley et al., 1978), permission was sought from and granted by the test authors to print the test booklets used in the study.

The test booklets. Certain changes in the format of the test instrument were made. The booklets were designed in such a manner as to allow answers to be marked in the booklet. Each booklet contained 120 items, each presented in a multiple choice format. Complementation items ($n=18$ on each Form) were presented as either recognition or comprehension items. Recognition items have three distractors and one correct choice:

```
Example:   A   David watched the elephant eat.
           B   David watched the elephant to eat.
           C   David watched the elephant ate.
           D   David watched the elephant to eating.
```

```
        [A]      [B]      [C]      [D]
```

Comprehension items also have three distractors and one correct choice, but these are preceded by a stimulus sentence.

```
Example:  That the elephant ate the flower
          surprised Father.

          A   The elephant ate the flower.
          B   The elephant ate father.
          C   Father surprised the elephant.
          D   The flowers surprised Father.
```

```
     [A]      [B]      [C]      [D]
```

Recognition items were presented separately from comprehension items. Both kinds of questions were preceded by one or more examples and a set of instructions specific to those kinds of questions.

Example instructions for <u>recognition</u>:

>   You will read groups of sentences.
>
>   Only one of the sentences is right.
>
>   You choose the right sentence.
>
>   Example 3. You choose one:
>
>>   A   Tom finished to eating.
>>   B   Tom finished eating.
>>   C   Tom finished to ate.
>>   D   Tom finished eat.

$$\boxed{A} \quad \boxed{B} \quad \boxed{C} \quad \boxed{D}$$

B. is the right sentence: <u>Tom finished eating</u>.

You mark B with an X $\boxed{A}$ $\boxed{\times}$ $\boxed{C}$ $\boxed{D}$

In this book are more sentences.

Read the sentences carefully.

Choose the right sentence.

Mark the right answer with an X in your booklet.

If you do not know, guess.

Example for <u>comprehension</u>:

Be careful. These are different kinds of sentences.

You decide what the sentences tell us.

>   Example: The boy who talked to Dad rode
>   the black horse.
>
>   What does the sentence tell us?
>
>   You choose one:
>
>>   A   Dad rode the black horse.
>>   B   The boy talked to Dad.
>>   C   The boy talked to the black horse.
>>   D   Dad talked to the black horse.

$$\boxed{A} \quad \boxed{B} \quad \boxed{C} \quad \boxed{D}$$

B. is the right sentence: <u>The boy talked to Dad</u>.

B   is marked with an X like this.

| A | | X | | C | | D |

Summary

The linguistic research carried out by Quigley and his associates led to the development of the TSA. The research version and subsequent revised versions of the TSA have yielded information on the syntactic abilities and syntactic deviancies of deaf students.

The present study used data gathered using a revised version of the TSA Screen. A description of the syntactic structure which was analyzed in the present study and a description of the final test instrument as it was used were presented. The subsequent chapters will deal with the data analyses and the results of the analyses.

CHAPTER FOUR

Method

The purpose of this chapter is to describe
the method followed to examine the research question:
do deaf students have deviant syntactic rules as
evidenced by their consistent choice of certain
types of distractors on the TSA Screen? The data
used to examine this question were part of a previous
larger study as reported by Clarke and Rogers (in
press) and by Rogers and Clarke (in press) thus,
frequent reference will be made to that research.
This chapter contains descriptions of the subjects
of the study, the test instrument, the data collection,
and data preparation procedures. Finally an outline
of the data analysis procedures is presented. The
results of these analyses are presented in Chapter
Five.

Subjects

The subjects of this study were a subsample
of a larger sample which had been identified in the
earlier demographic survey of hearing impaired
students in British Columbia (Clarke, Leslie, Rogers,
Booth, and Horvath, 1977). In March, 1978, those
students who had scored above guessing level on the
1973 Stanford Achievement Test, Special Edition for
hearing Impaired Students (SAT-HI) (reported by
Rogers et al., 1978), were tested on the Test of
Syntactic Abilities (TSA) Screening Forms One and
Two (Rogers and Clarke, in press).

Students selected for the studies related
to syntactic structure were selected according to
the following criteria:

1. Average or better academic achievement
   as indicated by their ability to score
   above chance level on the age-appro-
   priate level of the SAT-HI;

2. Age, rounded to the nearest whole
   number (as of December 31, 1977)
   between 7 and 19;

3. A hearing loss known to have a
   sensori-neural component;

4. Known to have been fitted with a
   personal hearing aid, and/or;

5. In need of special educational treat-
   ment because of hearing impairment.

Altogether, 505 students were tested with both forms
of the TSA Screening Test (Rogers and Clarke, in press).
Of this number, 129 had the following audiometric
characteristic:

6. Hearing threshold level (HTL) of
   90+ decibels (dB) obtained by calcula-
   ting the arithmetic mean of the pure
   tone air conduction thresholds in the
   better ear at frequencies of 500,
   1000, and 2000 Hertz (Hz), using
   American National Standards Institute
   (ANSI) criteria.

This group of 129 profoundly deaf students served as
the sample for the present study.

Students with these characteristics were
chosen for study for the following reasons: (1)
The TSA (Quigley et al., 1978) was initially standard-
ized with a large population of hearing impaired
students with the following characteristics:

1. *Sensori-neural hearing impairment of not less than an average of 90 dB (ISO) in the better ear at 500, 1000, and 2000 Hz.;*

2. *Hearing impairment present before the age of two years;*

3. *I.Q. of at least 80 on the performance scale of the WISC or WAIS, or some comparable test;*

4. *No apparent disabilities in addition to hearing impairment other than corrected visual defects.*

Thus students were selected for this study who had characteristics similar to those of the normative sample used by Quigley et al.; (2) A second rationale for choosing the 129 subjects of this study was that previous research (Clarke and Rogers, in press; Quigley et al., 1978) had shown that syntactic performance decreased as severity of hearing loss increased, and since the purpose of this study was to examine syntactic errors, the students most likely to make errors were chosen for study; (3) Finally, much of the literature regarding syntactic errors made by children with impaired hearing uses the term deaf (Jones and Quigley, 1979; Quigley, Power, and Steinkamp, 1977; Russel, Quigley, and Power, 1976; Steinkamp and Quigley, 1977; Wilbur, 1977). The term deaf is used to refer to "those whose hearing loss has precluded normal acquisition of language." (Myklebust, 1964, p. 4). Moores (1978) defines a deaf person as "one whose hearing is disabled to an extent (usually 70 dB ISO or greater) that precludes the understanding of speech through the ear alone, without or with the use of a hearing aid." (p. 5),

and he defines the highest level of deafness, level
IV, as 90 dB and beyond. Wolff (1973) suggests that
in examining the effects of hearing loss on language
acquisition, "the best strategy is to consider the
extreme or 'pure' case of complete deafness; if we can
find a satisfactory solution to this problem this is
bound to help us solve the less severe problems."
(p. 154).

The students chosen for the study, therefore,
were those whose hearing loss was profound, who were
most likely to make syntactic errors, and who were
similar to the TSA normative sample. The distribution
of students by age was: 8 - 10 (n = 12); 11 - 13 (n = 56);
14 - 16 (n = 35); 17^+ (n = 26).

Instrument

The test instrument used in the study was a
revised version of the Test of Syntactic Ability
(TSA) (Quigley et al., 1978) Screen Forms One and
Two. The development of the TSA was described in
Chapter Three.

The syntactic structures assessed by the
Screen include: Negation
                      Conjunction
                      Determiners
                      Question Formation
                      Verb Processes
                      Pronominalization
                      Relativization
                      Complementation
                      Nominalization

The items chosen for the Screen are the most discriminating
items from the larger TSA Diagnostic Battery. The Screen
items chosen for the present study were those which assess
complementation.

A rationale for choosing complementation was
presented in Chapter Three. It should be noted

here that the students in the British Columbia sample
obtained scores similar to those reported in the
earlier study. The scores averaged across both
Screen Forms for the B.C. sample as reported by Rogers
and Clarke (in press) were: pronominalization 55%
correct, the verb system 53% correct, complementation
47.8% correct, and relativization 42.9% correct. Thus
complementation items were sufficiently difficult so as
to be maximally discriminating. Complementation was
chosen over some of the other difficult structures
because it appeared more frequently in the common
reading materials used with deaf children. An addition-
al reason for choosing complementation was the fact
that it was one of the structures which appeared with
sufficient frequency on the Screens (18 times on each
Screen Form) so as to allow analysis.

Preparation for Analysis

The data from the earlier studies (Clarke and
Rogers, in press; Rogers and Clarke, in press) were
stored on computer file at the University of British
Columbia. The item responses had been coded and key
punched and merged with the demographic data (Clarke
et al., 1977). The resulting file for each subject was
independently verified by two research assistants. Dis-
crepancies were resolved and an error count of less than
one percent was obtained.

For this study a new file was created containing
the data for the 129 students who met the criteria for
inclusion in the study. Since the intent of the present
research was to examine possible error patterns it was
necessary to re-score the items so that percentage scores
for error type rather than for the correct option were

obtained. This re-scoring was accomplished by assigning
a score value of one (1) to a distractor if it was of
the type being analyzed. All other distractors on that
particular analysis were assigned a score value of zero
(0). This procedure was repeated for each of the 19
error types for all of the 36 complementation items.
The scoring key is presented in Appendix B.

The next preparatory step for data analysis
involved merging the scores from Screen Form One and
Two. This had the effect of doubling the number of
items analyzed. That is, on each Form there were 18
complementation items, and by merging each student's
score there were a total of 108 distractors (36 items
x 3 distractors - 108) to be analyzed. Each of the
108 distractors was assigned to an error type as des-
cribed in Chapter Three. Table 5 gives the frequency
distribution of the complementation distractors re-
presenting each error type.

Data Analysis

The procedures used in the initial analysis
of the data are described in Appendix A. The results
described in Chapter Five were obtained using the
procedures described below.

The first step in the data analyses procedure
was an item analysis of each of the 18 complementation
items on both Screen Form One and Two to obtain percentage
scores for each distractor. The item analysis was
carried out using the Laboratory of Education Research
Test Analysis Package (LERTAP) (Nelson, 1974). This
program is especially subtest oriented and yields
percentage scores for subtest items, and so it was
chosen for use in the study.

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Table 5

Frequency Distribution of Screen
Items by Error Type.

Type   Screen One   Screen Two   Total of Type

Infinitives and Gerunds

                n=   n=   N=
 1   6   5   11
 2   8   7   15
 3   3   3   6
 4   5   5   10
 5   2   2   4
 6   0   0   2

That Complement Recognition

 7   3   3   6
 8   4   4   8
 9   3   3   6
10   3   3   6
11   1   1   2
12   1   1   2

That Complement Comprehension

13   3   2   5
14   2   3   5
15   3   4   7
16   3   2   5
17   1   2   3
18   1   2   3
19   2   0   2

Totals   54   54   108

The *second step* involved regrouping the percentage scores for each distractor into error types, using the percentage scores obtained in step one. In effect, 19 separate LERTAP analyses were carried out, with the response key changing each time to assign a score of one only to those distractors of the type being measured. For example, to obtain the percentage score for type 1 errors (those assessing an incorrectly inflected infinitive) all distractors containing this type of error were scored one (n = 11) and the remaining 97 distractors were scored zero.

The *third step* involved calculating the mean percentage score for each error type. These were obtained by subtracting the number of subjects who chose the correct answer on each test item from the total number of subjects. The resulting difference was then used as the new sample size for that item on which percentage scores for each error type were calculated. The procedure was: $N - k = n$ and

$$i/n \times 100 = X\%$$ where

N =   all subjects (129)

k =   subjects who correctly answered the item

n =   number of subjects who made an error

i =   number of subjects who chose a particular distractor

X =   percentage of those individuals who: (1) made an error and, (2) chose a particular distractor.

Thus for each item the percentage score for error types was calculated on a different n. This procedure, however, gave a more accurate indication of which errors were most frequently chosen by those students who made an error on that test item.

The _fourth step_ involved calculating the
overall mean percentage score for each error type.
This was done by summing the percentage score obtained
in step three of all the distractors within each type
and dividing the total by the number of distractors of
that type. The procedure was:

$$\tilde{X}_{\cdot j} = \sum_{i=1}^{n} X_{ij}/n \qquad \text{where}$$

X = the percentage score for
each distractor

j = the error type (1 - 19) or
groups

i = the individual items within
each group

N = the number of distractors
representing each error type

The data were then examined in terms of the
overall mean percentage scores obtained by each error
type. The next analysis was item by item for triads
occuring two or more times in any error class. The
results of these analyses are presented in Chapter
Five.

CHAPTER FIVE

Results

This chapter contains the results of the analysis procedures described in the preceding chapter. A decision regarding the null hypothesis (H_0) is reported, and a discussion of the various error types within the three classes is presented. In addition, the efficacy of the TSA Screen as a research instrument, one of the secondary questions, is discussed in light of the results of this study. The subsequent chapter contains further discussion of the results, implications for teaching and for future study, and the limitations of the present study.

Item Analysis

In each of the complementation items, students who did not choose the correct answer had a choice of three distractors. Thus if the distractors were chosen randomly, the mean percentage score for each distractor should equal 33.3% (one third of the number of subjects making an error on any one item). Any percentages which were reliably greater or less than 33.3% would indicate that an error type was chosen more frequently or less frequently than might be expected if they were chosen randomly.

One factor which made error pattern identification difficult on the Screen was the fact that items were juxtaposed with unequal frequency. For example, type 1 distractors were competing in various items with types 2 and 4; in other instances, type 1 distractors were juxtaposed with types 2 and 3, and; in still another

instance, types 1, 2, and 6 error types were juxtaposed.
Thus it was not possible to reliably interpret deviations
of the overall mean scores of the error types from that
expected by chance.

Thus the scores which are presented are the
percentage scores for each distractor item by item. To
test for significant differences from the expected
percentage scores a chi-square analysis was performed.
These chi-squares were performed only when triads of
distractors occurred in more than one item. For example,
if distractors of error type 1, 2, and 3 occurred to-
gether in two or more items, a chi-square was calculated
for each of those items to test if any differences from
the expected value of 33.3 were significant.

It may be noted that the total across some
rows does not equal 100%. This occurred because in
several instances subjects neither made an error nor
chose the correct answer, that is, the student may have
omitted the item and thus was excluded from the cal-
culations.

Infinitive and Gerund Errors (Class I, types 1-6)

Infinitive and gerund items had distractors
which were identified as:

        type 1 - incorrectly inflected infinitive
        type 2 - "to" + "ing" verb (substitution)
        type 3 - "to" deletion
        type 4 - infinitive/gerund substitution
        type 5 - "ing" deletion
        type 6 - "for" substitution (see Chapter Three).

Within this class of errors, three groups of triads occurred
within more than a single item. These triad groupings
are identified for discussion as Group A (types 1, 2,
and 3), Group B (types 1, 2, and 4), and Group C (types
2, 4, and 5).

Group A. Type 1 distractors, those assessing incorrectly inflected infinitives (eg., He liked to played baseball.), type 2, those with a "to" plus an "ing" verb (eg., The children ran home to eating.), and type 3, those with a "to" deletion (eg., It is fun help.) were juxtaposed in five items. These triads are presented on Table 6 as Group A. As shown in Table 6, when types 1, 2, and 3 were juxtaposed, type 3 errors were made more frequently in four of the five items. One of the differences was significant at $p < .05$ and another at $p < .10$. However, in one of the Group A items, type 3 was the least frequently chosen distractor ($p < .05$). Thus the means across the three types were not tested for significance since the individual items showed significant differences which were not consistently in favor of the same error type.

Group B. When the triad of distractors consisted of error types 1, 2, and 4, those with an infinitive/gerund substitution (eg., David watched the elephant to eat.), the type 4 errors were chosen most frequently in four of five items. Table 6 shows that the scores were significant ($p < .05$) in two of these items in Group B.

Group C. A third triad which occurred three times was the juxtaposition of types 2, 4, and 5 errors. In two of the three cases the differences from the expected mean were significant at the .05 level. However, the difference was significant in favor of type 2 in one instance and in favor of type 5 in the other.

That Complement-Recognition Errors (Class II, types 7-12)

The types of syntactic deviancies found in

Table 6

Percentage Scores and Chi-Squares for Triads
in Error Class I (Types 1-6)

Group A : Type	1	2	3	N	χ^2
Item					
21 (Screen One)	22.8	30.4	46.7	92	6.98*
48 (Screen One)	30.2	23.4	44.4	63	4.21
48 (Screen One)	39.6	43.7	16.7	48	6.10*
21 (Screen Two)	31.0	25.3	43.7	87	4.64**
48 (Screen Two)	27.1	32.9	40.0	70	1.15

Group B : Type	1	2	4	N	χ^2
Item					
46 (Screen One)	37.7	44.3	18.0	61	6.86*
52 (Screen One)	12.3	57.9	28.1	57	18.40*
54 (Screen One)	25.8	40.3	32.3	62	1.98
52 (Screen Two)	27.4	45.2	27.4	62	3.93
54 (Screen Two)	34.8	34.8	30.3	66	0.27

Group C : Type	2	4	5	N	χ^2
Item					
50 (Screen One)	30.0	36.7	33.3	60	.40
53 (Screen One)	46.8	37.9	13.9	79	13.80*
50 (Screen Two)	29.2	18.8	50.0	48	7.29*

N = number of subjects who incorrectly answered
each item
* = $p < .05$
** = $p < .10$

the distractors for that complement recognition test
items were identified in Chapter Three as:

           type 7   - verb + ing (verb agreement)
           type 8   - for/that substitution
           type 9   - to/that substitution
           type 10 - "that" deletion
           type 11 - that/it substitution
           type 12 - so/that substitution

Within this class of errors, the type which is purport-
edly assessed by the TSA and which is said to occur in
the language of deaf students is error type 10, "that"
deletion (eg., That baby was asleep surprised father.).

          Group A. The triad which occurred most fre-
quently in this class of errors was the type 7, 8, 9
triad. This grouping occurred a total of six times.
As can be seen in Table 7, two of the chi-squares were
significant at .05 and two at .10. On Screen One items,
type 7 was chosen more frequently than the others two
of three times, whereas type 7 errors were chosen
least frequently in two of three items on Screen Two.
Thus while some of the chi-squares were significant,
they were not always significant in favor of the same
error type.

          Group B. Type 8 errors appeared juxtaposed
with types 10 ("that" deletion) and 12 (so for that
substitution) in two items. In both cases, the high
scores of the type 10 errors resulted in very low
scores for type 8 and type 12. On both items the
chi-square was significant at the .05 level. Thus
for this grouping of error types the null hypothesis
was rejected and it was concluded that the deaf
students who made errors on that complement recog-
nition items, made "that" deletion errors more fre-
quently than was expected by chance. This result

Table 7

Percentage Scores and Chi-Squares for Triads
in Error Class II (Types 7-12)

Group A : Type	7	8	9	N	χ^2
Item					
35 (Screen One)	45.0	10.0	42.5	40	9.18*
38 (Screen One)	31.8	30.0	38.6	44	.545
43 (Screen One)	46.2	19.2	32.7	52	5.71**
35 (Screen Two)	19.2	34.6	46.2	52	5.73**
38 (Screen Two)	18.5	29.6	49.1	54	7.82*
43 (Screen Two)	43.9	21.1	35.1	57	4.53

Group B : Type	8	10	12	N	χ^2
Item					
51 (Screen One)	4.2	79.2	14.6	96	95.2*
51 (Screen Two)	11.2	73.9	14.6	96	58.6*

N = number of subjects who incorrectly answered each
     item
* = $p < .05$
** = $p < .10$

supports the literature which reports incorrect
"that" deletion to be a syntactic deviancy specific to,
and common in, the language of deaf students (Quigley
et al., 1978).

That Complement Comprehension Errors (Class III, types 13-19)
            In the review of literature it was noted that
diagnostic information could best be obtained from an
analysis of student's comprehension of certain syntactic
structure (Menyuk, 1969). The Screen items which assess
comprehension of complementation had distractors which
contained the following errors as described in Chapter
Three: type 13 - surface reading order (SRO)
           type 14 - order reversal (mirror)
           type 15 - NP + (final VP + NP)
           type 16 - (NP + VP) + final NP
           type 17 - final NP + initial clause
           type 18 - (final NP + VP) + initial NP
           type 19 - other
Within the class of errors, the type which is purportedly
assessed by the TSA and which reportedly occurs frequently
in the language of deaf students (Quigley et al., 1978),
is type 13, an imposed surface-reading-order strategy.
Type 19 was a category created to contain two items which
could not be otherwise classified, and as such it was
not analyzed.
            In this error class only one triad occurred
more than once. The errors which were juxtaposed in
that triad were types 14, 15, and 16. The percentage
scores and chi-squares for these triads are presented in
Table 8.

Table 8

Percentage Scores and Chi-Squares
for Triads in Error Class III

Type		14	15	16	N	^{2}
Item						
95	(Screen Two)	33.3	28.2	35.9	38	.13
100	(Screen Two)	4.4	26.7	64.4	43	23.80*

N = number of subjects who incorrectly answered each
    item
* = p < .05

Within this triad, type 16 errors were
committed with significantly greater frequency on one
of the two items, as can be seen in Table 8. On this
particular item, number 100 on Screen Two, the high
score obtained by the type 16 distractor was at the
expense of the type 14 error. Again in this group
of errors as was the case with the previous error
types because of the unequal juxtaposition of error
types, it cannot be determined it the observed sig-
nificant difference from the expected score is due
to a deviant syntactic rule which students may employ
or due merely to context effect. Thus for this pair
of triads the null hypothesis was not rejected.

Summary

The primary purpose of this study was to
determine if profoundly deaf students selected dis-
tractors of various syntactic error types with greater
than expected frequency. The results presented above

reveal an uneven pattern. There appears to be some
indication that, given a sufficient number of items
and students, and controlling for frequency of occurrance,
students may select some error type distractors more
frequently than others. These results suggest that
the profoundly deaf students in the sample in this
study are capable of linguistic rule generation. That
results suggest that the profoundly deaf students in
the sample in this study are capable of linguistic
rule generation. That is, as was reliably revealed
on at least one group of items, students made a
particular type of error more frequently than was
expected by chance alone, and thus appeared to be
operating according to some rule, at least on those
items.

Another of the purposes of this study was
to test the efficacy of using the TSA Screen to
provide information on syntactic deviancies in the
language of deaf students. Quigley et al., (1978)
refer to several specific deviancies purportedly
measured by the TSA. These deviancies in the tests
of complementation included: for-to complements
with incorrect tense marking; the presence of "to"
in POSS-ing complements; that-deleted complements,
and; surface-reading-order strategy. In this study,
those errors referred to by Quigley et al. (1978)
correspond to types 1, 2, 10 and 13 respectively.
These errors were specific to certain kinds of comple-
mentation items. Types 1 and 2 were found in infin-
itive and gerund items, type 10 was found in that
complement recognition items and type 13 was found

in that complement comprehension items.

Results showed that within those triads which were analyzed, none of the scores for error type 1 distractors were significantly larger than the expected score, whereas type 2 distractors were chosen significantly more frequently in four of the items. Individual item analysis and chi-squares, however, revealed mixed results, so caution must be exercised in interpreting these scores. Distractors labelled error type 10, another of the errors identified by Quigley et al. (1978) were selected more frequently than any other in the items testing recognition of that complements. The chi-squares for triads containing type 10 errors were significant (p < .05). And, type 13 errors, although accepted as correct more frequently overall than all other types in test items assessing comprehension of that complements did not appear regularly in any triads, and tests of significance were therefore not performed. The results would seem to support the results of previous studies (Quigley et al., 1978; Russell, Quigley, and Power, 1976) which reported the existence of specific syntactic deviancies in the language of deaf students, by virtue of the fact that these reported deviancies were chosen with some degree of frequency by subjects of this study. These same results would also seem to support the ability of the Screen to identify these deviancies in the language of individual deaf students. That is, the Screen may be able to provide information for an individual student's syntactic error profile, since those errors purportedly assessed by the TSA

(Quigley et al., 1978) were made with significant
frequency in some items.

An adjunct to the question of the ability
of the Screen to assess specific deviancies in the
language of deaf students was the question of the
feasability of using the TSA Screen as a research
instrument to analyze syntactic errors in a large
sample of profoundly deaf students. It would appear,
from the results of this study, that the TSA Screen
can not be effectively used as a research instrument
for that purpose because of the infrequency of
occurrance of some of the error types and the unequal
juxtapositioning of the various types. These limit-
ations will be discussed further in Chapter Six.

CHAPTER SIX

Summary and Conclusions

The purpose of this chapter is to summarize the methods used and results obtained in the present study. In addition, some of the possibilities for future research are presented in light of the limitations of the present study. The implications for education are also discussed.

Summary

In this research, the responses to complementation test items of the TSA Screen by severely hearing impaired $(90^+$ dB HTL) students were examined. The students ranged in age from 8 to 19 years. Student responses were analyzed in terms of errors rather than correct responses. One of the purposes of this research was to determine if students made syntactic errors according to a consistent pattern. It was theorized that deaf students did in fact have a set of syntactic rules, albeit rules which did not conform to standard English usage, and the consistent choice of distractors of a certain error type would be an indication of the existence of these deviant rules of syntax.

Distractors (incorrect choices) of all complementation items on both Form One and Two of the Screen were classified into an error category based on the surface-structure syntactic similarity of the distractors. Error types were grouped within

three classes, corresponding to the three types
of complementation questions on the Screen (infini-
tives and gerunds, that complement-recognition,
and that complement-comprehension). The examin-
ation of student responses to the distractors
revealed that certain error types occurred more
frequently than others. However, a clear test
of the null hypothesis of equal frequency of
occurrence could not be performed because of the
unequal juxtaposition of the various error types.
Item level analysis of the triads of error types
which occurred two or more times did reveal that
within certain triads some errors were made sig-
nificantly more frequently than others. No clear
pattern could be established however, since the
significant differences observed in the various
triads were not consistently in favor of the same
error type, but rather seemed to be affected by
the types of errors which made up the triad. Thus
for the students sampled in the study it was
concluded that some form of syntactic rule generation
may have influenced students' responses to indi-
vidual test items, but this conclusion could not
be generalized across all types.

Limitations of the Present Study
        This study was limited in several areas.
A secondary purpose of this research was to determine
the feasability of using the TSA Screen as a research
instrument to study syntactic errors in a large sample
of deaf students. Difficulties encountered in the
research cast doubt on the efficacy of using the

Screen for such a purpose. One of the instrument-
related limitations was the small number of test
items representative of each error type. This
problem might have been remedied by including TSA
Screen items which test different syntactic struc-
tures. The errors found in the complementation
distractors, however, are not all consistent across
these other syntactic environments and it would
have been necessary, therefore, to classify most of
the distractors of the other TSA items into new
error types. In so doing, the total number of items
would again be subdivided into smaller groups,
thereby recreating the original problem of too
few examples of each error type.

A second major limitation was the fact
that the various types of errors did not occur
with equal frequency and they were not evenly jux-
taposed. This fact prohibited statistical compari-
son of mean scores across error types. For example,
when an error type occurred only in two items,
it was not possible to report with any reliability
that the average score for the error type in those
two items was indicative of, or generalizeable, to,
the larger population of items.

A question asked at the outset of this
research was whether student age was a factor influ-
encing the type of syntactic errors made by students.
It was reasoned that if certain errors were character-
istic of particular ages, than instruction of the
correct syntactic rules could be initiated immediate-
ly prior to the age at which the incorrect rule was
observed, thereby possibly improving the students'

syntactic competence. The nature of the test instru-
ment, the type of data, and the complexity of the
analytical statistical procedures required (see
Appendix A) were such that the analyses could not
proceed as initially envisioned. Thus no statis-
tically reliable conclusion regarding age as a
factor could be drawn.

Implications for Future Study

The TSA Screen, in its present form,
could not be efficiently used as a research instrument
to test syntactic deviancies of a large sample. Thus,
one of the implications or suggestions for future
study would be to use the domains of the TSA Diag-
nostic Battery. The complementation portion of
the larger TSA contains two subtests each made up
of 70 items. Thus, rather than having 108 distrac-
tors as was the case with the Screen, the TSA would
allow analysis of student responses on 420 (140
items x 3 distractors = 420) distractors. This
procedure was not undertaken in the present study
because the data base available for the Screen
contained responses for 129 subjects who met the
criteria for inclusion in the study (ie. 90^+ dB
HTL), whereas the number of elligible subjects
who were tested on the TSA domains was less than
1/3 of those tested on the Screen.

Another area for future research would
involve reconstructing the TSA Screen so as to
control for the number of examples of each error
type. If all of the errors included in the test
occurred with equal frequency, and if they were

juxtaposed an equal number of times, the Screen
could be efficiently used as a research instrument.
If these factors were controlled, simple comparison
of the mean scores of the error types (using Scheffe's
S procedure) would provide an indication of which
types of errors (if any) are made consistently. Such
a revision would also increase the efficiency of
the Screen in fulfilling its original purpose which
was to provide a relatively quick assessment of
a student's general knowledge of syntax and provide
a profile of his strengths and weaknesses on individ-
ual structures (Quigley et al., 1978, p. 5). Such
a task, however, would be prohibitive and the
large number of items required would require as
much or more time be spent in administration of
such a revised Screen as would be spent in administer-
ing several subtests of the TSA domains.

     Another area for future study might be
the examination of possible deviancies in syntactic
structures other than complementation. Although
some of these structures may not be as difficult
for deaf students, the students may still make
systematic syntactic errors in them.

     In the preliminary study outlined in
Appendix A, age was considered as a variable with
hearing threshold levels considered as a control
variable with hearing threshold levels considered
as a control variable and set at 90^{+} dB as a criteria
for inclusion in the study. Some significant
insights might be obtained by examining HTL as an
independent variable to determine if students with
different HTL's consistently make the same kind or

number of syntactic errors. Analysis of variance
in future studies might include: error x age;
error x HTL; and, error x age x HTL. Communication
method (oral, ASL, or Signed English) should also
be considered as variables in future analysis of
syntactic errors. Some researchers, including
Ivimey (1976) consider that communication method-
ology might be a factor influencing syntactic
development.

Implications for Education

One educational implication of this study
concerns the fact that deaf students did appear to
be responding to certain error types more frequently,
that is, according to some rule, rather than randomly.
Results of the previous research in this area (Russell,
Quigley, and Power, 1976) are more reliable. It
would appear, therefore, that deaf students' poor
syntactic performance can be improved, since if
they are capable of learning an incorrect or deviant
rule they must also be capable of learning the
correct rules of syntax. Educators of the hearing
impaired therefore, would be well advised to
examine their students' language in terms of
syntactic patterns rather than individual errors.

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Appendix A

Preliminary Data Analysis

As was mentioned in both Chapter Two and
Chapter Five, it was initially considered that the data
base would allow for analysis of variance by age. Thus
one of the earlier questions had been: do deaf students
of different age groups (8-10, 11-13, 14-16, and 17+)
choose different types of distractors, and thereby indicate
that they have a set of deviant syntactic rules specific
to their age group?

The preliminary analyses followed the first
and second steps outlined in Chapter Five. After obtain-
ing the raw data (percentage scores), however, the follow-
ing procedure was followed:

> 3. An arcsin transformation of the raw
>   data to enable comparisons between
>   error types to be carried out.
>
> 4. Analysis of variance (ANOVA).
>   (a) by age of subjects
>   (b) by error type
>   (c) age x type
>
> 5. Contrasts between error types using
>   Scheffé's S. procedure to determine
>   significant differences between error
>   type frequency rank order (Kirk, 1968,
>   p. 90)

Examination of the data produced by these procedures,
however, revealed several inconsistencies and the results
are, therefore, not reported.

Examination of the rank-order scores before and
after the arcsin transformation revealed a difference in
the rank order. That is, the rank order of the mean percent-
age scores for each of the error types within the three
classes was different than the order after the Scheffé

procedure on the arcsined raw data. For example in the
first class of errors the rank order for the error types
using mean percentage scores was 4, 2, 6, 1, 3, 5. How-
ever, results after arcsin transformation and S-Method
comparison were: 2/4, 1, 3, 5, 6. That is, types 2 and
4 had identical scores and occured most frequently, but,
whereas the initial rank order for the remaining 4 error
types had been 6, 1, 3, 5 using the mean percentage
score, the order had now changed to 1, 3, 5, 6. Changes
in the rank order of types 7 - 12 and 13 - 19 were
also observed.

Check of the data failed to reveal any errors
in transcribing or interpreting the data output.
It was concluded, therefore, that the source of the
problem lay in the type of procedures which were used
and the manner in which the raw data were arranged.
That is, the keying of a distractor with a score of
zero (0) could be interpreted as meaning either that
it was the correct choice for that particular test
item or that the item did not contain the error type
being tabulated on that particular analysis. For
example, in the Key in Appendix B, column 1, row 1
contains a zero which indicated that for item 21,
choice A or 1 was the correct choice. However, rows
2 and 4 in that same column were also read by the com-
puter as having a score of 0. Thus when analytical
procedures were applied it was impossible to discriminate
between students who did not choose the error type because
they chose the correct answer.

In order to overcome this problem, additional
analyses were added to the study. The first additional
analysis involved excluding from the total number of
subjects all those who scored one hundred percent correct

for that particular error type. The results of this
analysis are presented in Table 9. Examination of
Table 9 shows that the number of subjects (n) who
made at least one error varied from one error type
to the next. Therefore, the samples were no longer
homogeneous across error types. No further analyses
were undertaken, therefore, on the subject variable of
age x type. Subsequent analyses were carried out on
items only, and should only be considered applicable
to the particular sample used in this study.

Table 9

Error Analyses Summary Table
Error Class I (Types 1-6) (N items=16)

	1	2	3	4	5	6	N
*k^1	11	15	6	10	4	2	48
*k	13	13	26	14	27	50	143
*n	116	116	103	115	102	79	631
$\overline{X}$	16.46	20.63	16.83	21.13	16.91	25.31	
S_x	16.19	17.30	18.76	11.93	15.57	26.64	

Error Class II (Types 7-12) (n items=10)

	7	8	9	10	11	12	N
*k^1	6	8	6	+4	2	2	+28
*k	37	6	37	7	48	14	149
*n	92	123	92	122	81	115	625
$\overline{X}$	18.29	8.84	22.28	44.46	27.77	12.17	
S_x	15.89	12.80	17.76	24.41	27.58	24.71	

Error Class III (Types 12-19) (n items=10)

	13	14	15	16	17	18	19	N
*k^1	5	5	7	5	3	3	2	30
*k	25	33	37	31	39	46	71	
*n	104	96	96	98	90	83	58	
$\overline{X}$	21.92	12.71	12.11	15.31	12.96	24.09	31.03	
S_x	14.74	12.22	12.05	16.83	17.90	16.77	19.43	

*k^1 — number of distractors

*k — number of subjects not making any errors of this type

*n — number of subjects making at least one error of this type (129-k=n)

+ — two distractors of same type occured together in one item and scores were combined.

Appendix B

Assignment of Scores for Item Analysis for Error Types 1-6 Infinitives and Gerunds

Screen Item	Type	Screen One						Screen Two					
		1	2	3	4	5	6	1	2	3	4	5	6
21	A	0	0	0	0	0	0				1		
	B				1			0	0	0	0	0	0
	C	1							1				
	D			1				1					
46	A	0	0	0	0	0	0	0	0	0	0	0	0
	B			1							1		
	C	1								1			
	D		1						1				
48	A	1						1					
	B				1				1				
	C	0	0	0	0	0	0			1			
	D		1					0	0	0	0	0	0
49	A	0	0	0	0	0	0	1					
	B				1								1
	C	1						0	0	0	0	0	0
	D		1						1				
50	A		1								1		
	B				1			0	0	0	0	0	0
	C	0	0	0	0	0	0					1	
	D						1		1				
52	A	1								1			
	B	0	0	0	0	0	0		1				
	C			1				0	0	0	0	0	0
	D		1					1					
53	A	0	0	0	0	0	0			1			
	B				1							1	
	C					1							1
	D		1					0	0	0	0	0	0
54	A			1					1				
	B	1						0	0	0	0	0	0
	C	0	0	0	0	0	0			1			
	D		1					1					

Appendix B (continued)

Assignment of Scores for Iem Analysis for Error Types 7-12 Infinitives and Gerunds

Screen Item	Type	Screen 1 7	8	9	10	11	12	Screen 2 7	8	9	10	11	12
35	A		1						1				
	B			1				1					
	C	0	0	0	0	0	0	0	0	0	0	0	0
	D	1							1				
38	A		1						1				
	B			1				0	0	0	0	0	0
	C	0	0	0	0	0	0	1					
	D	1							1				
43	A		1						1				
	B			1						1			
	C	0	0	0	0	0	0	0	0	0	0	0	0
	D	1						1					
45	A	0	0	0	0	0	0	0	0	0	0	0	0
	B				1						1		
	C					1						1	
	D				1						1		
51	A				1						1		
	B						1		1				
	C		1										1
	D	0	0	0	0	0	0	0	0	0	0	0	0

Error Types 13-19 That Complement Comprehension

Screen Item	Type	Screen One							Screen Two						
		13	14	15	16	17	18	19	13	14	15	16	17	18	19
95	A							1		1					
	B	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	C				1						1				
	D			1								1			
96	A	0	0	0	0	0	0	0		1					
	B							1					1		
	C					1			0	0	0	0	0	0	0
	D			1						1					
98	A				1									1	
	B		1						1						
	C	1							0	0	0	0	0	0	0
	D	0	0	0	0	0	0	0		1					
100	A			1					0	0	0	0	0	0	0
	B	0	0	0	0	0	0	0					1		
	C	1								1					
	D		1								1				
105	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	B				1								1		
	C						1							1	
	D	1							1						

APPENDIX C

TSA

SCREENING TEST

FORM 1

FORM 2

TEST OF SYNTACTIC ABILITIES

SCREENING TEST

FORM 1

University of Illinois at Urbana-Champaign

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British Columbia, Canada.

TEST OF SYNTACTIC ABILITIES

SCREENING TEST

FORM 1

Name: _____

Date of Birth: _____

School: _____

School District: _____

Date of Test: _____

You will read groups of sentences. Only one of the sentences
is right. You choose the right sentence.

Example 1. You choose one:

    A. The flower is not yellow.

    B. The flower is no yellow.

    C. The flower not is yellow.

    D. The flower is yellow no.

$$\boxed{A} \qquad \boxed{B} \qquad \boxed{C} \qquad \boxed{D}$$

A. is the right sentence: <u>The flower is not yellow.</u>

$\boxed{A}$ is marked with an **X** like this: $\boxed{\times} \quad \boxed{B} \quad \boxed{C} \quad \boxed{D}$

Example 2. You choose one:

    A. The girl help the teacher tomorrow.

    B. The girl will helping the teacher tomorrow.

    C. The girl will help the teacher tomorrow.

    D. The girl helped the teacher tomorrow.

$$\boxed{A} \qquad \boxed{B} \qquad \boxed{C} \qquad \boxed{D}$$

C. is the right sentence: <u>The girl will help the teacher tomorrow.</u>

You mark $\boxed{C}$ with an X : $\boxed{A} \qquad \boxed{B} \qquad \boxed{C} \qquad \boxed{D}$

Example 3. You choose one:

 A. Tom finished to eating.

 B. Tom finished eating.

 C. Tom finished to ate.

 D. Tom finished eat.

                [A] [B] [C] [D]

B. is the right sentence: <u>Tom finished eating.</u>

You mark [B] with an ✗ :   [A] [B] [C] [D]

In this book are more sentences.

Read the sentences carefully.

Choose the right sentence.

Mark the right answer with an ✗ in your booklet.

If you do not know, guess.

S T O P

1. A. The puppies aren't in the box.

    B. Not the puppies are in the box.

    C. The puppies are no in the box.

    D. The puppies no aren't in the box.

    ⬚A ⬚B ⬚C ⬚D

2. A. We stopped boat.

    B. We stopped an boat.

    C. We stopped the boat.

    D. We stopped a the boat.

    ⬚A ⬚B ⬚C ⬚D

3. A. Who gave you a ball?

    B. Gave you a ball who?

    C. Who Jim gave you a ball?

    D. Who you gave a ball?

    ⬚A ⬚B ⬚C ⬚D

4. A. The laughter of the girl surprise the man.

    B. The laughter the girl surprised the man.

    C. The laughter to the girl surprised the man.

    D. The laughter of the girl surprised the man.

    ⬚A ⬚B ⬚C ⬚D

5. A. Not Mother was at home.

    B. Mother was at home no.

    C. Mother wasn't at home.

    D. Mother was no at home.

    ⬚A ⬚B ⬚C ⬚D

6. A. The boys not are feeding the animals.

   B. The boys aren't feeding the animals.

   C. The boys are feeding the animals not.

   D. The boys no are feeding the animals.

$\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

7. A. I didn't go.

   B. Not I did go.

   C. I not did go.

   D. I not go.

$\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

8. A. Billy colored a picture. An picture was red.

   B. Billy colored a picture. A picture was red.

   C. Billy colored a picture. The picture was red.

   D. Billy colored a picture. Picture was red.

$\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

9. A. Baby kittens can't see.

   B. Baby kittens not see.

   C. Baby kittens not can see.

   D. Baby kittens can no see.

$\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

10. A. We fed an cows.

   B. We fed the cows.

   C. We fed a cows.

   D. We fed the a cows.

$\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

11. A. The kite was in sky.

    B. The kite was in the sky.

    C. The kite was in a the sky.

    D. The kite was in a sky.

    [A]   [B]   [C]   [D]

12. A. I will finished the work after lunch.

    B. I finishes the work after lunch.

    C. I will finishing the work after lunch.

    D. I will finish the work after lunch.

    [A]   [B]   [C]   [D]

13. A. The girls not walk in the rain.

    B. The girls would walk in the rain no.

    C. The girls wouldn't walk in the rain.

    D. The girls not would walk in the rain.

    [A]   [B]   [C]   [D]

14. A. Tom saw a big black dog.

    B. Tom saw an big black dog.

    C. Tom saw big a black dog.

    D. Tom saw a big black dogs.

    [A]   [B]   [C]   [D]

15. A. Not the dog has seen the food.

    B. The dog not has seen the food.

    C. The dog hasn't seen the food.

    D. The dog did has not seen the food.

    [A]   [B]   [C]   [D]

16. A. A big car went up the hill.

    B. Big a car went up the hill.

    C. An big car went up the hill.

    D. A big cars went up the hill.

    A   B   C   D

17. A. The grass does look no green.

    B. The grass does not look green.

    C. Not the grass does look green.

    D. The grass not look green.

    A   B   C   D

18. A. The dog has a black tail.

    B. The dog has black a tail.

    C. The dog has a black tails.

    D. The dog has an black tail.

    A   B   C   D

19. A. Father was going a home.

    B. Father was going an home.

    C. Father was going home.

    D. Father was going the home.

    A   B   C   D

20. A. The boys ate a the meat.

    B. The boys ate the meat.

    C. The boys ate the an meat.

    D. The boys ate a meat.

    A   B   C   D

21. A. David watched the elephant eat.

    B. David watched the elephant to eat.

    C. David watched the elephant ate.

    D. David watched the elephant to eating.

    ⒜ ⒝ ⒞ ⒟

22. A. Did Mother make a cake?

    B. Do Mother make a cake?

    C. Mother make a cake?

    D. Did Mother can make a cake?

    ⒜ ⒝ ⒞ ⒟

23. A. The boy to school last Monday.

    B. The boy walks to school last Monday.

    C. The boy is walked to school last Monday.

    D. The boy walked to school last Monday.

    ⒜ ⒝ ⒞ ⒟

24. A. Mary heard to the roar of the lion.

    B. Mary hearing the roar of the lion.

    C. Mary heard the roar of the lion.

    D. Mary heard the roar the lion.

    ⒜ ⒝ ⒞ ⒟

25. A. I ate orange.

    B. I ate a orange.

    C. I ate an orange.

    D. I ate an the orange.

    ⒜ ⒝ ⒞ ⒟

26. A. The crash of the train scare the people.

    B. The crash to the train scared the people.

    C. The crash the train scared the people.

    D. The crash of the train scared the people.

    |A| |B| |C| |D|

27. A. The girls some of brought flowers.

    B. Some of the girls brought flowers.

    C. Some the girls brought flowers.

    D. Some of the girl brought flowers.

    |A| |B| |C| |D|

28. A. When you plant the flowers?

    B. Did you plant the flowers when?

    C. When you planted the flowers?

    D. When did you plant the flowers?

    |A| |B| |C| |D|

29. A. The children have some of money.

    B. The children have an money.

    C. The children have some money.

    D. The children have a money.

    |A| |B| |C| |D|

30. A. What did John see?

    B. What did John saw?

    C. What John see?

    D. What John did see?

    |A| |B| |C| |D|

31. A. Cathy wanted some of help.

  B. Cathy wanted some a help.

  C. Cathy wanted an help.

  D. Cathy wanted some help.

  A   B   C   D

32. A. Anne knew the driver the car.

  B. Anne knew the driver of the car.

  C. Anne knew to the driver of the car.

  D. Anne knowing the driver of the car.

  A   B   C   D

33. A. The girls coloring pictures.

  B. The girls are color pictures.

  C. The girls are colored pictures.

  D. The girls are coloring pictures.

  A   B   C   D

34. A. The growth to the girl surprised her mother.

  B. The growth of the girl surprised her mother.

  C. The growth of the girl surprise her mother.

  D. The growth the girl surprised her mother.

  A   B   C   D

35. A. John knew for the lady loved ice cream.

  B. John knew to the lady loved ice cream.

  C. John knew that the lady loved ice cream.

  D. John knowing that the lady loved ice cream.

  A   B   C   D

36. A. The crying of the kitten was sad.

    B. The crying the kitten was sad.

    C. The crying to the kitten was sad.

    D. The crying of the kitten sad.

    ⬛A ⬛B ⬛C ⬛D

37. A. Bill heard to the screaming of the girl.

    B. Bill hearing the screaming of the girl.

    C. Bill heard the screaming the girl.

    D. Bill heard the screaming of the girl.

    ⬛A ⬛B ⬛C ⬛D

38. A. Mother knows for Anne opened the window.

    B. Mother knows to Anne opened the window.

    C. Mother knows that Anne opened the window.

    D. Mother knowing that Anne opened the window.

    ⬛A ⬛B ⬛C ⬛D

39. A. The building of the house slow.

    B. The building of the house was slow.

    C. The building to the house was slow.

    D. The building the house was slow.

    ⬛A ⬛B ⬛C ⬛D

40. A. Could Anne ride the horse?

    B. Could Anne rode the horse?

    C. Did Anne could ride the horse?

    D. Am Anne could ride the horse?

    ⬛A ⬛B ⬛C ⬛D

41. A. John watched the fixing of the car.

  B. John watched the fixing the car.

  C. John watching the fixing of the car.

  D. John watched to the fixing of the car.

  A   B   C   D

42. A. Five the children went home.

  B. The children five of went home.

  C. Five of children went home.

  D. Five of the children went home.

  A   B   C   D

43. A. Father knew for Bob caught a fish.

  B. Father knew to Bob caught a fish.

  C. Father knew Bob caught a fish.

  D. Father knowing that Bob caught a fish.

  A   B   C   D

44. A. The selling the car was difficult.

  B. The selling to the car was difficult.

  C. The selling of the car difficult.

  D. The selling of the car was difficult.

  A   B   C   D

45. A. It was sad that the cows were hungry.

  B. The cows were hungry was sad.

  C. That was sad the cows were hungry.

  D. The cows were hungry was sad.

  A   B   C   D

46. A. The children ran home to eat.

   B. The children ran home eat.

   C. The children ran home to ate.

   D. The children ran home to eating.

$\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

47. A. Can you can run?

   B. Can you run?

   C. Do you can run?

   D. Are you can run?

$\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

48. A. The man saw Tom to walked.

   B. The man saw Tom to walk.

   C. The man saw Tom walking.

   D. The man saw Tom to walking.

$\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

49. A. I showed the little boy how to jump.

   B. I showed the little boy how jumping.

   C. I showed the little boy how to jumped.

   D. I showed the little boy how to jumping.

$\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

50. A. The boys are good at to reading.

   B. The boys are good at to read.

   C. The boys are good at reading.

   D. The boys are good at read.

$\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

51. A. The girl dropped the ball surprised the boy.

     B. So the girl dropped the ball surprised the boy.

     C. For the girl dropped the ball surprised the boy.

     D. That the girl dropped the ball surprised the boy.

                              A   B   C   D

52. A. It is fun to helped.

     B. It is fun to help.

     C. It is fun help.

     D. It is fun to helping.

                              A   B   C   D

53. A. Dad went shopping.

     B. Dad went to shopped.

     C. Dad went shop.

     D. Dad went to shopping.

                              A   B   C   D

54. A. Dad forgot make the fire.

     B. Dad forgot to made the fire.

     C. Dad forgot to make the fire.

     D. Dad forgot to making the fire.

                              A   B   C   D

Be careful. These are different kinds of sentences.

You choose the right word to make a good sentence.

Example: Tom brought the flowers to Anne. They are _____.

You choose one:

      A.   their

      B.   our

      C.   hers

      D.   mine

                                               A   B   C   D

C. is the right word: Tom brought the flowers to Anne. They are hers.

C is marked with an X like this: A   B   ⊠   D

55. Because _____ wanted to help, the children washed the windows.

A. they

B. the children

C. their

D. them

        A   B   C   D

56. Bill said, "She made the cake by _____."

A. himself

B. sheself

C. her

D. herself

        A   B   C   D

57. The kitten is playing and the mother cat _____.

A. sleep

B. is sleeping

C. sleeping

D. was sleep

        A   B   C   D

58. Father bought the puppies for me. The animals are _____.

A. theirs

B. yours

C. hers

D. mine

        A   B   C   D

59. Mother made the dresses for us. They are _____.

   A. ours

   B. their

   C. your

   D. mine

   A   B   C   D

60. Next Saturday you _____ the fire and the boys will cook dinner.

   A. will made

   B. will make

   C. will making

   D. make

   A   B   C   D

61. We cooked lunch and Susan _____ the dishes.

   A. washing

   B. are wash

   C. wash

   D. washed

   A   B   C   D

62. We fed the baby _____ she cried.

   A. but

   B. with

   C. either

   D. or

   A   B   C   D

63. Bob said, "I will cut the meat by _____."

   A. myself

   B. himself

   C. yourself

   D. meself

   $\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

64. Father made a fire. The dog burned _____.

   A. it

   B. itself

   C. themselves

   D. him

   $\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

65. We knew the children _____ bought the flowers.

   A. when

   B. where

   C. whose

   D. who

   $\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

66. The girls pushed Bill. They hurt _____ arm.

   A. him

   B. his

   C. her

   D. their

   $\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

67. We moved to a farm. The children liked _____ new friends.

    A. their

    B. it

    C. theirs

    D. yours

    [A]   [B]   [C]   [D]

68. Since the boys were sick, Susan took food to _____.

    A. her

    B. the boys

    C. themselves

    D. them

    [A]   [B]   [C]   [D]

69. You found _____ Dad wanted.

    A. what

    B. where

    C. when

    D. which

    [A]   [B]   [C]   [D]

70. I will _____ walk or ride the bicycle.

    A. both

    B. neither

    C. but

    D. either

    [A]   [B]   [C]   [D]

71. I wanted the puppy _____ had a white tail.

    A. whose

    B. where

    C. that

    D. when

    A   B   C   D

72. When _____ mother brought the eggs, Joe made lunch.

    A. him

    B. his

    C. Joe's

    D. he

    A   B   C   D

73. _____ David nor Susan ate supper.

    A. Either

    B. But

    C. Both

    D. Neither

    A   B   C   D

74. Tom knew _____ the boy lived.

    A. what

    B. whose

    C. where

    D. which

    A   B   C   D

75. Susan rode the horse _____ jumped the fence.

   A. whose

   B. when

   C. where

   D. which

   A   B   C   D

76. _____ Dad came home Mary took the car.

   A. When

   B. Whose

   C. Who

   D. Where

   A   B   C   D

77. You saw a bunny _____ tail was black.

   A. where

   B. that

   C. who

   D. whose

   A   B   C   D

Be careful. These are different kinds of sentences.

You choose another right way of saying the sentences.

Example: The girls made lunch. The boys washed the dishes.

You choose one:

    A. The girls made lunch and the boys washed the dishes.

    B. The girls made lunch the boys washed the dishes.

    C. The girls and boys made lunch.

    D. The girls made lunch and washed the dishes.

                                                                                   [A]   [B]   [C]   [D]

A. is the right sentence: <u>The girls made lunch and the boys washed the dishes.</u>

[A] is marked with an ✗ like this: ⊠   [B]   [C]   [D]

78. Tom opened the window. Mother called the boys.

    A. Tom opened the window Mother called the boys.

    B. Tom opened the window and the boys.

    C. Tom opened the window and Mother called the boys.

    D. Tom and Mother called the boys.

    A B C D

79. Mother went to the farm. Dad went to the farm.

    A. Mother went to the farm and Dad.

    B. Mother and Dad went to the farm.

    C. Mother went to the farm Dad went to the farm.

    D. Mother Dad went to the farm.

    A B C D

80. Tom bought a hat. Tom bought a coat.

    A. Tom bought a hat bought a coat.

    B. Tom bought a hat Tom bought a coat.

    C. Tom bought a hat a coat.

    D. Tom bought a hat and a coat.

    A B C D

81. We worked in school. We played in school.

    A. We worked in school we played in school.

    B. We worked and played in school.

    C. We worked we played in school.

    D. We worked in school played in school.

    A B C D

82. The girls bought an old car. The boys washed the car.

    A. The girls bought an old car the boys washed the car.

    B. The girls bought an old car and the boys washed the car.

    C. The girls bought washed the car.

    D. The girls bought an old car and the boys washed.

    [A] [B] [C] [D]

83. Dad kissed the baby. The baby laughed.

    A. Dad kissed the baby the baby laughed.

    B. Dad kissed the baby and the baby laughed.

    C. Dad kissed the baby laughed.

    D. Dad kissed the baby and laughed.

    [A] [B] [C] [D]

84. The ball hit Mary.

    A. Mary hit by the ball.

    B. Mary hit the ball.

    C. Mary was hit by the ball.

    D. Mary was hit the ball.

    [A] [B] [C] [D]

85. The horses got fed by the girls.

    A. The horses fed the girls.

    B. The girls fed the horses.

    C. The horses fed by the girls.

    D. The girls got fed by the horses.

    [A] [B] [C] [D]

86. The man was watched by a policeman.

    A. The man was watch by a policeman.

    B. A policeman was watched by the man.

    C. The man watched a policeman.

    D. A policeman watched the man.

    [A]   [B]   [C]   [D]

87. Bob talked with the girl. The girl's horse jumped the fence.

    A. Bob talked with the girl horse jumped the fence.

    B. Bob talked with the girl's horse jumped the fence.

    C. Bob talked with the girl whose horse jumped the fence.

    D. Bob talked with the girl who her horse jumped the fence.

    [A]   [B]   [C]   [D]

88. Mary saw the boys. The boys made a bird house.

    A. Mary saw who made a bird house the boys.

    B. Mary saw the boys made a bird house.

    C. Mary saw who the boys made a bird house.

    D. Mary saw the boys who made a bird house.

    [A]   [B]   [C]   [D]

89. The truck was pulled by a car.

    A. The truck pulled a car.

    B. A car pulled the truck.

    C. The truck was pulled a car.

    D. A car was pulled by the truck.

    [A]   [B]   [C]   [D]

Be careful. These are different kinds of sentences.

You choose the <u>right</u> answer.

Example: What did the boys play?

You choose one:

     A. yesterday

     B. football

     C. played

     D. a ball

                                          A   B   C   D

B. is the right word: <u>football</u>.

B is marked with an X like this: A   ☓   C   D

90. Do birds make nests?

    A. eggs

    B. in trees

    C. Birds make nests.

    D. Yes, they do.

        A   B   C   D

91. Is the elephant a big animal?

    A. in the zoo

    B. big animal

    C. The elephant is big.

    D. yes

        A   B   C   D

92. How far can Bill hit the ball?

    A. not very far

    B. He hit the ball.

    C. a baseball

    D. Yes, he can hit it.

        A   B   C   D

93. What does the word "little" mean?

    A. little child

    B. not big

    C. The baby is.

    D. small dog

        A   B   C   D

94. Anne likes ice cream, doesn't she?

    A. doesn't like

    B. pink ice cream

    C. Yes, she does.

    D. doesn't

                                                                           [A]   [B]   [C]   [D]

Be careful. These are different kinds of sentences.

You decide what the sentences tell us.

Example: The boy who talked to Dad rode the black horse.

What does the sentence tell us?

You choose one:

    A. Dad rode the black horse.

    B. The boy talked to Dad.

    C. The boy talked to the black horse.

    D. Dad talked to the black horse.

                           A   B   C   D

B. is the right sentence: The boy talked to Dad.

B is marked with an X like this: A   X   C   D

95. The boy knows that the woman loves children.

    A. The boy loves the woman.

    B. The woman loves children.

    C. The boy knows children.

    D. The boy loves children.

    A B C D

96. It scared Linda that the dogs hurt the boy.

    A. The dogs hurt the boy.

    B. Linda scared the dogs.

    C. The boy scared Linda.

    D. Linda hurt the boy.

    A B C D

97. Father planted the flowers. His hands were not clean.

    A. Father did not plant the flowers.

    B. His hands were dirty.

    C. His hands were not dirty.

    D. His hands were clean.

    A B C D

98. The man learned a box fell on the girl.

    A. The man learned the girl.

    B. The girl fell on a box.

    C. The man learned a box.

    D. A box fell on the girl.

    A B C D

99. John listened to the teacher and finished the work.

    A. John finished the work.

    B. John and the teacher finished the work.

    C. The teacher listened to John.

    D. The teacher finished the work.

                                                  [A]   [B]   [C]   [D]

100. The teacher learned that Tom chased Sally.

    A. The teacher chased Sally.

    B. Tom chased Sally.

    C. The teacher learned Tom.

    D. Sally chased Tom.

                                                  [A]   [B]   [C]   [D]

101. We watched the girls who played baseball.

    A. We played baseball.

    B. The girls watched baseball.

    C. We played with the girls.

    D. The girls played baseball.

                                                  [A]   [B]   [C]   [D]

102. You called the women who Mother knew.

    A. You knew the women.

    B. Mother called the women.

    C. The women called Mother.

    D. Mother knew the women.

                                                  [A]   [B]   [C]   [D]

103. Jim lost the book or Tom took it.

    A. Either Jim lost the book or Tom took it.

    B. Jim did not lose the book but Tom took it.

    C. Tom took the book and Jim did not lose it.

    D. Jim lost the book and Tom did not take it.

                                               [A]   [B]   [C]   [D]

104. I found the boy Dad gave the money to.

    A. I found the money.

    B. The boy gave the money.

    C. Dad gave the money.

    D. I found Dad.

                                               [A]   [B]   [C]   [D]

105. That the elephant ate the flowers surprised Father.

    A. The elephant ate the flowers.

    B. The elephant ate Father.

    C. Father surprised the elephant.

    D. The flowers surprised Father.

                                               [A]   [B]   [C]   [D]

106. The boys who worked with Dad liked airplanes.

    A. Dad worked with airplanes.

    B. The boys liked Dad.

    C. Dad liked airplanes.

    D. The boys worked with Dad.

                                               [A]   [B]   [C]   [D]

107. The crying of the girl surprised the teacher.

A. The teacher cried.

B. The teacher surprised the girl.

C. The crying surprised the teacher.

D. The girl surprised the teacher.

A   B   C   D

108. Bob watched the running of the boy.

A. Bob watched the boy's running.

B. The boy watched Bob.

C. The running watched Bob.

D. The running watched the boy.

A   B   C   D

109. The scream of the cat scared the dog.

A. The cat scared the dog.

B. The scream scared the dog.

C. The dog screamed.

D. The dog scared the cat.

A   B   C   D

110. The men who the policeman chased had a blue car.

A. The men chased the policeman.

B. The men had a blue car.

C. The policeman had a blue car.

D. The men chased a blue car.

A   B   C   D

111. The girls, who were beautiful, bought new dresses.

    A. The beautiful girls bought new dresses.

    B. The beautiful girls were bought new dresses.

    C. The girls were beautiful bought new dresses.

    D. The girls who the girls were beautiful bought new dresses.

                                                    A   B   C   D

112. The girl heard the ringing of the bell.

    A. The ringing heard the bell.

    B. The ringing heard the girl.

    C. The girl heard the bell's ringing.

    D. The bell heard the girl.

                                                    A   B   C   D

113. The growth of the plant excited the children.

    A. The children grew.

    B. The plant excited the children.

    C. The children excited the plant.

    D. The growth excited the children.

                                                    A   B   C   D

114. The teacher heard the laughter of the student.

    A. The teacher laughed.

    B. The laughter heard the teacher.

    C. The teacher heard the student's laughter.

    D. The student heard the teacher.

                                                    A   B   C   D

115. I watched the children who were sick.

    A. I watched the children sick.

    B. I watched the children were sick.

    C. I watched the children who the children were sick.

    D. I watched the sick children.

                        A   B   C   D

116. The little girls who ate with Cathy loved ice cream.

    A. Cathy ate ice cream.

    B. The little girls loved Cathy.

    C. Cathy loved ice cream.

    D. The little girls ate with Cathy.

                        A   B   C   D

117. Anne waited for the girl. Bill gave the bicycle to the girl.

    A. Anne waited for the girl who Bill gave the bicycle to the girl.

    B. Anne waited for who Bill gave the bicycle to the girl.

    C. Anne waited for the girl who Bill gave the bicycle to.

    D. Anne waited for the girl who Bill gave the bicycle to her.

                        A   B   C   D

118. The crash of the car scared Bill.

    A. Bill scared the car.

    B. The crash scared Bill.

    C. Bill crashed the car.

    D. The car scared Bill.

                        A   B   C   D

119. Bob knew the driver of the car.

    A. The driver knew Bob.

    B. Bob drove the car.

    C. Bob knew the car's driver.

    D. The car knew Bob.

                              A   B   C   D

120. You waited for the boys. You sent a letter to the boys.

    A. You waited for the boys to whom you sent a letter to them.

    B. You waited for the boys to whom you sent a letter.

    C. You waited for whom you sent a letter to the boys.

    D. You waited for the boys to whom you sent a letter to the boys.

                              A   B   C   D

TEST OF SYNTACTIC ABILITIES

SCREENING TEST

FORM 2

University of Illinois at Urbana-Champaign

Experimental Edition
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TEST OF SYNTACTIC ABILITIES

SCREENING TEST

FORM 2

Name: _____

Date of Birth: _____

School: _____

School District: _____

Date of Test: _____

You will read groups of sentences. Only one of the sentences is right. You choose the right sentence.

Example 1. You choose one:

    A. One the girls found a baby bird.

    B. One of the girls found a baby bird.

    C. The girls one of found a baby bird.

    D. One of girls found a baby bird.

                                                   |A| |B| |C| |D|

B. is the right sentence: <u>One of the girls found a baby bird.</u>

|B| is marked with an X like this: |A| ⊠ |C| |D|

Example 2. You choose one:

    A.   Mary likes for to read.

    B.   Mary likes to reading.

    C.   Mary likes read.

    D.   Mary likes to read.

                                                         A   B   C   D

D. is the right sentence: <u>Mary likes to read</u>.

You mark D with an X :   A   B   C   D

Example 3.   You choose one:

    A.   Jim have a new car.

    B.   Jim has a new car.

    C.   Jim a new car.

    D.   Jim is a new car.

                                    A   B   C   D

B. is the right sentence: <u>Jim has a new car</u>.

You mark B with an X :   A   B   C   D

In this book are more sentences.

Read the sentences carefully.

Choose the right sentence.

Mark the right answer with an X in your booklet.

If you do not know, guess.

S T O P

1. A. The kittens weren't in the box.

   B. The kittens not were in the box.

   C. The kittens weren't not in the box.

   D. Not the kittens were in the box.

   [A]   [B]   [C]   [D]

2. A. The cat had an kittens.

   B. The cat had a kittens.

   C. The cat had some kittens.

   D. The cat had the a kittens.

   [A]   [B]   [C]   [D]

3. A. Who the boy found the kite?

   B. Who found the kite?

   C. Who he found the kite?

   D. Found who the kite?

   [A]   [B]   [C]   [D]

4. A. The scream of the lion scared the children.

   B. The scream the lion scared the children.

   C. The scream to the lion scared the children.

   D. The scream of the lion scare the children.

   [A]   [B]   [C]   [D]

5. A. Not the elephant is a small animal.

   B. The elephant is not a small animal.

   C. The elephant is a small animal no.

   D. The elephant not is a small animal.

   [A]   [B]   [C]   [D]

6. A. Mary was making not the dress.

B. Mary not was making the dress.

C. Mary wasn't making the dress.

D. Mary did was not making the dress.

[A]   [B]   [C]   [D]

7. A. We don't walk to school.

B. We not walk to school.

C. We not do walk to school.

D. We do no walk to school.

[A]   [B]   [C]   [D]

8. A. Mother made a cake. An the cake was white.

B. Mother made a cake. A cake was white.

C. Mother made a cake. A the cake was white.

D. Mother made a cake. The cake was white.

[A]   [B]   [C]   [D]

9. A. The little boy no can not write.

B. Not the little boy can write.

C. The little boy not can write.

D. The little boy can not write.

[A]   [B]   [C]   [D]

10. A. The little girls played.

B. Little the girls played.

C. A little girls played.

D. The some little girls played.

[A]   [B]   [C]   [D]

11. A. Mother looked at a the moon.

B. Mother looked at moon.

C. Mother looked at a moon.

D. Mother looked at the moon.

[A]   [B]   [C]   [D]

12. A. The baby will sit at the table next Sunday.

B. The baby at the table next Sunday.

C. The baby sit at the table next Sunday.

D. The baby will sat at the table next Sunday.

[A]   [B]   [C]   [D]

13. A. The boy would not read the story.

B. The boy not read the story.

C. The boy no would read the story.

D. The boy would no read the story.

[A]   [B]   [C]   [D]

14. A. John has an new blue car.

B. John has car a new blue.

C. John has a new blue car.

D. John has new a blue car.

[A]   [B]   [C]   [D]

15. A. The girls did had not found the puppy.

B. Not the girls had found the puppy.

C. The girls not had found the puppy.

D. The girls hadn't found the puppy.

[A]   [B]   [C]   [D]

16. A. Mother has a big black pans.

    B. Mother has an big black pan.

    C. Mother has big a black pan.

    D. Mother has a big black pan.

    A   B   C   D

17. A. You seem tired not.

    B. You not seem tired.

    C. You do not seem tired.

    D. You seem no tired.

    A   B   C   D

18. A. The man has an brown coat.

    B. The man has a brown coat.

    C. The man has a brown coats.

    D. The man has brown a coat.

    A   B   C   D

19. A. Mother walked a home.

    B. Mother walked home.

    C. Mother walked the home.

    D. Mother walked an home.

    A   B   C   D

20. A. The dog has some of food.

    B. The dog has an food.

    C. The dog has a food.

    D. The dog has some food.

    A   B   C   D

21.　A.　Tom watched the men to work.

　　　B.　Tom watched the men work.

　　　C.　Tom watched the men to working.

　　　D.　Tom watched the men worked.

　　　　　　　　　　　　　　　　　　　　　Ａ　　Ｂ　　Ｃ　　Ｄ

22.　A.　You do the problems?

　　　B.　Did you do the problems?

　　　C.　You done the problems?

　　　D.　Did do you the problems?

　　　　　　　　　　　　　　　　　　　　　Ａ　　Ｂ　　Ｃ　　Ｄ

23.　A.　I in the park last Sunday.

　　　B.　I sit in the park last Sunday.

　　　C.　I am sat in the park last Sunday.

　　　D.　I sat in the park last Sunday.

　　　　　　　　　　　　　　　　　　　　　Ａ　　Ｂ　　Ｃ　　Ｄ

24.　A.　The boy heard to the laughter of the girl.

　　　B.　The boy hearing the laughter of the girl.

　　　C.　The boy heard the laughter of the girl.

　　　D.　The boy heard the laughter the girl.

　　　　　　　　　　　　　　　　　　　　　Ａ　　Ｂ　　Ｃ　　Ｄ

25.　A.　John found the kittens.

　　　B.　John found a kittens.

　　　C.　John found a the kittens.

　　　D.　John found an kittens.

　　　　　　　　　　　　　　　　　　　　　Ａ　　Ｂ　　Ｃ　　Ｄ

26. A. The work of the men surprise the woman.

    B. The work to the men surprised the woman.

    C. The work the men surprised the woman.

    D. The work of the men surprised the woman.

    ☐A ☐B ☐C ☐D

27. A. Some of the cats were black.

    B. Some of the cat were black.

    C. Cats the some of were black.

    D. Some the cats were black.

    ☐A ☐B ☐C ☐D

28. A. When did Susan walk to the farm?

    B. Susan walk to the farm when?

    C. When to the farm did Susan walk?

    D. When Susan walked to the farm?

    ☐A ☐B ☐C ☐D

29. A. Bob found a water.

    B. Bob found some water.

    C. Bob found some of water.

    D. Bob found some a water.

    ☐A ☐B ☐C ☐D

30. A. What will I feed the kitten?

    B. What will I feed the kitten milk?

    C. What will I fed the kitten?

    D. What the kitten will I feed?

    ☐A ☐B ☐C ☐D

31. A. Mother made some a bread.

    B. Mother made a bread.

    C. Mother made some bread.

    D. Mother made an bread.

    [A]   [B]   [C]   [D]

32. A. John saw the start the race.

    B. John saw the start of the race.

    C. John saw to the start of the race.

    D. John seeing the start of the race.

    [A]   [B]   [C]   [D]

33. A. The woman is cooking dinner.

    B. The woman cook dinner.

    C. The woman is cooked dinner.

    D. The woman has cooking dinner.

    [A]   [B]   [C]   [D]

34. A. The growth to the tomatoes surprised the farmer.

    B. The growth of the tomatoes surprised the farmer.

    C. The growth of the tomatoes surprise the farmer.

    D. The growth the tomatoes surprised the farmer.

    [A]   [B]   [C]   [D]

35. A. Susan heard to Jim helped the lady.

    B. Susan hearing that Jim helped the lady.

    C. Susan heard that Jim helped the lady.

    D. Susan heard for Jim helped the lady.

    [A]   [B]   [C]   [D]

36. A. The chasing of the dog was funny.

    B. The chasing the dog was funny.

    C. The chasing to the dog was funny.

    D. The chasing of the dog funny.

    $\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

37. A. Mary enjoyed to the swimming of the girls.

    B. Mary enjoying the swimming of the girls.

    C. Mary enjoyed the swimming the girls.

    D. Mary enjoyed the swimming of the girls.

    $\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

38. A. The man said to David won the game.

    B. The man said that David won the game.

    C. The man saying that David won the game.

    D. The man said for David won the game.

    $\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

39. A. The beginning of the race exciting.

    B. The beginning of the race was exciting.

    C. The beginning to the race was exciting.

    D. The beginning the race was exciting.

    $\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

40. A. Should you should go to bed?

    B. Did you should go to bed?

    C. Should you went to bed?

    D. Should you go to bed?

    $\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

41. A. Bill enjoyed the showing of the animals.

     B. Bill enjoyed the showing the animals.

     C. Bill enjoying the showing of the animals.

     D. Bill enjoyed to the showing of the animals.

                                    [A]   [B]   [C]   [D]

42. A. The cows some of were sick.

     B. Some of the cows were sick.

     C. Some the cows were sick.

     D. Some of the cow were sick.

                                    [A]   [B]   [C]   [D]

43. A. The boys knew for the dog was lost.

     B. The boys knew to the dog was lost.

     C. The boys knew the dog was lost.

     D. The boys knowing that the dog was lost.

                                    [A]   [B]   [C]   [D]

44. A. The finishing the work was easy.

     B. The finishing to the work was easy.

     C. The finishing of the work easy.

     D. The finishing of the work was easy.

                                    [A]   [B]   [C]   [D]

45. A. It was sad that the animals were lost.

     B. The animals was sad were lost.

     C. That was sad the animals were lost.

     D. The animals were lost was sad.

                                    [A]   [B]   [C]   [D]

46. A. The teacher told me where to sit.

    B. The teacher told me where sitting.

    C. The teacher told me where sit.

    D. The teacher told me where to sitting.

    ⬜A ⬜B ⬜C ⬜D

47. A. Will Mary go?

    B. Is Mary will go?

    C. Will Mary went?

    D. Will Mary will go?

    ⬜A ⬜B ⬜C ⬜D

48. A. I saw Dad to came.

    B. I saw Dad to coming.

    C. I saw Dad to come.

    D. I saw Dad coming.

    ⬜A ⬜B ⬜C ⬜D

49. A. I ran to the park to played.

    B. I ran to the park for to play.

    C. I ran to the park to play.

    D. I ran to the park to playing.

    ⬜A ⬜B ⬜C ⬜D

50. A. The man was good at to spell.

    B. The man was good at spelling.

    C. The man was good at spell.

    C. The man was good at to spelling.

    ⬜A ⬜B ⬜C ⬜D

51. A. The baby was asleep surprised Father.

     B. For the baby was asleep surprised Father.

     C. So the baby was asleep surprised Father.

     D. That the baby was asleep surprised Father.

                                             [A]   [B]   [C]   [D]

52. A. Mary loves fly to the airplane.

     B. Mary loves to flying the airplane.

     C. Mary loves to fly the airplane.

     D. Mary loves to flew the airplane.

                                             [A]   [B]   [C]   [D]

53. A. The girls went to fished.

     B. The girls went fish.

     C. The girls went for to fish.

     D. The girls went fishing.

                                             [A]   [B]   [C]   [D]

54. A. Mother wanted Anne to picking the flowers.

     B. Mother wanted Anne to pick the flowers.

     C. Mother wanted Anne pick the flowers.

     D. Mother wanted Anne to picked the flowers.

                                             [A]   [B]   [C]   [D]

Be careful. These are different kinds of sentences.

You choose the right word to make a good sentence.

Example:

    Dad's shirt is red. _____ is blue.

You choose one:

    A. Yours

    B. Your

    C. Our

    D. Ours

                                                                                 [A]   [B]   [C]   [D]

A. is the right word: <u>Yours</u>

[A] is marked with an **X** like this: [⊠]   [B]   [C]   [D]

55. While _____ waited, the boys told stories.

    A. their

    B. them

    C. they

    D. the boys

    [A]   [B]   [C]   [D]

56. Dad said, "She made the bird house by _____."

    A. himself

    B. sheself

    C. her

    D. herself

    [A]   [B]   [C]   [D]

57. Bob is flying a kite and Anne _____ a toy airplane.

    A. fly

    B. was fly

    C. is flying

    D. flies

    [A]   [B]   [C]   [D]

58. Mother cooked the eggs for me.

    They are _____.

    A. mine

    B. her

    C. theirs

    D. ours

    [A]   [B]   [C]   [D]

59. Dad planted the seeds for us.

The flowers are _____ .

A. him

B. her

C. ours

D. us

A   B   C   D

60. Dad _____ the cake and Bill will buy the ice cream.

A. buy

B. will buying

C. will buy

D. will buys

A   B   C   D

61. Jim worked and Bill _____ .

A. play

B. playing

C. played

D. are play

A   B   C   D

62. Cathy called the horses _____ they ran away.

A. with

B. but

C. either

D. or

A   B   C   D

63. The glasses were broken. I cut _____ .

    A. it

    B. themselves

    C. myself

    D. me

    ⒜   ⒝   ⒞   ⒟

64. The girls went to school. The puppy played by _____ .

    A. it

    B. yourself

    C. themselves

    D. itself

    ⒜   ⒝   ⒞   ⒟

65. You thanked the teachers _____ helped Tom.

    A. who

    B. when

    C. what

    D. where

    ⒜   ⒝   ⒞   ⒟

66. The little boy was lost.

    The girls told _____ mother.

    A. him

    B. her

    C. his

    D. them

    ⒜   ⒝   ⒞   ⒟

67. Susan and Tom made the ice cream.

    _____ friends made the cake.

    A. Theirs

    B. Her

    C. Him

    D. Their

    <pre>[A]   [B]   [C]   [D]</pre>

68. When the girls came home, Bill came to see _____ .

    A. themselves

    B. the girls

    C. him

    D. them

    <pre>[A]   [B]   [C]   [D]</pre>

69. I liked _____ Mother cooked.

    A. which

    B. what

    C. who

    D. whose

    <pre>[A]   [B]   [C]   [D]</pre>

70. _____ Mother or Anne made the dress.

    A. Both

    B. With

    C. Neither

    D. Either

    <pre>[A]   [B]   [C]   [D]</pre>

71. You kept the kittens _____ had black feet.

    A. that

    B. whose

    C. when

    D. where

    ☐A ☐B ☐C ☐D

72. After _____ mother cooked lunch, Anne washed the pans.

    A. she

    B. Anne's

    C. her

    D. hers

    ☐A ☐B ☐C ☐D

73. _____ John nor Mary came to the party.

    A. Neither

    B. Either

    C. Both

    D. But

    ☐A ☐B ☐C ☐D

74. We saw _____ Cathy put the kite.

    A. that

    B. where

    C. which

    D. what

    ☐A ☐B ☐C ☐D

75. The children found the ball _____ went into the lake.

    A. which

    B. when

    C. what

    D. whose

                                    A   B   C   D

76. The girls made dinner _____ Dad came home.

    A. which

    B. when

    C. that

    D. whose

                                    A   B   C   D

77. We helped the girl _____ leg was broken.

    A. that

    B. who

    C. whose

    D. what

                                    A   B   C   D

Be careful. These are different kinds of sentences.

You choose another right way of saying the sentences.

Example:

   The bus stopped. Bill went to school.

You choose one:

   A. The bus stopped Bill went to school.

   B. The bus stopped and Bill went to school.

   C. The bus and Bill went to school.

   D. The bus stopped and went to school.

<div align="right">

A   B   C   D

</div>

B. is the right sentence: <u>The bus stopped and Bill went to school.</u>

B is marked with an X like this: A   ☒   C   D

78. Dad opened the door. Mother saw a man.

   A. Dad opened the door Mother saw a man.

   B. Dad opened the door saw a man.

   C. Dad opened the door and Mother saw a man.

   D. Dad opened the door and man.

   $\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

79. The man walked into the house. The woman walked into the house.

   A. The man and woman walked into the house.

   B. The man walked into the house and the woman walked.

   C. The man walked into the house the woman walked into the house.

   D. The man woman walked into the house.

   $\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

80. The boys made a table. The boys made chairs.

   A. The boys made a table made chairs.

   B. The boys made a table chairs.

   C. The boys made a table the boys made chairs.

   D. The boys made a table and chairs.

   $\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

81. Bob opened the door. Bob closed the door.

   A. Bob opened closed the door.

   B. Bob opened the door Bob closed the door.

   C. Bob opened and closed the door.

   D. Bob opened Bob closed the door.

   $\boxed{A}$ $\boxed{B}$ $\boxed{C}$ $\boxed{D}$

82. The girls fed the pets. The boys washed the pets.

    A. The girls fed the pets and the boys washed them.

    B. The girls fed and washed the pets.

    C. The girls fed the boys washed the pets.

    D. The girls fed the pets the boys washed them.

    ☐A☐ ☐B☐ ☐C☐ ☐D☐

83. I hit the boy. The boy cried.

    A. I hit the boy the boy cried.

    B. I hit the boy cried.

    C. I hit the boy and the boy cried.

    D. I hit the boy and cried.

    ☐A☐ ☐B☐ ☐C☐ ☐D☐

84. A horse kicked Anne.

    A. Anne got kicked a horse.

    B. Anne kicked by a horse.

    C. Anne got kick by a horse.

    D. Anne got kicked by a horse.

    ☐A☐ ☐B☐ ☐C☐ ☐D☐

85. Susan was thrown by a horse.

    A. A horse threw Susan.

    B. Susan was throw by a horse.

    C. A horse was thrown by Susan.

    D. Susan thrown by a horse.

    ☐A☐ ☐B☐ ☐C☐ ☐D☐

86. The cows were chased by a dog.

    A. The cows chased a dog.

    B. A dog was chased by the cows.

    C. The cows were chased a dog.

    D. A dog chased the cows.

    [A]   [B]   [C]   [D]

87. We talked with the girl. The girl's dog chased cars.

    A. We talked with the girl's dog chased cars.

    B. We talked with the girl who her dog chased cars.

    C. We talked with the girl whose dog chased cars.

    D. We talked with the girl dog chased cars.

    [A]   [B]   [C]   [D]

88. The puppies played with the girl. The girl wore a red dress.

    A. The puppies played with the girl who wore a red dress.

    B. The puppies played with who wore a red dress the girl.

    C. The puppies played with who the girl wore a red dress.

    D. The puppies played with the girl who the girl wore a red dress.

    [A]   [B]   [C]   [D]

89. The train was hit by a car.

    A. A car was hit by the train.

    B. The train was hit a car.

    C. A car hit the train.

    D. The train hit a car.

    [A]   [B]   [C]   [D]

Be careful. These are different kinds of sentences.

You choose the right answer.

Example:

    What color is the grass?

You choose one:

    A. green

    B. color

    C. trees

    D. grass

                                        [A]   [B]   [C]   [D]

A. is the right word: <u>green</u>

[A] is marked with an X like this: [X]   [B]   [C]   [D]

90. Should she go with Mother?

    A. Yes, she should.

    B. Mother should go.

    C. if she is good

    D. Yes, she did.

                                                                                           [A]   [B]   [C]   [D]

91. Could Bill keep the pet?

    A. Yes, he did.

    B. Yes, he could.

    C. He will buy the pet.

    D. Bill keep the pet.

                                                                                         [A]   [B]   [C]   [D]

92. How long did the boys play ball?

    A. The boys played football.

    B. all day

    C. football

    D. with a bat

                                                                                        [A]   [B]   [C]   [D]

93. Which are bigger, cats or kittens?

    A. cats

    B. baby

    C. Cats are small.

    D. They are bigger.

                                                                                         [A]   [B]   [C]   [D]

94. Bob can't fix the toy, can he?

A. can't fix

B. can

C. No, he can't.

D. a toy truck

Be careful. These are different kinds of sentences.

You decide what the sentences tell us.

Example:

   Dad liked the girl who thanked Joe.

What does the sentence tell us?

You choose one:

   A. Joe thanked the girl.

   B. Dad thanked Joe.

   C. The girl thanked Joe.

   D. Dad liked Joe.

                                        A   B   C   D

C. is the right sentence: The girl thanked Joe.

C is marked with an X like this: A   B   ⊠   D

95. Bill knew that the children liked cats.

   A. The cats liked children.

   B. Bill liked cats.

   C. The children liked cats.

   D. Bill knew the cats.

   A   B   C   D

96. It surprised the girls that the cats were chasing the dogs.

   A. The girls were chasing the dogs.

   B. The dogs surprised the girls.

   C. The cats were chasing the dogs.

   D. The dogs were chasing the cats.

   A   B   C   D

97. Cathy loves the doll. It is not new.

   A. The doll is not old.

   B. The doll is old.

   C. The doll is new.

   D. Cathy does not love the doll.

   A   B   C   D

98. John knew the car hit the policeman.

   A. The policeman hit John.

   B. John knew the car.

   C. The car hit the policeman.

   D. John hit the policeman.

   A   B   C   D

99. Bill thanked the teacher and went home.

    A. Bill went home.

    B. The teacher went home.

    C. The teacher thanked Bill.

    D. Bill and the teacher went home.

    [A]   [B]   [C]   [D]

100. The girl knew that the boy burned the cake.

    A. The boy burned the cake.

    B. The girl knew the cake.

    C. The boy knew the girl.

    D. The girl burned the cake.

    [A]   [B]   [C]   [D]

101. Tom liked the man who started the boat.

    A. Tom started the boat.

    B. Tom liked the boat.

    C. The man liked the boat.

    D. The man started the boat.

    [A]   [B]   [C]   [D]

102. You saw the girls who Jim liked.

    A. Jim saw the girls.

    B. You saw Jim.

    C. Jim liked the girls.

    D. You liked the girls.

    [A]   [B]   [C]   [D]

103. Anne or Mother made the dress.

    A. Anne and Mother made the dress.

    B. Either Anne or Mother made the dress.

    C. Both Anne and Mother made the dress.

    D. Neither Anne nor Mother made the dress.

                                                                   [A]   [B]   [C]   [D]

104. Bill held the baby who Cathy gave the toy to.

    A. Bill held Cathy.

    B. Bill held the toy.

    C. The baby gave the toy.

    D. Cathy gave the toy to the baby.

                                                                   [A]   [B]   [C]   [D]

105. That Billy was chasing birds surprised Mary.

    A. Billy was chasing birds.

    B. Mary was chasing birds.

    C. Mary surprised Billy.

    D. The birds surprised Mary.

                                                                   [A]   [B]   [C]   [D]

106. The boys who made the fire for Mother brought the lunch.

    A. The boys made the lunch.

    B. Mother made the lunch.

    C. Mother brought the lunch.

    D. The boys made the fire.

                                                                   [A]   [B]   [C]   [D]

107. The selling of the dog disappointed David.

    A. David sold the dog.

    B. David disappointed the dog.

    C. The selling disapppointed David.

    D. The dog disappointed David.

                                             [A]   [B]   [C]   [D]

108. Susan enjoyed the running of the animal.

    A. Susan enjoyed the animal's running.

    B. The animal enjoyed Susan.

    C. The running enjoyed Susan.

    D. The running enjoyed the animal.

                                             [A]   [B]   [C]   [D]

109. The crash of the boats scared the children.

    A. The boats scared the children.

    B. The crash scared the children.

    C. The children crashed.

    D. The children scared the boat.

                                             [A]   [B]   [C]   [D]

110. The boy who Mary watched threw the ball.

    A. Mary watched the ball.

    B. The boy threw the ball.

    C. Mary threw the ball.

    D. The boy watched Mary.

                                             [A]   [B]   [C]   [D]

111. The babies, who were tired, slept on the bed.

    A. The tired babies were slept on the bed.

    B. The tired babies slept on the bed.

    C. The babies were tired slept on the bed.

    D. The babies who the babies were tired slept on the bed.

    ⬚A ⬚B ⬚C ⬚D

112. The boy heard the screaming of the woman.

    A. The boy heard the woman's screaming.

    B. The woman heard the boy.

    C. The screaming heard the woman.

    D. The screaming heard the boy.

    ⬚A ⬚B ⬚C ⬚D

113. The work of the girl surprised Father.

    A. Father worked.

    B. The girl surprised Father.

    C. Father surprised the girl.

    D. The work surprised Father.

    ⬚A ⬚B ⬚C ⬚D

114. Anne watched the marriage of her friend.

    A. Anne married.

    B. The marriage watched Anne.

    C. Anne watched her friend's marriage.

    D. Her friend watched Anne.

    ⬚A ⬚B ⬚C ⬚D

115. We picked the boys who were little.

    A. We picked the boys little.

    B. We picked the boys were little.

    C. We picked the boys who the boys were little.

    D. We picked the little boys.

                                                                              [A]   [B]   [C]   [D]

116. The man who bought the cow from Father wore a brown coat.

    A. Father wore a brown coat.

    B. The man bought a brown coat.

    C. Father bought a brown coat.

    D. The man bought the cow.

                                                                              [A]   [B]   [C]   [D]

117. The boys knew the man. The teacher gave the money to the man.

    A. The boys knew the man who the teacher gave the money to.

    B. The boys knew the man who the teacher gave the money to the man.

    C. The boys knew the man who the teacher gave the money to him.

    D. The boys knew who the teacher gave the money to the man.

                                                                              [A]   [B]   [C]   [D]

118. The discussion of the party disappointed Susan.

    A. Susan disappointed the party.

    B. The discussion disappointed Susan.

    C. Susan discussed the party.

    D. The party disappointed Susan.

                                                                              [A]   [B]   [C]   [D]

119. John watched the growth of the plant.

    A.   The growth knew John.

    B.   John grew the plant.

    C.   John watched the plant's growth.

    D.   The plant watched John.

                                                            [A]   [B]   [C]   [D]

120. I saw the children. The man talked to the children.

    A.   I saw the children to whom the man talked.

    B.   I saw the children to whom the man talked to them.

    C.   I saw whom the man talked to the children.

    D.   I saw the children to whom the man talked to the children.

                                                            [A]   [B]   [C]   [D]