

AN INVESTIGATION INTO THE EFFECT OF ACTIVE AND PASSIVE
VOICE ON THE COMPREHENSION OF SEVENTH
GRADE GOOD AND POOR READERS

THESIS

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Jacqueline M. Shapiro

State University College at Brockport
Brockport, New York

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SUBMITTED BY:

Jacqueline M. Shapiro

APPROVED BY:

Frances Morone 5/18/82
Thesis Advisor Date

Arthur E. Smith 5/18/82
Second Faculty Reader Date

Robert B. Rible 5/21/82
Chair, Graduate
Policies Committee

Abstract

The purpose of this study was to determine whether active or passive voice of the verb in sentences affects seventh grade readers' comprehension of those sentences. A total of 40 seventh grade students was obtained from two western New York parochial elementary schools. Results of the Stanford Achievement Test, Form B were used to classify the students as good, average and poor readers. Good readers had a reading comprehension grade equivalent of 8.0 or above, and poor readers a grade equivalent of 6.0 or below. Only the good readers (N = 16) and the poor readers (N = 11) comprised the sample. The total sample was reduced to 27 subjects.

The Paragraph and Unrelated Sentences Tests were administered to each student in the sample. The Paragraph Test, constructed by the investigator, consisted of 12 sentences which related a social studies event. Six of the sentences were written in the active voice of the verb and six in the passive voice of the verb. The Unrelated Sentences Test, also constructed by the investigator, consisted of 10 sentences which had no relationship with each other. Five sentences were written in the active voice of the verb and five in the passive voice of the verb. The subjects had to write correct answers to the 10 comprehension questions at the end of each test. The correct responses required that the subjects had comprehended the information in each sentence, in whichever voice it was presented. Phrases or complete sentences were expected as the written responses.

There was no time limit on either test, and both were administered at the same session. The data were analyzed using a series of two-tailed t-tests with an alpha level of .05. A significant difference was found between active and passive voice comprehension errors made by both good and poor readers on the Unrelated Sentences Test. There was no significant difference found between active and passive voice comprehension errors made by both good and poor seventh grade readers on the Paragraph Test.

The results indicated that passive voice sentences when presented in an unrelated sentences format or in a list were more difficult to comprehend than active voice sentences. Recommendations for classroom teachers as well as implications for further research were given.

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Chapter I

Statement of the Problem

Background of the Study

Reading comprehension is affected by various factors involving the reader as well as the information on the printed page. In the reading process, the ultimate purpose is to derive meaning from the symbols. To complete this task, the reader's experiences interact with the graphophonic, syntactic, and semantic clues which appear in reading passages.

One syntactic cue employed by the reader is the subject/predicate strategy. Using this strategy, the reader searches for the subject (doer of the action) in the sentence and the predicate (action expressed or state of being) to understand the total sentence.

All sentences, however, do not follow a single subject/predicate pattern. A message can be conveyed to a reader in more than one way. A reader's overreliance on a given pattern may result in a comprehension breakdown when he is faced with a different structure.

One structure which has received research attention is the voice of a verb (active or passive) and grammatical transformations pertaining to the voice. Coleman (1964a) stated that a long prose passage was more easily comprehended after three transformations were applied.

Detransforming passive voice sentences to active voice sentences was one of these applications.

According to Coleman and Blumenfeld (1963), there are some grammatical transformations of a sentence which are more easily comprehended than other transformations. This appears to be the case in the revising of a prose passage to improve readability. When active verb transformations are used in composing sentences with many "personal words" as subjects and objects, there is an improvement in readability (Coleman, 1965).

Coleman (1964a) concluded that actives were easier to learn than their passives. His findings also indicated that significantly more passives were retained as actives (or kernels) than the reverse.

In a similar study, Anderson (as cited by Coleman, 1965) discovered no significant difference in the recall of actives or passives when he scored discrete words. His findings did, however, suggest a tendency to recode into kernels or actives. Anderson also suggested that position was a good predictor of retention.

Miller (1962) has concluded that kernels consisting of all grammatical transformations are stored in the reader's memory. A reader presented with a group of passives to detransform to actives should remember the same content words to the same degree as a matched reader who is presented with a group of actives.

In contrast to these findings Coleman (1965) reported that regardless of the voice of the sentence presented to the subject for recall, the first content word would be best remembered, the last

content word would be remembered next best, and the middle content word would be remembered the least of all.

In another investigation of recall of active and passive voice sentences and response strength of single words, Prentice (1966) stated that the active construction was easier to learn than the passive construction. The difference in recall, however, was not significant.

Blount and Johnson (1973) also found that sentences in the active voice were recalled better than those constructed in the passive voice. When this recall was judged against semantic criteria instead of syntactic correctness, passive voice sentences were recalled equally well as active voice sentences.

Slobin (1968) and Sachs (1967) have explored the recall of actives and full passives (mention of actor) and truncated passives (without mention of actor). Their findings indicate that the reader will obtain the underlying meaning of a sentence equally well in active or in passive voice. They found that a subject would experience recall of full passives easier than that of truncated passives.

Gough (1966) and Slobin (1968) have concluded that more time is required to verify passive voice sentences than active voice sentences. Gough concurred with Postal (1964) and Chomsky (1965) who stated that transformations must apply to abstract structures underlying the sentences or ungrammatical sentences would result.

The research of Coleman (1964a), Coleman and Blumenfeld (1963), Blount and Johnson (1973), and Prentice (1966) has explored the recall of active and passive voice sentences. When judged by criteria in

which syntactic correctness was required, the findings indicate that active voice sentences were recalled better than passive voice sentences.

When the recall of active and passive voice sentences was judged against criteria requiring semantic correctness, actives and passives remained equal according to Blount and Johnson (1973), Slobin (1968), and Sachs (1967).

There is a need for further research to examine the effect the active or passive voice of a verb has on the comprehensibility of those sentences. Previous research has not addressed this question to a great degree.

Purpose

The purpose of this study was to determine whether the active or passive voice of the verb in sentences affects seventh grade readers' comprehension of those sentences.

Questions

The following questions were investigated:

1. Is there a significant difference between the number of active and passive voice comprehension errors made by seventh grade good readers on the Unrelated Sentences Test?
2. Is there a significant difference between the number of active and passive voice comprehension errors made by seventh grade poor readers on the Unrelated Sentences Test?
3. Is there a significant difference between the number of active and passive voice comprehension errors made by seventh grade good readers on the Paragraph Test?

4. Is there a significant difference between the number of active and passive voice comprehension errors made by seventh grade poor readers on the Paragraph Test?

Definition of Terms

The following terms were referred to in this study:

Voice of the verb is the relationship between the subject of the sentence and the action expressed by the verb.

Active voice of the verb is the usual order of the English sentence in which the subject is the performer of the action expressed by the verb.

All three verb types can occur in the action voice form:

- | | |
|---------------|--------------------------------------|
| Intransitive: | 1. John <u>walks</u> . |
| | 2. He <u>should be leaving</u> soon. |
| Transitive: | 1. He <u>hit</u> the ball. |
| | 2. Jim <u>gave</u> me a quarter. |
| | 3. We <u>thought</u> him foolish. |
| Linking: | 1. Mary <u>is</u> a student. |
| | 2. Mary <u>is</u> pretty. |

Notice that when the verb in a sentence is intransitive or transitive, the subject does something; when the verb is linking, the subject does not do anything, it merely exists. (LaPalombra, 1976, p. 50)

Transitive verb is a verb that expresses an action that is passed from a doer to a receiver. For example:

The president saw the visitor.
The visitor was seen by the president.

In both sentences, visitor is the receiver of the action. Since the action passes from the doer to the receiver in each case, the verb see, whether it is in the form of saw or was seen, is a transitive verb.

However, when a transitive verb is used in passive voice, the doer is not always expressed. For example:

Automobiles are sold here. (doer not expressed)
 Automobiles are sold by this dealer. (doer expressed)

Of the three verb types (transitive, intransitive, and linking) only the transitive verb can also appear in the passive voice (LaPalombra, 1976, p. 50).

Intransitive verb is a verb in which action does not pass from a doer to a receiver. For example: The child laughed.

Linking verb is a verb which connects the subject part of a sentence with a noun or an adjective in the predicate part. It tells what the subject is or is like. Some of the most common linking verbs are:

are:	be	are	become	seem	look	remain	feel
	am	was	smell	sound	appear	is	

(Some of them can be used as action verbs also.)

Passive voice of the verb occurs in a sentence in which the subject receives the action expressed by the verb. Passive sentences must:

- a. use only action transitive verbs,
- b. always contain some form of the auxiliary (helping verb) be, followed by a past participle, and
- c. make some mention of the performer to complete the statement in situations of social and historical significance. The performer follows the verb and is introduced using the preposition by. For example: The electric light bulb was invented by Edison. The prepositional phrase which begins with the word by may be omitted; however, when:

1. we don't know who the performer is,
2. it is preferable not to mention the performer, and

3. we wish to emphasize the active object (subject of the passive sentence) (Prainkas, 1975, p. 298).

Grammatical transformation is a process which changes the deep structure of a sentence into a surface structure by using a set of rules (transformations) to show differences between meaning and form, by deleting, adjoining, or substituting (Jacobs, 1968, p. 37).

Passive transformation is the process of changing an active voice sentence to a passive voice sentence without changing the meaning.

For example:

Those who ran the school denied what everyone was saying.

(active voice)

What everyone was saying was denied by those who ran the school.

(passive voice) (Jacobs, 1968, p. 37).

Reading comprehension is a complex of mental processes involving three basic skill areas. A reader attempts to identify specific ideas of another person, organize them, and then react to them as he decodes the printed symbols. (Griese, 1977, p. 4).

Good readers are those seventh grade students in the sample who scored a grade equivalent of at least 8.0 on the Stanford Achievement Test, Form B, reading comprehension subtest.

Poor readers are those seventh grade students in the sample who scored a grade equivalent under 6.0 on the same test.

Limitations of the Study

This study was limited to seventh grade students from two elementary parochial schools within one urban school district. The

sample was further restricted by the omission of those seventh graders reading at grade level. Only those students who read above or below average on the Stanford Achievement Test, Form B composed the sample.

Only silent reading comprehension and written responses were required and measured in this study.

Summary

Although some research has been conducted to determine whether grammatical structure affects the recall of sentences in prose, it has not been established whether the comprehension of such passages is impaired when sentences are transformed to the passive voice. Some investigators have concluded that semantic recall of a passage was retained as well in both active and passive voice sentences. Others have indicated that active voice sentences are comprehended and verified much easier and faster than passive voice sentences.

There is a need for further investigation of the relationship between the voice of the verb and reading comprehension. This study was designed to explore this relationship. Active and passive voice sentences were constructed and presented in the context of a prose passage and in a group of unrelated sentences to determine this relationship.

Chapter II

Review of the Literature

Purpose

The purpose of this study was to determine whether the active or passive voice of the verb in sentences affects seventh grade readers' comprehension of those sentences.

Related Syntax-Based Research

Much of what is taught to students involves the expression of an oral or printed message. If students cannot adequately deal with the grammatical structure of a message or sentence, they will not comprehend it fully. The basic syntactic elements are the subject and predicate of the sentence. The noun that serves as the grammatical subject of the sentence is not always in the predictable first place location. When a sentence is constructed in active voice, the grammatical subject is usually presented or introduced first. For example, in "The Mouse ate the cheese," the subject is mouse. The predicate is ate, and the object of the action verb/predicate is cheese. The verb in this example is in active voice because the subject, mouse, is the performer of the action expressed by the verb--ate. The passive voice construction changes to: "The cheese was eaten by the mouse." The object of the active voice sentence has become the subject of the passive voice sentence. The subject of the active voice sentence has become the object of the passive voice sentence. According to Blount and Johnson (1973), "The relationship between the psychological and grammatical subject in the case of the

active-passive voice transformation, apparently influences of the cognitive processing of the semantic content of the sentence" (p. 164).

Syntactic structure and whether it facilitates recall in good and poor readers was investigated by Weinstein and Rabinovitch (1971). Fourth grade students learned four lists of words using a tape recorder. The good and poor readers learned two lists of syntactically structured nonsense elements and grammatical markers, and two lists of unstructured nonsense elements. Results of a paired-associate task yielded no difference between the good and poor readers' ability to retain or memorize the unstructured lists. The good readers, however, learned the structured lists more rapidly than the unstructured lists. The implication is that the syntactic cues in the structured lists facilitated the good readers' learning of the material. Poor readers could not make use of grammatical cues.

In an experiment to determine whether college subjects could learn to recognize the semantic relationship between a predicate and nouns in a sentence, Shafto (1973) discovered a cognitive structure that caused confusion among the subjects: living versus nonliving nouns and active versus passive voice of the verb. Results indicate that subjects found it difficult to associate the active verbs to the nonliving nouns. Three models concerning the cognitive processes which occurred in the recognition task were tested. The best model maintains that the encoded form of a sentence relies on the underlying predicate structure of the main verb.

Bormuth, Manning and Carr (1970) conducted an investigation into question transformations and comprehension skills of fourth grade subjects. The most important result of this study was that a great

percentage of the students in the sample of 240 were unable to comprehend the most basic syntactic structures. One type of the derived question transformations employed involved the passive voice as a part of the test of sentence comprehension.

The effect which the active or passive voice of the verb has on sentence comprehension is a topic that needs to be researched further.

Recall of Active and Passive Voice Sentences

Investigators have been considering the reader's recall of active and passive voice sentences with essentially the same findings. Active voice sentences are more easily and thoroughly recalled than passive voice sentences.

Coleman and Blumenfeld (1963) found that nominalized sentences are not as comprehensible as their grammatical transformations using active verbs. In this experiment 100 college freshmen English students were given two paragraphs to read. Each paragraph consisted of ten sentences, each containing two randomly selected nominalizations. In one paragraph, the nominalizations were transformed to active voice verbs. The subjects had to complete ten different cloze tests for each sentence, five for the nominalized version and five for the active verb version. Subjects were divided into ten groups of ten people, allowing each cloze test to be filled in by ten subjects. In scoring, synonyms were considered incorrect, however, any derived or inflected form of the word was counted as correct. A mean of 9.63 words per subject was obtained for correct cloze responses for nominalized sentences, and a mean of 10.80 was obtained for their grammatical transformations using active verbs ($p < .01$ by a binomial test). These results have definite implications for preparing teaching materials.

The word patterns of the passages written in active verbs are more predictable than those written in nominalizations. Thus an individual required to learn a certain amount about a passage will know relatively more about it before he begins studying if the passage is written in active verbs. (p. 653)

Coleman (1964a) conducted four related experiments to compare the comprehensibility of different grammatical transformations applied to a passage. Although each experiment used varying modes of presentation and different dependent variables, active verb transformations were found to be more comprehensible in each. College students comprised the sample in each experiment. The subjects were required to read passages which had been simplified by applying three grammatical transformations to them in the first two experiments. In these two experiments, nominalizations, adjectivalizations, and passives were transformed to active voice verb sentences. In the last two experiments, only nominalizations were compared to their active verb transformations. Immediately after reading a paragraph, each subject had to write it to the best of his ability, from memory. The results of all four experiments support the idea that some transformations are more easily comprehended than others. "The last three experiments more specifically suggested that transformations using active verbs are easier to comprehend than their nominalized counterparts" (Coleman, 1964a, p. 189).

Anderson (as cited by Coleman, 1965) compared the short term retention of actives and passives and found no significant differences when his measure was discrete content words. These data indicated that actives would be better retained than passives if retention were scored in longer units.

In a replication of Anderson's study, Coleman (1965) concluded that actives were more easily retained than passives. In his experiment,

Coleman presented 40 psychology college students with 16 sets of sentences via a slide projector. The sentences were presented in sets of six, containing three actives and three passives. Each sentence was flashed for four seconds, and the subjects were instructed to write down all they could remember from each set in a 90 second time period. Three scoring systems were used: (a) total content words written in any order, (b) three word sets of content words correctly used, and (c) complete sentences perfectly retained. The results were analyzed using a Wilcoxon matched pairs test. Actives were retained better than passives for all scoring systems beyond the $p < .01$ level of significance.

Both Anderson (as cited by Coleman, 1965) and Coleman (1965) found that significantly more passives were retained as actives (or kernels) than actives were retained as passives.

The kernel concept, according to Miller (1962), maintains that kernels consisting of all grammatical transformations are stored in the reader's memory. Miller's investigations included an experiment employing a test consisting of basic or kernel sentences. In this case, the kernel sentences were all of the sentences that could be formed by placing Jane, John or Joe as the first word, liked or warned as the second word, and the small boy, the old woman, or the young man as the final part. A corresponding list of 18 sentences that could be produced from the kernels by negative, passive, and passive-negative transformations was then constructed.

Subjects were given the task of matching or pairing off the 18 kernel sentences with their transformations. For example, one test required the subjects to match passive sentences with the corresponding

passive-negative form: The old woman was warned by Joe. - The old woman wasn't warned by Joe.

Miller measured the amount of time the 60 subjects took to locate the transformations for each type of test. His findings include a longer estimated transformation time for both kernel to passive negative and negative to passive transformations, requiring 2.7 and 3.5 seconds, respectively.

Mehler's (1963) investigation into the theories of grammatical transformations considered the syntactic errors subjects made when attempting to write out a presented sentence from memory. Errors were placed into three categories: (a) errors of omission, (b) syntactic errors, and (c) other errors. Mehler found that the greatest number of errors made fell into the syntactic category. In five trials the subjects recalled active (kernel) sentences better than the three transformations: passive, negative, and negative-passive.

Miller (1962) concurred with Mehler's preliminary findings of a study in 1963 that sentences were recoded into kernels, and were recalled better than any of the three transformations made from the kernels.

The active construction was easier to learn than the passive construction, according to Prentice's (1966) findings. Prentice stated that the syntactic errors tended to be made most frequently on the active construction. In this study, active or passive sentences were learned in response to nouns. The subjects were 26 college psychology students, who were randomly assigned to one of two comparison groups. The comparison groups learned the same sentence in response to unrelated stimulus nouns. The findings indicate that sentences beginning with high response strength nouns are easier to learn than sentences which

end with high response strength nouns. Active sentences were learned easier than passives. An analysis of the errors indicated that the subjects rarely changed the active construction in recall, but that the change from passive to active was made frequently.

In the studies of Coleman (1965), Miller (1962), Mehler (1963), and Prentice (1966), unrelated sentences were presented to the subjects for recall. In an investigation by Blount and Johnson (1973), however, paragraphs were employed to test the recall of the subjects. Ten five-sentence paragraphs were compiled. Two experimental sentences were placed or embedded in each paragraph. The experimental sentences were either temporally-correct active, temporally-reversed active, temporally-correct passive, or temporally-reversed passive.

The subjects were 18 sixth grade students, randomly selected from one elementary school. The design was a two-way repeated measures design, with active-passive voice and temporal order as the within factors. Each subject was given two trials for recall of each paragraph. The paragraphs were tape recorded, as were the responses of the subjects. Subjects were encouraged to repeat the paragraphs word for word to the best extent they could. If exact words could not be recalled, then the main idea of the phrase or sentence was requested.

The three scoring categories used were: (a) correct recall, (b) omissions, and (c) semantic recall. In the last category, a voice transformation which is a syntactic error was not counted as a semantic error. A multivariate analysis of variance was performed. The results indicate that when syntactic criteria was considered, actives were better recalled than passives. However, when semantic correctness was required, the actives and passives were not recalled with any significant difference.

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The results also indicated that significant differences did exist between temporal order conditions. No significant interaction was found between temporal order and voice. Blount and Johnson (1973) offer an explanation for the latter findings:

The learner's success in handling passives may stem from their frequent encounters with passives in prose contexts, whereas temporal reversals are less often encountered. As a consequence, the learners simply may have learned more efficient strategies for handling passives than for handling temporal reversals. . . . If it is important also that the learner retain the grammatical structure of the sentence, then sentences should be presented in the active voice.
(p. 167)

In an investigation conducted by Slobin (1968) the recall of passive voice sentences was also explored. In this experiment full and truncated passive sentences were included in six pairs of stories constructed to appeal to the interest of the children who composed the sample. Each story had four embedded passive sentences which were either full (mention of actor was made) or truncated (no mention of actor was made). The subjects were instructed to listen to two stories and to retell them as completely and verbatim as possible.

The subjects ranged in age from five to twenty years. They were all English-speaking, and were selected from many schools within the United States.

The results found truncated passives were significantly better recalled than full passives. The implication is that while full passives may be recalled in active voice, truncated passives are not. The syntactic form of truncated passives frequently tends to be retained in recall.

In an experiment conducted by Sachs (1967) to investigate the pattern of retention of syntactic and semantic information presented

in connected discourse, semantic recall of a sentence was not found to be influenced by the memory of the original form of the sentence.

The 96 subjects listened to 24 taped passages. After each passage, a sentence was presented to the subjects. The sentence was either identical to one contained in the passage or changed in a slight way. The two independent variables were: (1) the relationship between the original sentence in the passage and the test sentence, and (2) the amount of interpolated material between the original and test sentences was zero, 80, or 160 syllables of connected discourse.

An analysis of variance was performed. The results indicated that the original form of a sentence is only stored in the reader's memory long enough to permit comprehension of the message. The original sentence is rapidly forgotten, but the information it contained is retained and recalled.

The focus of attention in recall of active and passive sentences was investigated by Turner and Rommetveit (1968). The hypothesis in this study was that the focus of one's attention during the storing and retrieving of sentences may determine the selection of a subject of a sentence in the recall process. To explore this hypothesis, an attempt was made to focus the child's attention on a particular portion of the sentence, during the time of sentence storage and retrieval. The investigators employed pictures of the actor, acted-upon, and total sentence idea to manipulate the subjects' focus of attention.

The sample consisted of 48 children in nursery school through third grade. Each grade level was divided into four experimental groups of 12 subjects. One sentence of each of four types: (1) nonreversible active, (2) reversible active, (3) nonreversible passive, and

(4) reversible passive was randomly presented with a picture of the actor, acted upon element, or the total sentence idea. Subjects were asked to recall the sentence later, when a retrieval picture was presented.

Results included no significant differences in the number of sentences correctly recalled or transformed. The subjects transformed sentences into the opposite voice in recall, when the picture upon which they focused their attention did not correspond with the subject, but instead with the object. The pictures of the actor and total sentence idea would aid the subjects' recall of active sentences and the transformation of passive sentences to active voice. The acted-upon pictures would aid recall of passive sentences and the transformation of active sentences into passive voice. The frequency of active voice sentences in recall was greater than the frequency of passive voice sentences.

Verification of Active and Passive Voice Sentences

In a study designed to test whether a person who hears a complex sentence must transform that sentence into the kernel or active before understanding it, Gough (1965) found active sentences to be verified faster than passive sentences. Two other variables measured were the affirmative-negative and the true-false combinations.

The subjects in the sample were 21 college psychology students. Each was instructed to decide whether a sentence was true or false depending on a picture that would be shown to each subject after the sentence was presented. These data were analyzed by an analysis of variance. Active sentences were verified faster than passives, affirmative faster than negative, and true sentences were verified faster than false.

In 1966 Gough conducted a further investigation into the verification time of actives and passives with similar results to his findings in an earlier study completed in 1965. In his second experiment, Gough made passive sentences shorter by deleting the agent phrases. Twenty college psychology students were instructed to listen to a sentence and verify it according to a picture viewed before the sentence was presented. Active sentences were verified even faster than shorter passives, $F(1,19) = 22.76, p < .01$.

Summary

In an attempt to address the question of what effect, if any, the active or passive voice of the verb has on recall of sentences, many investigators have conducted studies. Results have most frequently indicated that the passive voice sentences are more difficult to recall and verify than active voice sentences (Blount & Johnson, 1973; Coleman, 1964a; Coleman, 1965; Coleman & Blumenfeld, 1963; Gough, 1966; Mehler, 1963; Miller, 1962; Prentice, 1966).

Sachs (1967), Blount and Johnson (1973), and Slobin (1968) concluded that although the active voice was easier to recall with syntactic correctness, both actives and passives were recalled equally when semantic correctness was considered. The focus of a child's attention in recall of actives and passives was found to be influenced by pictures presented to the subject during the time of storing and retrieving of sentences, according to Turner and Rommetveit (1968).

There is a need for further research into what effect the voice of the verb has on the comprehensibility of sentences in which active or passive verbs occur.

Chapter III

The Research Design

Purpose

The purpose of this study was to determine whether the active or passive voice of the verb in sentences affects seventh grade readers' comprehension of those sentences.

To make this determination, the students in the sample were first divided into two groups: good and poor readers, according to their performance on the reading comprehension subtest of the Stanford Achievement Test, Form B. The two investigator-designed tests, the Paragraph Test and the Unrelated Sentences Test, were then administered to the sample. The scores of both groups were then compared.

The basic hypothesis was that the good readers would make significantly fewer errors than the poor readers would in responding to comprehension questions dealing with information presented in passive voice sentences on both tests.

Hypotheses

The following null hypotheses were investigated:

1. There is no significant difference between the number of active and passive voice comprehension errors made by seventh grade good readers on the Unrelated Sentences Test.
2. There is no significant difference between the number of active and passive voice comprehension errors made by seventh grade poor readers on the Unrelated Sentences Test.

3. There is no significant difference between the number of active and passive voice comprehension errors made by seventh grade good readers on the Paragraph Test.

4. There is no significant difference between the number of active and passive voice comprehension errors made by seventh grade poor readers on the Paragraph Test.

Methodology

Subjects

A total of 40 seventh grade students was obtained from two western New York parochial elementary schools. The students were members of heterogenous classrooms. All had been given the Stanford Achievement Test, Form B in October, 1981. On the basis of their reading comprehension grade equivalent scores, the students were classified as good, average and poor readers, for the purpose of this study. After this classification was made, only the good readers (N = 16) and the poor readers (N = 11) comprised the sample. The total sample was reduced to 27 subjects.

Each good reader had a reading comprehension grade equivalent score of 8.0 or above. The mean score for the good readers was 10.2. Each poor reader had a reading comprehension grade equivalent score of 6.0 or below. The mean score for the poor readers was 5.0.

Instruments and Procedures

Stanford Achievement Test, Form B was administered to the subjects in October, 1981. The reading comprehension grade equivalent scores were studied, and the subjects were classified, subsequently, as good, average and poor readers. Although all three levels of readers were given the

Paragraph and the Unrelated Sentences Tests, only the scores of the good and poor readers were statistically analyzed and included in the study.

The Paragraph Test (see Appendix A), constructed by the investigator, consisted of 12 sentences which related a social studies event. The subjects had not been taught about this event prior to taking the Paragraph Test. Of the 12 sentences in the paragraph, six were written in the active voice of the verb and six were written in the passive voice.

The subjects were instructed to read silently a typed copy of the paragraph, and then to write answers to the 10 questions that followed it. The correct answers to five of the questions required that the subject had comprehended the information presented in the paragraph in passive voice sentences. The correct answers to the other five required that the subject had comprehended the information presented in the paragraph in active voice sentences. The answers were to be written in phrases or sentences to avoid single word responses or any ambiguity.

The Unrelated Sentences Test (see Appendix A), also constructed by this investigator, consisted of 10 sentences which had no relationship with each other. Ten separate social studies concepts were presented to the subjects. Five sentences were written in the active voice, and five were passive voice. Again, the subject had to answer 10 questions in writing, after reading silently the typed copy of this test.

The correct responses required that the subject had comprehended the information presented in each sentence, in whichever voice it was constructed. Phrases or complete sentences were expected as the written responses.

There was no time limit on either test, and both were given at the same session. The readability of these two tests was between 7.2 and 7.5.

In both of these tests, active and passive voice sentences were presented in a random order to avoid any predictable pattern for the subject to use.

Statistical Analysis

The data were analyzed using a series of two-tailed students t tests.

Summary

This study investigated whether the voice of the verb in a sentence affects the comprehension of that sentence by the seventh grade reader, classified as a good reader or a poor reader on the basis of the Stanford Achievement Test, Form B, reading comprehension subtest. Each student in the sample of 27 was required to silently read and write answers to questions based on their reading of a paragraph and a group of unrelated sentences in social studies. The reading material was at grade level. Active and passive voice sentences were varied in both types of reading material, the Paragraph Test and the Unrelated Sentences Test. In order to correctly answer any question, a subject had to comprehend the sentence in the reading material in which the information was presented, regardless of the voice of the verb. Both tests were constructed by the investigator. They were both administered in one untimed session. The data were analyzed using a series of two-tailed students t tests.

Chapter IV

Analysis of Data

Purpose

The purpose of this study was to determine whether the active or passive voice of the verb in sentences affects seventh grade readers' comprehension of those sentences.

Null Hypotheses

1. There is no significant difference between the number of active and passive voice comprehension errors made by seventh grade good readers on the Unrelated Sentences Test.

2. There is no significant difference between the number of active and passive voice comprehension errors made by seventh grade poor readers on the Unrelated Sentences Test.

3. There is no significant difference between the number of active and passive voice comprehension errors made by seventh grade good readers on the Paragraph Test.

4. There is no significant difference between the number of active and passive voice comprehension errors made by seventh grade poor readers on the Paragraph Test.

Findings and Interpretation of Data

The data were analyzed using a series of two-tailed students t tests with an alpha level of .05.

Table 1 shows the results of the testing of null hypotheses one and two.

Table 1

T test of Differences in Active and Passive Voice Comprehension Errors of Good and Poor Seventh Grade Readers on the Unrelated Sentences Test

Readers	Active		Passive		derived <u>t</u> ratio
	Mean	S.D.	Mean	S.D.	
Good	0.13	0.34	2.06	1.18	6.30*
Poor	0.64	0.81	2.82	1.08	5.37*

crit. t (25) = 2.06, $p < .05^*$

The first null hypothesis was there is no significant difference between the number of active and passive voice comprehension errors made by seventh grade good readers on the Unrelated Sentences Test.

Analysis of the data in Table 1 resulted in a significant difference in the number of errors made in comprehending active and passive voice sentences by seventh grade good readers on the Unrelated Sentences Test. Good readers made significantly more errors in comprehending passive voice sentences than they made in comprehending active voice sentences on the Unrelated Sentences Test. On the basis of these results the first null hypothesis was rejected.

The second null hypothesis was there is no significant difference between the number of active and passive voice comprehension errors made by seventh grade poor readers on the Unrelated Sentences Test.

Analysis of the data in Table 1 resulted in a significant difference in the number of errors made in comprehending active and passive voice

sentences by seventh grade poor readers on the Unrelated Sentences Test. Poor readers made significantly more errors in comprehending passive voice sentences than they made in comprehending active voice sentences on the Unrelated Sentences Test. On the basis of these results the second null hypothesis was rejected.

Table 2 shows the results of the testing of null hypotheses three and four.

Table 2

T test of Differences in Active and Passive Voice Comprehension Errors of Good and Poor Seventh Grade Readers on the Paragraph Test

Readers	Active		Passive		derived <u>t</u> ratio
	Mean	S.D.	Mean	S.D.	
Good	0.13	0.34	0.06	0.25	0.59
Poor	1.27	1.27	0.91	1.04	0.73

crit. t (25) = 2.06, $p < .05$

The third null hypothesis was there is no significant difference between the number of active and passive voice comprehension errors made by seventh grade good readers on the Paragraph Test.

Analysis of the data in Table 2 showed no significant errors made in comprehending active and passive voice sentences by seventh grade poor readers on the Paragraph Test. Good readers did not make significantly more errors in comprehending passive voice sentences than they made in comprehending active voice sentences on the Paragraph Test. The data failed to reject the third null hypothesis.

The fourth null hypothesis was there is no significant difference between the number of active and passive voice comprehension errors made by seventh grade poor readers on the Paragraph Test.

Analysis of the data in Table 2 showed no significant difference in the number of errors made in comprehending active and passive voice sentences by seventh grade poor readers on the Paragraph Test. Poor readers did not make significantly more errors in comprehending passive voice sentences than they made in comprehending active voice sentences on the Paragraph Test. The data failed to reject the fourth null hypothesis.

Summary

The findings of this study rejected the first and second null hypotheses. There was a significant difference between active and passive voice comprehension errors made by both good and poor seventh grade readers on the Unrelated Sentences Test.

The data failed to reject the third and fourth null hypotheses. There was no significant difference between active and passive voice comprehension errors made by both good and poor seventh grade readers on the Paragraph Test.

Chapter V

Conclusions and Implications

Purpose

The purpose of this study was to determine whether the active or passive voice of the verb in sentences affects seventh grade readers' comprehension of those sentences.

Conclusions

The results of this study yielded significant difference between active and passive voice comprehension errors of seventh grade good and poor readers on the Unrelated Sentences Test. There was no significant difference, however, between active and passive voice comprehension errors of seventh grade good and poor readers on the Paragraph Test.

The results may have been influenced by the nature of the Unrelated Sentences Test and the Paragraph Test. Unrelated sentences are not contingent upon one another to provide comprehensibility. They are presented separately to the reader, and have no relationship with one another. This type of test may put the reader at a disadvantage. A reader may also experience more difficulty comprehending passive voice sentences than active voice sentences when they are presented in a list of unrelated sentences, as the results of the present study have indicated.

Previous experiments conducted by Miller (1962), Mehler (1963), Coleman (1965) and Prentice (1966) have concluded that active voice sentences are easier for the reader to recall than passive voice sentences. Gough investigated verification of actives and passives in two studies completed in 1965 and 1966. His findings are that active voice sentences are easier and faster to verify than passive voice sentences. All of this research employed unrelated sentences as materials to test the readers' recall of information presented in active or passive voice.

The findings of the present study support the fact that actives are comprehended better than passives when they are presented to the reader in a list of unrelated sentences. However, when active and passive voice sentences are presented to the reader in a paragraph, there is no significant difference in the comprehension of either voice.

Paragraphs containing active and passive voice sentences were presented to the subjects for recall in the investigations of Coleman and Blumenfeld (1963), Coleman (1964a), Sachs (1967), Slobin (1968), and Blount and Johnson (1973). The results were that actives were better recalled than passives when syntactic criteria were considered. However, when semantic correctness was investigated, the actives and passives were not recalled with any significant difference.

The findings of the present study show no significant difference in the reader's comprehension (semantic criteria, not syntactic) of active and passive voice sentences when they are presented in paragraph form. Conversely, there is a significant difference in the reader's comprehension of active and passive voice sentences when they are presented in an unrelated sentences format.

Implications for Classroom Practice

A classroom teacher could apply the findings of this study to teaching materials and reader classification according to standardized test results. An instructor should preview reading material and scan any pages containing lists of facts (probably presented in unrelated sentence format) to ascertain whether passive voice sentences appeared to a greater extent than active voice sentences. If the material contained many passive voice sentences, the teacher could either review the information with the students, or rewrite the passives as actives. Students will then be able to verify (Gough, 1965 and 1966), recall (Mehler, 1963; Miller, 1962) and learn (Coleman, 1965; Prentice, 1966) the information presented in active voice better and easier than if it were presented in passive voice.

Implications for Further Research

An investigation could be performed into the number of passive voice sentences occurring in content area reading materials where information or facts are presented in list format.

Standardized tests such as the Stanford Achievement Test reading subtests could also be inspected to determine the number of passive voice sentences which students are required to comprehend in order to successfully respond to comprehension questions. A student's reading grade equivalent score could, indeed, be affected by the ability he possesses to comprehend the voice of the verb.

The individual questions on standardized tests should be examined according to what each question is asking and how the question is being asked. The constructs used should be studied. Are students classified

as good or poor readers based upon their success in responding to extremely difficult question types designed to provide variance for the standardized test?

Bormuth et al. (1970) investigated children's answers to questions containing varying degrees of syntactic complexity. It was concluded that students lacked an understanding of the most basic sentence types. Examining commonly administered standardized tests using methodology similar to Bormuth's could yield information regarding teacher classification of good or poor readers.

Summary

Although the results of this study did not show a significant difference between the active and passive voice comprehension errors of seventh grade good and poor readers on the Paragraph Test, a significant difference was found on the Unrelated Sentences Test. These findings can be important to classroom instructors and researchers in the area of reading instruction.

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Appendix A

Unrelated Sentences Test
Paragraph Test

Appendix A

Unrelated Sentences Test

1. Puritan lawmakers threw hundreds of people in Salem, Massachusetts into jail.
2. Still Europeans continued to migrate to America, hoping to improve their lives.
3. Many of the tribes were governed by a council of chiefs, each representing a different clan.
4. An outline for an effigy mound was traced by cutting or removing strips of grass from the ground.
5. The woodland people traveled mostly on foot over well-known trails, some of which still serve as roads.
6. Villages made up of rectangular houses with dome-shaped roofs covered with bark were often enclosed by wooden stockades.
7. The colonial assemblies would control the spending of money by the grand council and president general.
8. The country's independence was threatened by the revolt.
9. The second colony was quickly captured by Spain, defending its claim to the lands of Florida.
10. Those who ran the school denied what everyone was saying.

Answer the following questions in phrases or sentences. Each question refers back to the sentence of the same number.

1. Who did the lawmakers punish?
2. Who wished to improve their lives?
3. Who represented different clans?
4. What was traced?

Unrelated Sentences (Continued)

5. What still serves as roads?
6. What was enclosed?
7. Who controlled the president general's spending?
8. What caused a threat?
9. Who captured?
10. Who denied?

Paragraph Test

Indigo was introduced to America by Eliza Lucas. The plant, which produced blue dye, required careful cultivation. Slaves were required to plant it, and cut it while the juice was at its fullest. The slaves also had to carry it to the vats to be cured. Next, the slaves would beat the mixture violently to get the rich dark color that was desired. The water was then drained from the mixture and the residue was strained. Next, slaves placed the indigo into coarse linen bags. This material was cut into small pieces and it was dried in special log houses. The indigo was packed into barrels to be shipped to England. The slaves did all of the work in this process. This important plant was then sold for huge profits. The slaves, however, did not see any of these profits.

Answer the following questions in phrases or sentences. Each question refers back to the paragraph.

1. What was drained from the mixture?
2. Where did the slaves carry the indigo?
3. What was strained from the mixture?
4. Where did the slaves place the indigo?
5. What required careful cultivation?
6. What was sold?

Paragraph Test (Continued)

7. Where was indigo dried?
8. Who did not know what the profits were?
9. Who would beat the mixture?
10. Where was indigo introduced?