THE EFFECT OF INCENTIVES UPON LEARNING OF SPELLING
IN THE THIRD AND FOURTH GRADES

A Thesis
Presented in Partial Fulfillment of the Requirements
for the Degree Master of Arts

By

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>INTRODUCTION.</strong></td>
</tr>
<tr>
<td></td>
<td>Statement of the problem.</td>
</tr>
<tr>
<td></td>
<td>Importance of the study</td>
</tr>
<tr>
<td></td>
<td>Definition of terms</td>
</tr>
<tr>
<td></td>
<td>1. Motive</td>
</tr>
<tr>
<td></td>
<td>2. Incentive</td>
</tr>
<tr>
<td></td>
<td>3. Reward</td>
</tr>
<tr>
<td></td>
<td>4. Grades</td>
</tr>
<tr>
<td></td>
<td>5. Individual competition</td>
</tr>
<tr>
<td></td>
<td>6. Group competition</td>
</tr>
<tr>
<td></td>
<td>7. The functional approach</td>
</tr>
<tr>
<td></td>
<td>Motivation in spelling</td>
</tr>
<tr>
<td>2</td>
<td><strong>REVIEW OF THE LITERATURE.</strong></td>
</tr>
<tr>
<td></td>
<td>Literature on incentives in learning</td>
</tr>
<tr>
<td></td>
<td>Literature on motives in learning</td>
</tr>
<tr>
<td></td>
<td>Limitations of previous studies</td>
</tr>
<tr>
<td>3</td>
<td><strong>THE MATERIALS, PROCEDURES AND GROUPS EMPLOYED IN MEASURING THE EFFECT OF INCENTIVES AND MOTIVES.</strong></td>
</tr>
<tr>
<td></td>
<td>The Metropolitan Achievement Test</td>
</tr>
<tr>
<td></td>
<td>The weekly spelling tests</td>
</tr>
<tr>
<td></td>
<td>Procedures for presenting incentives and functional motivation</td>
</tr>
<tr>
<td></td>
<td>The groups used</td>
</tr>
<tr>
<td>4</td>
<td><strong>SIGNIFICANCE OF THE RESULTS OF THE WEEKLY AND THE RETENTION TESTS.</strong></td>
</tr>
<tr>
<td></td>
<td>Results of the Metropolitan Achievement Test</td>
</tr>
<tr>
<td></td>
<td>Results of the weekly spelling tests</td>
</tr>
<tr>
<td>5</td>
<td><strong>FUNCTIONAL WRITING.</strong></td>
</tr>
<tr>
<td></td>
<td>Significance of the errors in functional writing</td>
</tr>
<tr>
<td>6</td>
<td><strong>SUMMARY AND CONCLUSIONS.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>BIBLIOGRAPHY.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>APPENDIX.</strong></td>
</tr>
<tr>
<td></td>
<td>A. Weekly Spelling Lists</td>
</tr>
<tr>
<td></td>
<td>B. Record of Misspelled Words of Written Work</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Grade Placement Results of the Metropolitan Spelling Achievement Test, Forms R and U, Taken by 108 Third Grade Children of John Burroughs Public School, Columbus, Ohio.</td>
<td>28</td>
</tr>
<tr>
<td>II</td>
<td>Grade Placement Results of the Metropolitan Spelling Achievement Test, Forms R and U, Taken by 111 Fourth Grade Children of John Burroughs Public School, Columbus, Ohio.</td>
<td>29</td>
</tr>
<tr>
<td>III</td>
<td>Average Grade Placement Results of the Metropolitan Spelling Achievement Test, Taken by All Groups Used in This Study</td>
<td>31</td>
</tr>
<tr>
<td>IV</td>
<td>Results of the Weekly Spelling Tests and the Retention Tests, Taken by the Third Grade Children, Control Group A, of John Burroughs Public School, Columbus, Ohio.</td>
<td>33</td>
</tr>
<tr>
<td>V</td>
<td>Results of the Weekly Spelling Tests and the Retention Tests, Taken by the Third Grade Children, Experimental Group B, of John Burroughs Public School, Columbus, Ohio.</td>
<td>34</td>
</tr>
<tr>
<td>VI</td>
<td>Results of the Weekly Spelling Tests and the Retention Tests, Taken by the Third Grade Children, Experimental Group C, of John Burroughs Public School, Columbus, Ohio.</td>
<td>35</td>
</tr>
<tr>
<td>VII</td>
<td>Results of the Weekly Spelling Tests and the Retention Tests, Taken by the Fourth Grade Children, Control Group D, of John Burroughs Public School, Columbus, Ohio.</td>
<td>36</td>
</tr>
<tr>
<td>VIII</td>
<td>Results of the Weekly Spelling Tests and the Retention Tests, Taken by the Fourth Grade Children, Experimental Group E, of John Burroughs Public School, Columbus, Ohio.</td>
<td>37</td>
</tr>
<tr>
<td>IX</td>
<td>Results of the Weekly Spelling Tests and the Retention Tests, Taken by the Fourth Grade Children, Experimental Group F, of John Burroughs Public School, Columbus, Ohio.</td>
<td>38</td>
</tr>
<tr>
<td>X</td>
<td>Results of the Weekly Spelling Tests of All the Groups Represented by the Arithmetical Mean of Each Group's Test Results.</td>
<td>39</td>
</tr>
</tbody>
</table>

iv
LIST OF TABLES (Continued)

<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>XI</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Results of the Weekly Spelling Retention Tests of All Groups Represented by the Arithmetical Mean of Each Group's Test Results.</td>
</tr>
<tr>
<td>XII</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>Results of the Written Work Done by the Third and Fourth Grade Children</td>
</tr>
</tbody>
</table>
THE EFFECT OF INCENTIVES UPON LEARNING OF SPELLING

IN THE THIRD AND FOURTH GRADES

CHAPTER 1

Introduction

In recent years interest and difference of opinion have developed regarding the relative effectiveness of incentives and motives as a means of stimulating children's learning. The majority of educators concede that, in spite of many improvements which have been made in the field of education in recent years, the school work and the activities of the school are often not sufficiently significant to the children to possess the impelling, absorbing power that should characterize preparation for a life-work. Some educators feel that children need incentives and strong motives but adequate observation and experimental evidence have been lacking to support these contentions.

Statement of the problem. It was the purpose of this study (1) to find what effect various types of incentives have upon the learning of third and fourth grade children with reference to spelling; (2) to show which incentives achieved the most learning in the third and fourth grades; (3) to evaluate incentives which effected learning in these grades; (4) to show the relative effect of incentives in comparison with motivation; (5) to determine which
incentive or what motivation had the greatest effect on retention of learning.

**Importance of the study.** Incentives have long been a focal point for discussion among educators. Some times motives do not seem real to a child. He may find it difficult to see the relationship between learning of spelling and someday perhaps being a reporter or an author. Often a child needs some immediate incentive or motive. When beginning a new study a child must be meeting some need or solving a problem. He must see that when he has mastered this skill or subject he will have also solved his problem or have met his need. Throughout his study he should continue this feeling that he is accomplishing his goal and solving his problem.

An incentive may increase interest in some specific field and interest may hold a child's attention actively upon a desired end but there must be a motive to produce the action which will finally prompt the child to secure this desired end.

In the early American schools the predominant incentives were negative ones, the "dunce cap" and the "hickory stick." At the time when this study was undertaken one of the main incentives was large sums of money given to children by their parents for doing well in their school work. Competition, praise and grades have also been frequently employed as incentives.

**Definition of terms.** In compiling the definitions for this study the writer was indebted to Good and Stein, dictionary.


editors, for definitions used in the study.

1. **Motive.** A motive is a child's inner reason for doing something in a certain way. These motives are sometimes weak and sometimes strong. At times they appear to be almost entirely lacking. When the motive is strong the child will, many times, learn with very little help.

The child who is told that when he has learned his spelling words well enough to write invitations he may have a party and write his own invitations is being given a motive for his hours of study. Motives are essential and fundamental in determining effort whereas incentives are external in relation to one's efforts. A motive operates as an incentive but an incentive does not constitute a true motive.

2. **Incentive.** An incentive is an external stimulus which prompts a child to act in a certain way. It may give a child a reason for working when he can see no other reason. Incentives are external to the results produced by one's efforts. The child who receives money or some form of reward for his report card is being given an incentive.

3. **Reward.** A reward is something given or received in recompense for service or merit. Difficult tasks may become more attractive to the child if a result of his work is having some form of a reward. This is appealing to his instincts of ambition and ownership. Reward is an external stimulus therefore it is an incentive rather than a motive.

4. **Grades.** Some schools have eliminated the grading system from their schools. Others feel that in removing this system they are taking away an important incentive. A grade is a rating or evaluation of a pupil's achievement and sometimes of his character.
traits or behavior. Often a grade is expressed on a letter scale, as A, B, C or in percentages. The latter was preferred for this study for it was less ambiguous.

5. **Individual competition.** Individual competition is the conscious or unconscious activity involving rivalry, in which one person tries to gain an advantage over his own previous record.

6. **Group competition.** Group competition is the conscious or unconscious activity involving rivalry in which a group of persons tries to outstrip or gain advantage over another group or the record of another group.

7. **The functional approach.** The functional approach to motivating children is a method of introducing new subject matter by evaluating its usefulness and teaching its use to the learners. This study employed the functional approach in week five in order to make the spelling words as meaningful as possible.

   **Motivation in spelling.** Some children like to spell. They enjoy the repetition involved and the success they attain in learning the words. These children do not necessarily need incentives but they may be further stimulated by them. Other children must have incentives supplied to them.

   The basic reasons for learning to spell are: to communicate with others; to express thoughts; and to keep records. A skillful teacher can find many ways of motivating the children through these reasons for learning to spell. Writing a letter to a friend, keeping
records of science experiments, or writing a story about a field trip are all ways of encouraging children to spell correctly. Through these, the children should be encouraged to want to be good spellers and they should learn to enjoy and take pleasure from their spelling work.

The true test of spelling work is the ability of a child to use his own vocabulary in his written work. Most children find it fairly easy to spell the words of their own vocabularies, with the exception of a few troublesome words. These difficult words should be kept on the child's spelling list and used frequently until they disappear as misspelled words. Learning to spell words beyond their vocabularies is a waste of time. A study by Ayres shows the futility of learning to spell words for an indefinite possible future use. Vocabularies decrease after leaving school so work in preparation for the future is almost entirely useless.

Any thorough effort to motivate the school's work will result in the elimination of useless subject-matter from the traditional course of study.³

This study attempted to show what effect different types of incentives and motives have upon the learning and the retention of spelling. It did not attempt to criticize or belittle any method of teaching nor did it attempt to measure the manner in which the children were psychologically affected by these incentives. It did not attempt to prove that any one incentive should be used as in

using them many other factors as well as the individuality of the children had to be considered. Even though some of the incentives stimulated the children to put forth a little more effort very careful consideration should be given before using them.

This study admits that internal motives could not be removed. Since these were present throughout the testing period this study attempted to measure only the influence of the incentives above and beyond internal motives. This investigation did not go into the emotions and drives which sometimes cause subjects to act.
CHAPTER 2

REVIEW OF THE LITERATURE

Much has been written regarding the importance and significance of incentives and motives. The greater part of the research in this field used animals, older children, and adults as subjects in investigations. Only a few studies used children of the eight and nine year age group in an actual classroom situation. A brief summary of the work of experimenters on problems closely related to the present one were considered.

Literature on incentives in learning. Yerkes\(^{1}\) in 1907, theorized that punishment is a more effective incentive than reward. Later, in 1908, Yerkes, collaborating with Dodson\(^{2}\), experimented with various intensities of electric shock on dancing mice. It was learned that the relation of the intensity of the electric stimulus to the rapidity of the learning was dependent upon the difficulty of the acquisition of the habit. The greater the discrimination the greater the effect upon learning.

In 1927, Warden and Aylesworth\(^{3}\) used food and electric shock as rewards and punishments in a study of the effectiveness of incentives

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\(^{2}\) John D. Dodson, The Relation of the Strength of Stimulus to Rapidity of the Habit Formation. (J. Comp. Neurol. and Psych. 1908)

upon learning. Six female rats were divided into three groups, two to a group. The ability of the rats to discriminate between two intensities of light was measured. The first group was rewarded for correct responses and punished for incorrect responses; the second group was punished for incorrect responses alone and the third group was rewarded for correct responses alone. It was found that the combination of reward and punishment was more effective than reward insofar as the rate of learning was concerned.

Johanson, in 1922, used three adults to study the effect of punishment upon reaction time. Three presentations of stimuli were used: normal presentation in which there were no conflicting conditions or factors present; presentation with an incentive (The subject was told that he would be informed of the amount of time it took for him to react before the succeeding reaction occurred); presentation with a punishment (The subject was told he would receive an electric shock if his reaction was too slow). The average improvement for the punishment series was 14.8 per cent and 6.0 per cent for the incentive series. Johanson states that incentives and punishments result in closer attention and quicker reactions. During the punishment series signs of intense attention such as perspiration and nervous tension were evident.

Hurlock\(^5\) studied the effect of reproof and praise as incentives. The National Intelligence Test was given to 406 children of the third, fifth and eighth grades. These children were divided into three equivalent groups: one group was used as a control group, one was praised and one was reproved. The author found that the results of praise and reproof were of approximately the same value but that there were age and sex differences. Boys responded more to reproof and the girls responded better to praise. Both boys and girls of the older children responded better to both praise and reproof than did the children of the younger group. It was also found that the children of superior mental age group need an incentive more than inferior children. "Inferior" children worked harder for praise while "superior" children responded more to reproof.

Gates and Riseland, using seventy-four Barnard College students gave the three-hole test and the color-naming test to determine the effect of encouragement and discouragement. The first subject was encouraged, the second was discouraged and the third simply went through the experiment. There was found to be little difference in the improvement of the three groups. The difference


that was found was in favor of encouragement and discouragement rather than repetition. "Inferior" people were again found to be unfavorably affected by incentives.

Nelson\(^7\) recorded instances of praises or commendation throughout the course of a routine intelligence examination of pre-school children. The writer stated "the one significant result of this study was that it revealed the routine use of expressions of commendations." The amount of praise given on each of the three trials definitely corresponded with the degree of success on the trail as measured by the time and error scores.

Hurlock\(^8\) administered the National Group Intelligence Tests, Scale B, Forms 1 and 2, to 273 boys. This study was done to determine the effect of encouragement and discouragement. After an intelligence test the children were formed into three experimental groups on the basis of chronological age, sex, and the I. Q. scores. One group was praised, one was reproved, and the third group was used as a control group. The results showed that from practice alone the I. Q. scores increased less than one point and that the two groups given incentives improved seven points.

In 1932, Chase\(^9\) used 214 pre-school children to measure the effects of motives and incentives upon responses of the individual.

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7 Janet F. Nelson, *Personality and Intelligence*. (New York: Teachers College, 1931)


9 Lucille Chase, *Motivation of Young Children*. (Iowa City, Iowa: University of Iowa, 1932)
as he performs a task. The emphasis has been upon the external
types of incentives rather than upon the more internal types of
motivation designated as drives, urges, needs, and wants. The
following incentives were used: control-motivation, success-repetition,
success-praise, success-reward, failure-repetition, failure-
reproof, and failure-punishment. The Motivation-Dynamometer Test
and the perforation Test were used in this study. A series of three
tests were given.

Chase reports the following results obtained from series 1:

By omitting two extreme cases from group C, the means
and standard deviations of all four groups on Series 1
given on the Motivation-Dynamometer Test were made comparable
within 1. 34 probable error units (82 chances in 100 that
the true differences were greater than zero). The number
of subjects, the average age, and the age range of the four
groups were fairly similar.

Chase's following findings dealt with the influence of incen-
tives given in series II:

(A) Success-repetition, success-praise, and success-
reward groups were all higher than the control motiva-
tion group.

(B) Success-praise was higher than the succession group.

(C) Reward was higher than that of praise.

(D) Reward was higher than repetition. It was probable that
success-reward was more effective than success-repetition for the performance of this task. The results of Series III were: some motivation was more effective than control-motivation for the performance of a task. Repetition is more effective for performance than merely asking the subject to repeat the task.

Wheeler and Perkins\textsuperscript{10} state that in 1932 the field of motivation was more in need of investigation and analysis than was any other. They further state that some pupils were intellectually and morally lethargic because they lacked motivation. These authors went on to say that there could be no certain definition of motivation for there is no one kind of motive. There are internal stimulation, the appeal to pre-existing desires and the reduction of a problem to a learner's level of insight.

In speaking of rewards Wheeler and Perkins relate that rewards should always be given in terms of relative achievement for if the superior children were to be rewarded constantly they would soon be harmed by feelings of superiority.

These authors also state that learning is hastened by motivation and the level of intelligence has been raised by motivation. Wheeler and Perkins warn of dangers in motivation. These are: using motives so often that they soon produce no results and using motives which cause emotional tenseness and thus block learning.

Literature on motives in learning. Douglass\textsuperscript{11} states that the Progressive Movement relies upon the basic principle of self-activity, which holds that the child is dynamic or motile and that he learns through his own responses; interest, or the feeling of such personal concern as to turn attention (and hence activity) upon an object or creative expression. This designates the power to imagine and to express, by means of words, drawings or concrete materials, objects different from any that have before been known to his experience or social participation. Leaders in the progressive movement are close students of child nature and display high ability and ingenuity in appealing to the characteristics of child nature.

Means,\textsuperscript{12} speaking of motivating creative activities, say, "Coercion, it is generally agreed, destroys, although many pupils insist their best work has been produced under terrible compulsion of necessity."

Bode,\textsuperscript{13} in discussing duty and interest states that interest is sometimes carried so far that the child is subordinated to the environment. However, duty, carried too far will stifle a child. He concludes that both interest and duty should work together in proper degrees in order to reach the greater end.


\textsuperscript{12} Hugh Mearns, Creative Youth, (Garden City, New York: Doubleday, Doran and Company, Incorporated, 1938), p. 5.

Bode, in his book, *Progressive Education at the Crossroads*, discussed motivating through interest. He used, as an example a farm boy who goes ahead and does his farm chores. These were not done because of immediate interests. He may hope for recognition someday but over-all his interest is a part of his way of life. The doctrine of interest may be interpreted in two ways: every activity must be motivated by immediate interests, every activity must have a recognized bearing on a way of life which the individual accepts as his own. Immediate interests may have significance but they must either be derived from or be merged into the larger interest if there is to be a dependable basis for continuity of effort, without which, there can be no adequate sense of responsibility and discipline of character.

Thorndike stated that the effect of a stimulus depends upon the nature of the subject and the surrounding conditions. In his study on the psychology of wants, interests and attitudes, Thorndike used college students who were in need of money. A small amount of money was given for each correct response. The subjects were asked to reply to words with numbers and any letter in the alphabet so long as they did not use any plan or sequence in their choice of numbers and letters. At the conclusion of the testing

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period the subjects were paid for their correct responses. During the testing period the subject was occasionally told if his responses were more correct or incorrect. It was found that reward did increase the amount of correct responses. It was found that the number of correct responses increased each time the series was repeated.

In 1927, Aveling,\textsuperscript{16} in his study of directing mental energy found that a great deal of mental energy is wasted. It is wasted by such things as daydreaming and fatigue. Incentives and interest greatly decrease the amount of wasted mental effort.

Coe,\textsuperscript{17} in studying the motives of men, states that in working with motives and incentives one must remember that habits play an important part.

Coe writes, "An analysis of habit in terms of association must depend upon the motion of movement-produced stimuli." By this is meant stimuli for which movements are directly responsible. Coe's view of successful acts led to his theory of habit formation. For example, acts which result in the successful solution of a problem will lead directly to a modification of the learners repertory of responses.

Thorpe and Schmuller\textsuperscript{18} state that being aware that motivation

\begin{footnotesize}

\textsuperscript{17} George A. Coe, \textit{The Motives of Men}. (New York: Scribners Sons, 1928).

\end{footnotesize}
is fundamental to learning is most important. Coe proposes a
different hypothesis from Thorndike to account for it. Instead
of the effect of success acting to reinforce the S-R association
it is the last response made which modifies the situation and makes
learning possible. The final response in a sequence of acts becomes
associated with the stimulus (which it removed) in such a way as to
increase its probability of occurring on the next presentation of
that stimulus. This is because stimuli in themselves are motivating
agents which become associated with responses made to them. Coe
holds that, although goals play a significant role in learning, they
do not cause activity. It is organic tension which initiate activity
and keep it at a high level directed at the goal. Goals speak
learning instead of the appropriate stimuli must be credited with
so doing.

Valentine,\textsuperscript{19} in his book, \textit{Twentieth Century Education}, states
that motivation forms the dynamics for the educational process from
beginning to the end. It is a most important condition of learning.
Motivation engenders an active aggression as contrasted with a
passive, listless attitude toward the learning situation. It was
proved that repetition does not produce learning. It is purposive,
active repetition that educates. Motivation is the process of
inducing such active attitudes.

\textsuperscript{19} P. F. Valentine, \textit{Twentieth Century Education} (New York:
Philosophical Library, 1945).
Many studies using hunger, thirst and temperatures (organic drives) have been used to motivate lower animals. Electric shock, unpleasant temperatures, have been used as punishments. All of these cause learning. The goals have been divided into positive incentives; food and water used as incentives, and heat, cold and noxious stimulation used as punishments.

A relationship exists between the intensity of punishment for errors and the rate of learning. When the punishment is too severe and the problem is too difficult the effect is negative and disruptive. In this situation the subject will most often withdraw and refuse to try.

The reward must be appropriate to be effective. For example, if food is used as the incentive, the subject must be hungry. The stronger the drive the more rapid is the learning. The greater the reward, the greater is the learning. A reward must be immediate. A delayed reward is less effective. It has been found that if the reward is delayed as much as twenty minutes when rats were used, there was no effect, whatsoever, upon learning. There have been no studies of delayed punishment.

It was found that the combination of reward and punishment cause greater learning than either of the two alone. It is important to remember that the problem must be kept within the subject’s range of ability. Effective rewards are substantial, appropriate and immediate.
The prestige group of incentives and motives is used most extensively to motivate learning. It is so prominent because society is competitive.

In one of Valentine's studies, which used competition as a motive, small boys were used to measure the influence which prestige had upon them. The boys were asked to endure as much pain from electric shock as possible. Throughout the first test the boys were surrounded by adults. In the second testing period the boys were among other boys of their own age group. It was found that the boys endured more shock when they were among their own peers than when among adults. It was concluded that the boys had a greater desire for prestige when among their peers than when among adults.

Another of Valentine's studies which had competition as its motive was done using children from three years upward. Each child made a house and was then asked whose house was the prettiest. As the age of the subjects increased the number of children who thought their own house was the prettiest also increased. This study proved that the desire for prestige increased with age.

Many studies have been made to discover what effect the knowledge of results has upon learning. It was found that there are two distinct effects: (1) the information helps the subject discover his errors and helps him avert them in the future, and (2) the satisfaction of success or chagrin at failure motivates some to try harder.
Sorenson tested 1,538 children under three conditions: (1) unmotivated (2) working for self (3) working for the group.

Sorenson believes that motivation is very individual. Where a class may put forth great effort for one teacher this class may become passive and have little interest in their work for another. Some persons are stimulated by praise and still others respond to material rewards. Others respond to unfavorable criticisms and reproof. Some of the greatest incentives in history have consisted of medals or a small wreath of laurel.

The purpose of the methods and techniques used in motivation is to evoke maximum attention to one's work and thus produce maximum achievement. When teachers employ effective methods the pupils have readiness for their work often attacking it with purpose and motive and consequently with a determination to achieve. When teachers set up attractive incentives pupils develop an initial drive for their objectives, which, in turn, is maintained by the knowledge, skills and abilities being acquired. An important influence in developing drive is the competence that the pupil feels he is acquiring.

Limitations of previous studies. The purpose of previous studies was to show the relative effectiveness of incentives on performance. Incentives such as aim, approval, attitude, commendation, discouragement, disapproval, encouragement, failure, knowledge or no knowledge of results or progress, prestige, no purpose, no aim, purpose, punishment, praise, reproof, and ridicule have been
used. In many of the studies the incentives did not seem to be meaningful to the subject which is imperative in a study of this type.

Animals and humans have been used as subjects in these studies but the majority of studies were done with animals as the subjects. In the studies with humans the number of subjects in most cases was very small. The number was not large enough for the results to be conclusive.

As stated above, the greater majority of studies attempted to find the effect of incentives upon performance rather than the effect upon learning. The effect of incentives upon learning, to the writer's knowledge, needs further study. The effects of delayed punishments is also a field for more detailed study. Until recently there were no studies on the retention of learning. Since retention is so important further study in this area would be wise. Nothing is truly learned unless it is retained in the memory for further use.

The methods used in many of the studies reported were experimental. There were factors such as practice for which no means have been supplied to account for them. Since the methods, subjects, ages, materials, apparatus, and incentives vary so greatly it is difficult to compare the results of these investigations. These differences should be kept in mind, however, when evaluating the results.
CHAPTER 3

THE MATERIALS, PROCEDURES AND GROUPS EMPLOYED IN MEASURING THE EFFECT OF INCENTIVES AND MOTIVE

The test materials and methods used in the study of incentives upon learning to spell were influenced by the fact that it was done in an ordinary teaching situation. At the beginning of the investigation one hundred and twenty-third grade children and one hundred and twenty-fourth grade children were given the Metropolitan Achievement Test. In the following weeks these children were given a series of five weekly spelling tests. Each of these tests was followed two weeks later by a retention test. For each weekly spelling test the children had a different incentive or motive presented. At the completion of these tests the children were again given the Metropolitan Achievement Test. Because of absences only one hundred and eight third grade children and one hundred and eleven fourth grade children completed the test series and were included in the study.

The Metropolitan Achievement Test.\(^1\) This test has been widely used for many years. It was revised in 1947 and administered to fifty thousand pupils for item analysis purposes. Items were arranged and retained on the basis of the percentage of pupils passing the items at successive grade levels. Only the items which

proved their actual worth were retained.

In this study forms R and U of the Metropolitan Spelling Achievement Test were used. Carefully controlled experiments were conducted by the World Book Company to equate the different forms of these spelling tests. Within the limits of the reliability of the subtests in the series it was possible to go freely from one form to another confident that the differences found were real differences in the pupils tested and were not due to variations in the tests themselves. In reference to the experiments which were carefully controlled and carried out to insure the equivalence of forms thousands of cases were used.

In order to standardize the norms of the Metropolitan Achievement Test it was essential that a nation-wide testing program be conducted. These norms were based on an adequate population and the geographic distribution of the norm population. Five hundred thousand tests were distributed throughout the forty-eight states and a twenty-five per cent random sample was drawn from each classroom tested.

The weekly spelling tests. There were five weekly spelling lists prepared by the investigator each consisting of forty words. These words were chosen from the Dolch List of Spelling Words, The Ayres Spelling List and the Pollock List of Most Frequently

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Misspelled Words. The words were selected on the basis of frequency of use, likeness of difficulty, need and usefulness. Great care was employed to see that the lists contained a like amount of spelling difficulties and similarity in word length.

Each list contained words of varying degrees of difficulty beginning with the words of the least difficulty and increasing in difficulty. Throughout the period of investigation no child was told to learn all the words but rather to learn as many as he could starting at the beginning of the list. In this way the study provided for individual differences. An extra list of words of more intense difficulty was provided each week for the few exceptional children who had little difficulty with the majority of the words on the regular weekly spelling list.

Each child was given a small dictionary containing the spelling words and their meanings. The sentences which accompanied the words were also meant to help the children learn the meaning and use of the words.

Procedures for presenting incentives and functional motivation. Throughout the investigation the test-teach-study method was employed to ascertain which words the children knew and which words were to be studied. A list of forty basic words was used. During the first four weeks the regular classroom activities continued. The regular amount of functional writing and proof-reading were under-
taken by the groups.

The first week the teacher informed the children that every paper that showed a good amount of progress would receive a gold star. The children were reminded throughout the week that they should study the words so that they would receive a star.

The second week the children were told that a perfect paper would receive a hundred and that two and one-half points would be subtracted for each error. The children were told on each day of the week that this grade was very important and that they should try to learn as many words as possible.

The third week the children were informed of their previous test scores. They were encouraged to try to get a better score on this test than they had received before. This incentive was given each day.

The fourth week the children were divided into teams. They were then encouraged to compete against the other teams by learning more spelling words. At the end of the week the scores of each team were compiled and the children were informed of the identity of the winning team.

The fifth week the children were not presented with any incentive. Instead each individual teacher attempted to make the spelling work as functional and meaningful as possible. The activities continued in their regular way except for an increase of functional activities. The words were divided into science,
health and safety words. The children then used these words repeatedly in their science, health and safety projects which were undertaken. Charts and exhibits were labeled, stories were written and experience charts were made by the children. An attempt was made to make these words as meaningful and purposeful as possible.

The groups used. The children used in this study were third and fourth grade children from a large Columbus public school. The total enrollment of the school was approximately eleven hundred children. These children came from comfortable homes of the middle class. The parents, for the most part, were very much interested in their children and were willing, co-operative workers in the Parent-Teachers Association. There were a few professional people in the school district but a large percentage of the parents were employed as salesmen, factory workers and office workers. There were a few Negro children in the district and some were included in the study.

One hundred and eight third grade children participated in this study. The children remained in their regular classes with their own teachers. One group used was a combination third and fourth grade. These children were distributed among the experimental groups to help equate the groups after the test series was completed. This distribution was done with the first Metropolitan Achievement Test results as a guide. The groups were as equal in size and grade placement as was possible without moving the children from their regular groups. Any change from the natural classroom situation
would have influenced the results of the study so the classroom situation was kept as natural as was possible.

The one hundred and eight third grade children were in three groups. There were thirty-six children in each group. Group A was the control group for the third grade and Groups B and C were the experimental groups. The Control Group used the same word lists and participated in the same spelling activities but at no time was there any form of incentive or motive presented to them. There was present however their own internal motives.

The one hundred and eleven fourth grade children were also in three groups. The same method of equalizing the groups were employed but it was not possible to make them as equal as the third grade groups. Group D was the control group and Groups E and F were the experimental groups of the fourth grade. The control group again had no incentives or motives presented to them.
CHAPTER 4

SIGNIFICANCE OF THE RESULTS OF THE WEEKLY AND THE RETENTION TESTS

A series of seven tests was given the children. All testing was done in the morning and each teacher attempted to administer the tests in a like manner so that true results could be obtained. Each word was pronounced clearly and then pronounced in a sentence. The word was then said again. The children were then to write the word on their papers. The children were asked to spell as many words as they could but if they did not know the word they were to leave the space blank.

Results of the Metropolitan Achievement Test. In administering these tests each examiner adhered closely to the directions for administering which were provided with the test form. Although this test gives a variety of types of norms this study recorded the results in terms of the grade placement norm. The results of this testing follows:

In reporting the individual results it was found that the third grade placement scores of three children in the upper half of the control group regressed and three in the upper half of the control group remained the same. In Experimental Group B the grade placements of three children, two in the upper half and one in the lower half regressed. Two grade placements in Group B, one in the upper half and one in the lower half, remained the same.
<table>
<thead>
<tr>
<th>Control Group A</th>
<th>Experimental Group B</th>
<th>Experimental Group C</th>
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</thead>
<tbody>
<tr>
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<td>Final Test</td>
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## TABLE II

GRADE PLACEMENT RESULTS OF THE METROPOLITAN SPELLING ACHIEVEMENT TEST, FORMS R AND U, TAKEN BY 111 FOURTH GRADE CHILDREN OF JOHN SURROUGHS PUBLIC SCHOOLS, COLUMBUS, OHIO

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<tr>
<th>Control Group D</th>
<th>Experimental Group E</th>
<th>Experimental Group F</th>
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<tr>
<td>Case No.</td>
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<tr>
<td>145</td>
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</tbody>
</table>
In Experimental Group C the grade placements of three children, all in the upper half, and three in the lower half of the group remained the same. The significance of these findings was that some of the children of the upper half were encouraged by the over-all program while a few of the children in the lower half were discouraged by the program. Since the number of children who fell or remained the same was so small the results were not statistically significant.

In reporting the individual findings of the fourth grade, Group D, the grade placements of three children in the upper half and two in the lower half of the group regressed while one in the upper half and one in the lower half remained the same. In Experimental Group E two children in the upper half and one in the lower half regressed while two children in the lower half remained the same. The significance of these findings is not conclusive.

In investigating the final results of the over-all spelling program (the effect of the combined incentives and the functional motive) it was found that Control Group A made an average gain of only one month and Control Group D made an average gain of two months. This two months gain was normal for the spelling program was in effect for two months. Control Group A's one month gain may be explained by the fact that they were slightly lower in their spelling achievement but this did not account for so great a failure to gain. Experimental Group B made a gain of three months, Experimental Group
### TABLE III

Average Grade Placement Results of the Metropolitan Spelling Achievement Test, Taken by All Groups Used in This Study

<table>
<thead>
<tr>
<th>Group</th>
<th>Average Grade Placement Initial Test</th>
<th>Average Grade Placement Final Test</th>
<th>Average Months Gained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group A</td>
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<tr>
<td>Experimental Group B</td>
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<td>Experimental Group C</td>
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<tr>
<td>Control Group D</td>
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<tr>
<td>Experimental Group E</td>
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<tr>
<td>Experimental Group F</td>
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</tr>
</tbody>
</table>

C made a gain of five months, Experimental Group E made a gain of four months and Experimental Group F made a gain of four months. The significance of these findings is that the Control Groups made an average gain of one and one-half months while the experimental groups made an average gain of four months. This showed that the over-all employment of incentives and motives did favorably affect
learning.

**Results of the weekly spelling tests.** Each child was given a Weekly Spelling Test of forty words and two weeks later a retention test was given. The individual results follow on the next pages (pp. 33-38).

In comparing the results of the Control Groups with those of the Experimental Groups in the Weekly Spelling Tests it was found that the reward incentive caused an average regression of eight-tenths of a word; the grade incentive produced an average regression of three-tenths of a word; the group incentive caused no gain or regression; the individual competition produced an average five-tenths of a word gain and the functional motive caused an average gain of two and four-tenths of a word.

In comparing the average scores of the Control Groups with those of the Experimental Groups it was found that the functional motive produced the greatest retention of learning. An average of four and three-tenths word gain was recorded. The group competition incentive caused a gain of two and one-tenths word gain over that of the control group. The individual competition incentive produced a gain of six-tenths of a word over that of the control group. Both the reward incentive and the grade incentive caused only one-tenths of a word gain over that of the control group. It was then concluded that the functional motive made the work much more meaningful and purposeful and thus produced the most retention of learning.
TABLE IV

RESULTS OF THE WEEKLY SPELLING TESTS AND THE RETENTION TESTS, TAKEN BY THE THIRD GRADE CHILDREN, CONTROL GROUP A, OF JOHN BURROUGHS PUBLIC SCHOOL, COLUMBUS, OHIO (measured by the number of words correct from a possible correct score of forty words)

<table>
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<th>Case Number</th>
<th>Weekly Test Reward</th>
<th>Weekly Test Retention</th>
<th>Individual Competition Reward</th>
<th>Individual Competition Retention</th>
<th>Group Competition Reward</th>
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TABLE V

RESULTS OF THE WEEKLY SPELLING TESTS AND THE RETENTION TESTS, TAKEN BY THE THIRD GRADE CHILDREN, EXPERIMENTAL GROUP B, OF JOHN BURROUGHS PUBLIC SCHOOL, COLUMBUS, OHIO (measured by the number of words correct from a possible correct score of forty words)

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TABLE VI

RESULTS OF THE WEEKLY SPELLING TESTS AND THE RETENTION TESTS, TAKEN BY THE FOURTH GRADE CHILDREN, CONTROL GROUP D, OF JOHN BURROUGHS PUBLIC SCHOOL, COLUMBUS, OHIO (Measured by the number of words correct from a possible correct score of forty words)
TABLE VII

RESULTS OF THE WEEKLY SPELLING TESTS AND THE RETENTION TESTS, TAKEN BY THE FOURTH GRADE CHILDREN, EXPERIMENTAL GROUP E, OF JOHN BURROUGHS PUBLIC SCHOOL, COLUMBUS, OHIO (measured by the number of words correct from a possible correct score of forty words)

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TABLE VIII

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### TABLE IX

RESULTS OF THE WEEKLY SPELLING TESTS AND THE RETENTION TESTS, TAKEN BY THE FOURTH GRADE CHILDREN, EXPERIMENTAL GROUP F, OF JOHN BURROUGHS PUBLIC SCHOOL, COLUMBUS, OHIO (measured by the number of words correct from a possible correct score of forty words)

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<td>31.1</td>
<td>31.3</td>
<td>30.3</td>
<td>29.1</td>
<td>31.1</td>
</tr>
<tr>
<td>Experimental Group C</td>
<td>31.3</td>
<td>32.0</td>
<td>30.3</td>
<td>29.6</td>
<td>31.3</td>
</tr>
<tr>
<td>Control Group D</td>
<td>35.0</td>
<td>34.5</td>
<td>34.6</td>
<td>33.1</td>
<td>32.1</td>
</tr>
<tr>
<td>Experimental Group E</td>
<td>32.8</td>
<td>34.0</td>
<td>36.9</td>
<td>34.9</td>
<td>36.3</td>
</tr>
<tr>
<td>Experimental Group F</td>
<td>37.3</td>
<td>37.9</td>
<td>37.9</td>
<td>35.2</td>
<td>36.3</td>
</tr>
</tbody>
</table>
TABLE XI

RESULTS OF THE WEEKLY SPELLING RETENTION TESTS OF ALL GROUPS REPRESENTED BY THE ARITHMETICAL MEAN OF EACH GROUP’S TEST RESULTS

<table>
<thead>
<tr>
<th>Group</th>
<th>Reward Grades</th>
<th>Individual Competition</th>
<th>Group Competition</th>
<th>Functional Motive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group A</td>
<td>27.3</td>
<td>31.2</td>
<td>28.6</td>
<td>25.9</td>
</tr>
<tr>
<td>Experimental Group B</td>
<td>25.5</td>
<td>26.4</td>
<td>28.5</td>
<td>24.1</td>
</tr>
<tr>
<td>Experimental Group C</td>
<td>28.3</td>
<td>30.4</td>
<td>30.7</td>
<td>27.5</td>
</tr>
<tr>
<td>Control Group D</td>
<td>32.3</td>
<td>31.7</td>
<td>32.7</td>
<td>27.5</td>
</tr>
<tr>
<td>Experimental Group E</td>
<td>34.7</td>
<td>34.6</td>
<td>29.1</td>
<td>30.5</td>
</tr>
<tr>
<td>Experimental Group F</td>
<td>35.3</td>
<td>34.7</td>
<td>36.0</td>
<td>32.0</td>
</tr>
</tbody>
</table>

From the results of the two placement tests it was concluded that the Control Groups made an average gain of one and one-half months while the Experimental Groups made an average gain of four months. The program of incentives and motive favorably affected learning.
This study found from the results of the Weekly Spelling Tests that reward and grades had an unfavorable effect upon learning, causing less learning than was done by the control group. The group competition incentive showed no effect upon learning. The individual competition incentive caused a little learning and the functional motive produced the greatest learning.

In studying the Retention Test Results it was found that in all the experimental groups the incentives and motives caused greater retention of learning than was found in the control groups. Rewards and grades had only a slight effect upon retention while individual competition and group competition were more effective. The functional incentive produced the greatest effect on learning.

The functional motivation showed the greatest effect upon learning and the retention of learning. Rewards and grades had a bad effect on learning and no effect upon the retention of learning. The individual and group competition incentives produced only a little gain in learning and retention.
CHAPTER 5

FUNCTIONAL WRITING

A true measure of the worth of a spelling program is the ability of the children to use their own vocabulary in their written work. This study attempted to measure the effectiveness of the various incentives and motives by recording the mistakes found in written work the children used in this investigation.

Each child was asked to write a paper following each week's study and testing. The papers were to include a letter to a friend, a piece of creative writing, a report of some event or a report on something which he had studied or had read. In writing these papers the children spelled as well as they could. They were asked not to consult a dictionary or to ask for help in spelling at this time although these things were encouraged at other times throughout the study.

Significance of the errors in functional writing. One week prior to the beginning of the investigation writing papers were collected from each child and the number of words used and the number of errors were recorded. A record was kept of the specific words which were misspelled in the writing papers. This procedure was followed at the end of each week. This record was kept in an attempt to determine whether the children were encouraged by the incentives and motive to write or whether these incentives and motive were stifling the desire to write. This recording was
undertaken also to show how often the words which were used in the
spelling program were misspelled. The results of this investigation
follow:

**TABLE XII**

**RESULTS OF THE WRITTEN WORK DONE BY THE THIRD AND FOURTH GRADE CHILDREN**

<table>
<thead>
<tr>
<th>Week Prior to the Investigation</th>
<th>Week I</th>
<th>Week II</th>
<th>Week III</th>
<th>Week IV</th>
<th>Week V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Words Used in Writing</td>
<td>7894</td>
<td>9587</td>
<td>9842</td>
<td>10085</td>
<td>10576</td>
</tr>
<tr>
<td>Number of Spelling Errors in Writing</td>
<td>624</td>
<td>611</td>
<td>474</td>
<td>421</td>
<td>391</td>
</tr>
<tr>
<td>Average Error Percentage in Writing</td>
<td>.016</td>
<td>.063</td>
<td>.049</td>
<td>.041</td>
<td>.037</td>
</tr>
</tbody>
</table>

This investigation showed that the children were encouraged
to write more each week. This may be attributed partly to practice
effect but the study does show that the spelling program was
carried over to the written work. This fact was represented more positively by the decrease in errors. This decrease showed that the functional motivation had the greatest positive effect upon the written work for the percentage of errors decreased .018 from week four to week five. The next greatest decrease in the percentage of errors was .016 which can be attributed to the reward incentive. This was not in agreement with the other findings of this study for reward had a negative effect upon learning in the weekly test and no effect upon the retention of learning. This may be explained by the possibility that the children needed only words which they already knew at this particular time. This may also explain the .014 decrease in the percentage of errors following the grades incentive which did not have a good effect in the previous results. The percentage of errors decreased .005 from week two to week three which was on an individual competition basis and .004 from week three to week four which employed group competition as its incentive. Individual and group competition showed the least decrease in the percentage of errors which was not in keeping with the other findings of this study. The subject about which the children were writing may have motivated the children and caused these results. However the functional motivation showed a very positive effect on the writing papers and throughout the rest of the study.

There were no significant results from analyzing the record of misspelled words. This record showed that the words which were studied in this investigation either disappeared or decreased
considerably on the misspelled word list. It showed also that the majority of mistakes are made on only a relatively few words.

The functional motivation had a great influence upon the written work while reward and grades had the next greatest effect. Individual and group competition had only a little effect upon the written work. With the exception of the functional motivation results the other results were not in agreement with the findings of the rest of the study. This may be explained by the use of words which were already known to the children or by the influence of the subjects about which the children were writing.
CHAPTER 6

SUMMARY AND CONCLUSIONS

School work and the activities of the school are often not sufficiently significant to the children to possess the impelling, absorbing power that should characterize the preparation for a life work. Some educators feel that children need incentives and strong motives and this has been a focal point for discussion among educators.

It was the purpose of this study (1) to find what effect various types of incentives have upon the learning of third and fourth grade children with reference to spelling; (2) to show which incentives achieved the most learning in the third and fourth grades; (3) to evaluate incentives which affected learning in these grades; (4) to show the relative effect of incentives in comparison with motivation; (5) to determine which incentive or what motivation had the greatest effect on retention of learning.

This study attempted to show what effect different incentives and motive have upon learning and the retention of learning. It did not attempt to measure the manner in which the children were psychologically affected by these incentives. This investigation did not go into the emotions and drives which sometimes cause subjects to act. It admits that internal motives could not be removed. Since these were present throughout the testing period.
this study attempted to measure only the influence of the incentives above and beyond internal motives.

Much has been written regarding the importance and significance of incentives and motives. The greater part of the work in this field used animals, older children and adults as subjects of investigations. The purpose of previous studies was to show the relative effectiveness of incentives upon performance. Incentives such as aim, approval, attitude, commendation, discouragement, disapproval, encouragement, failure, knowledge or no knowledge of results or progress, prestige, no purpose, no aim, purpose, punishment, praise, reproof and ridicule have been used. The results of these investigations, on the whole agree in essentials but disagree quite often in detail.

The test materials and methods used in this study were greatly influenced by the fact that it was done in an ordinary classroom situation. In this study forms R and U of the Metropolitan Achievement Test were used to find grade placement scores for each child at the beginning and at the end of the study. By the use of these scores the groups were equated and the over-all effect of the spelling program was measured.

There were five weekly spelling lists, each consisting of forty words used in this study. Through these tests an attempt was made to measure the effect of the incentives and upon learning and the retention of learning.
The words were chosen on the basis of frequency of use, likeness of difficulty, need and usefulness. The words were selected from well known, reliable spelling lists.

Throughout the investigation the test-teacher-study method was employed. During the first four weeks the regular classroom activities continued. The ordinary amount of functional spelling activities were continued.

The first week the teacher informed the children that every paper that showed progress would receive a gold star as a reward.

The second week the children were informed that a perfect paper would receive a grade of one hundred. The teacher stressed that this was a most important grade.

The third week the children were informed of their previous scores and were encouraged to make an attempt to get a better score on the test than they had received on any previous test.

The fourth week the children were divided into teams and were encouraged to compete against the other teams.

The fifth week the children were not presented with any incentive. Instead each individual teacher attempted to make the spelling work as functional and meaningful as was possible.

The children who participated in this study were from the third and fourth grades of a large Columbus public school. They were from comfortable, middle-class homes.

The one hundred and eight third grade children were divided into groups of thirty-six. There were: Control Group A and
Experimental Groups B and C. The control group used the same word lists and participated in the regular spelling activities but at no time was there any incentive or motive presented to it.

The one hundred and eleven fourth grade children were divided into three groups of thirty-seven children. The groups were: Control Group D and Experimental Groups E and F. The control group participated in the regular spelling activities but had no incentive or motive presented.

From the results of the two placement tests it is concluded that the control groups made an average gain of one and one-half months while the experimental groups made an average gain of four months. The program of incentives and a motive favorably affected learning.

This study found from the results of the Weekly Spelling Tests that reward and grades had an unfavorable effect upon learning, causing less learning than was done by the control group. Group competition incentive showed no effect upon learning. The individual competition incentive caused a little learning and the functional motive produced the greatest learning.

In studying the Retention Test Results it was found that in all the experimental groups the incentives and motives caused greater retention of learning than that of the control groups. Rewards and grades had only a slight effect upon retention while individual competition and group competition were more effective. The functional incentive produced the greatest effect of learning.
Functional motivation showed the greatest effect upon learning and the retention of learning. Reward and grades had a bad effect on learning and no effect upon the retention of learning. Individual and group competition incentives produced only a little gain in learning and retention. A true measure of a spelling program is the ability of the children to use their own vocabulary in their written work. This study attempted to measure the effectiveness of the various incentives and motive by recording the errors in functional written work of the children used in this study.

This investigation found that the percentage of errors was .019 following the functional motive; .037 following the group competition incentive; .041 following the individual competition incentive; .049 following the grades incentive and .063 following the reward incentive. These findings were in agreement with the results of previous investigations of similar studies.
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Mearns, Hughs, Creative Youth. (Garden City, New York: Doubleday, Doran and Company Incorporated, 1938).

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**REFERENCE BOOKS**


**PAMPHLETS**


**TESTS**

APPENDIX
APPENDIX A

Weekly Spelling Lists

Week I

soon
year
rest
looking
along
why
table
spring
upon
close
sweet
dinner
brother
yard
many
very
would
because
floor
wash
leave
afternoon
thought
station
pound
early
page
teeth
push
stairs

They will be here very soon.
There are twelve months in each year.
Ask the rest to come now.
He is looking for his kitten.
You may go along with your father.
Why didn't you come to see me?
The vase of flowers is on the table.
Violets bloom in the spring.
Please put it upon the bookcase.
Close the door quietly.
Sugar makes our food taste sweet.
We had vegetables for dinner.
His brother is in my class.
They are playing in the yard.
How many were there?
They are very happy now.
Would you like to go to the city?
He did it because he was told to.
The floor has just been swept.
Did the kitten wash its face?
What time will you leave school?
The ball game is in the afternoon.
I thought I heard him come in.
They are going to the station.
He brought home a pound of butter.
You may get up early if you wish to go.
The story begins on page four.
He is having his teeth cleaned.
Push the carriage over there.
There are twenty stairs to climb.

Grade 3 ends here.

clothing
market
weather
young
friend
happened
fixed
wear
explain
promise

The Indians made clothing of skins.
He bought his meat at the market.
It looks as if we should have fair weather.
The young birds are in the nest.
His friend will meet him at the train.
It happened at nine o'clock.
She fixed the rope so it would not break.
We wear warm clothes in winter.
Please explain how you did it.
Do not make a promise unless you intend to keep it.
Week II

safe  Father was a safe driver.
and  Mother and father came with us.
about The farmer knew all about planting.
some Some animals eat hay.
come We will come home early.
come Our family may go away.
may Did you open the door.
drink Farmers drink well water.
eat The things we eat come from a farm.
work Farmers work very hard.
words We study our words.
gave I gave her a kitten.
think They think about many things.
pretty The sheep were very pretty.
their Their horse is black.
laugh You will laugh when you see the calf.
hurt The lamb hurt himself.
stop Please stop the automobile.
where Where are we going?
through He looked through the window.
surprise We had a surprise party.
find We may find a place to stop.
horse We saw a brown horse.
country We went for a ride in the country.
beautiful The trees were beautiful.
warm The weather was warm.
Whether They did not know whether to go swimming or riding.
like I would like to go with you.
become He has become very friendly.
earth Columbus knew the earth is round.

myself I found it myself.
growing The corn and wheat are growing.
corn We like corn on the cob.
chickens The chickens ate the grain.
across He went across the street.
try They always try very hard.
funny The joke was very funny.
scene He painted a very pretty scene.
different They saw many different animals.
exciting The trip was very exciting.
Week III

there
much
never
even
only
off
ask
must
your
people
does
with
our
are
any
Miss
Mrs.
draw
pencil
book
school
again
against
thank
could
write
wrote
written
story
read

There were many people there.
We had much to do.
I never tried so hard.
Two is an even number.
She is the only one who is here.
The paper fell off the desk.
You may ask the teacher.
You must try to do your best.
I like your friend.
Many people came to the play.
She does her best.
She is with her mother.
Our school is a good one.
The girls are studying.
Any of the children can do it.
Miss Brown is our teacher.
Mrs. Green is going to the store.
I shall draw a picture.
We write with a pencil.
They read from a book.
We like school.
He will try again.
She was standing against the wall.
We always thank people who are nice to us.
I could not find the answer.
We will write a letter.
They wrote a story.
We have written to our friend.
The story was exciting.
He will read from the book.

Grade 3 ends here

arithmetic
spelling
lunch
every
event
study
make
build
always
learn

She likes to work arithmetic problems.
Our spelling words are easy.
We eat lunch at noon.
Every child will help.
This is an important event.
We study a great many things.
We make many things.
We learn how to build many things.
I always tried to be kind.
I will learn as much as I can.
Week IV

came: You came over to play.
doll: Mary sewed for her doll.
bring: The children will bring their lunch.
sleep: People sleep at night.
pan: Use that pan for cooking.
told: I have told you the truth.
today: The teacher will be here today.
send: Please send the message.
good: Sugar is good.
old: The joke was old.
remove: Do not remove your coat.
suit: He wore a new suit.
lesson: Have you learned your lesson?
chair: He sits in a rocking chair.
will: Where will you go?
still: It is hard to keep still.
before: Wash your hands before eating.
uncle: My father's brother is my uncle.
drew: The boy drew a picture.
crayon: I draw with a red crayon.
beet: The beet is a vegetable.
saw: You sew with needle and thread.
lamb: A young sheep is a lamb.
ticket: I have lost the ticket for the game.
heavy: The box is heavy.
coast: The shop was far from the coast.
raise: In the morning soldiers raise the flag.
hungry: Eat if you are hungry.
board: John nailed the board to the floor.
enough: Have you time enough to play?
expect: I expect her to come.
ironing: After washing comes ironing.
address: He will address the envelope.
contains: The can contains water.
remember: Do you remember her?
measure: Be careful when you measure the goods.
cruel: Do not be cruel to animals.
pitcher: Pour the milk into a pitcher.
planned: We have planned to go on a picnic.
attempt: He made an attempt to go.
My name is Ellen.
She entered by the wrong door.
He ran a race.
It is now ten o'clock.
I sailed far away on a ship.
Come to see us when you can.
One and one are two.
Boats sail on water.
I shall be glad to dance.
Ann is a pretty girl.
We use our eyes for seeing.
A horn makes a loud sound.
I have found what I lost.
Do not lose your papers.
Flowers grow in the garden.
I feel sorry for him.
The robin ate a worm.
The class will soon be ready to go.
Boys cleared the icy slope for a slide.
The baby has a bottle.
Our books are kept on the desk.
A wheel rolled off the car.
I had to wait an hour.
Fifty cents is half a dollar.
Poor swimmers sometimes drown.
She had already gone.
His belt felt too tight.
Sugar is sweet.
We are learning to read.
Most men drink coffee.
Boys tease their sisters.
The limb of the tree was broken.
The officer blew his whistle.
You may choose the one you like.
Fires destroy much property.
Fire is dangerous.
The soldier fought in a war.
Draw a straight line.
The furniture filled the room.
Cotton is a dress material.
APPENDIX B

Record of Misspelled Words of Written Work

WORDS MISSPELLED IN THE FUNCTIONAL WRITING OF WEEK I

| after 2 | afternoon | airplanes 2 | all | allegiance | almost | am 4 | America | and 2 | April 5 | are 4 | arithmetic | around 2 | artist | arrow | aunt | attack | baby 2 | babies | back 2 | barge | beak | bear | beautiful | because | been | before 3 | began | behind | believe | bell | belong | below | better 2 | bend | birds | biggest | birthday 2 | bomber |
|---------|-----------|------------|-----|-----------|--------|-----|--------|-------|---------|-------|-----------|---------|--------|------|------|-------|-------|-------|-------|-------|------|-----|---------|--------|------|--------|------|--------|-------|------|-------|-------|-------|------|
| book    | both      | breakfast 3| brock 4| brought 3| buckeye| bull | butterfly| cocoon 3| came 2| candy 2| canoes | cat    | caterpillar| caught 2| certain | circus 2| changed | church | clear | collection | came | coming | committee 2| could 3 | cousins 3| daddy | didn't 2| died | disappointed | does | dollars | down 3| dress | drink | each | Easter 2| eat | even | every 4 | fair | feel | feeling 7| fields 3| finished | father | first 2| fish | flakes | flat 3| flew | fliers | fly | freightened | frie | Friday | friend 7| from 3 | fun 2 | fund | funeral | furniture | game | getting 2| girl 6 | goes | going | got | grade 3 | guns | had | half 5 | halves | hamburger | hard | hatched | heard 3| help | here 5 | him 5 | home | hope | hurt 5| I 3 | if | I'm | Indian | indivisible | in | is | it | it's | journey | juniors 2| justice | know 2 | laid | last | laying | leader | learned 3 | learning 5| left | lesson 2| let | letter | let's | liberty | like | limbs | little | lived | lunch | making | map | marched | market | me |

*The writing of the word accounts for one mistake. Example: AFTER was misspelled three times, AFTERNOON was misspelled once.*
WORDS MISSPELLED IN THE FUNCTIONAL WRITING OF WEEK I (Continued)

men    milked    rabbit    scotch    Wednesday 3
missed 5 mixed    ready    summer    wasn't
months    morning 2    republic    told    writing
motorcycle    move 3    river    third    worried
name 4    nation    robin    twelve    watched
new    nice 3    rolled    tickets    wagon 2
noon    oldest    rope    turned television    when 0
old    on    rotunda    their 2    wait
ones    once    running    this    walking
ordinary    ones    six    things 2    wrapped
other    ordinary    silk    there 7    window sill
our 9    on    still 2    the    weather
own    pass    slid    then 6    would 2
pal    pretty 4    squirrel    too 12    web
pledge    place 3    swimming    throw 3    want
periods 3    part    said 2    taking 2    winter
peacefully    prances    sound    talking    walked
pioneer 2    picture    submarine    this    white
passengers    pass    store, swallow    think    will
passycat    pal    spun    truly 4    with
pecker    pretty 4    stump    teams 2    yellow
partner    picture    since 3    through    yard
popcorn    passengers    seen    together 2    you
point    passycat    story    tired    your
plane    pecker    said 5    they 2    quit
pitcher    partner    studying 2    two    play 2
palace    popcorn    should 2    time 2    pout
pretty    point    starting    them 2    read
play 2    plane    school 2    trucks    write 3
pretzel    pitcher    sleep 2    trains 2    whose 1
prince    place 3    soon 2    tree 5    win
price    plane    sorry    toothpicks    well 3
price    plane    same    told    which 2
price    plane    street    through    went
price    plane    started 2    United States    you
price    plane    started 2    ugly    your
WORDS MISSPELLED IN THE FUNCTIONAL WRITING OF WEEK II

also  does  jungle  right
am  didn't 2  jelly  reader
airplane  days  jet 4
are  down  leaves  smell
angel  December  little 3  second 3
aunts  dish  like 2  someone
and 2  daddy  lone  stable
another 2  dolls  letting  sherrif
again  enjoy  like 5  shuffle
an  flowers  market  summer
April  fourth  makes 3  store 2
brother  friend 11  my 3  stories 2
beginning  from  morning  stormed
bring 2  fresh  might  stormy
buy  for  mural  Saturday 2
bought  feeling 3  missed 2  Sunday
broken  front  much 2  swimming 5
beds  fortiess  made  school
bread  fiddle  men  sick
build  first 2  me  sound 2
buckeye  fast  numbers 2  story
bunnies  farm  named  stayed
been 2  fields 1  nicest 2  sincerely 2
building  flipped  new  swell
bombers  fielder 2  nice  since
boat  Friday  our 4  sorry
bicycle 4  grow 2  outside  squad
back  good  over  saw
baseball 2  gives  period 2  town
before  goes  pretty  too 11
behind  girl 3  parakeet  to 2
batters 5  garage  princess  tell 3
brown  grade  plan  they 2
cannot  groups  plane 5  tonight
color  basement  progress  them 2
bubbles  getting 2  pool  things 2
clothes  games 3  play 2  turtle
pitcher 2  this
case  grandmother  position  thank
Columbus 4  guess  pitch  thirteen
clean  hamster  rainy 9  there 2
chance  she  rain 2  truly 3
cute  near 2  raining 2  travel
camping 2  hope  ran  times 2
circle  have 2  rabbits  then 2
checkers  he  room 2  Thursday
choose  helicopter  raccoon 2  talked
center  here 2  records  third 3
catcher  hop scotch  really  till
closest  hits 3  recess  tries 2
coming 2  him  read  tabbed 2
cloudy  improving 2  recess  thrown 2
it  helping  ride  three
help  improving 2  running  together 2
I 9  reason  think

Tuesday  through
until 2
us  umpire 2
usually
wet
will
washes
wasn't
whole 2
when 5
what
well 2
won
was
were 2
Wednesday
weren't
waiting
wish
write
warm
win
wrong
winner
with
who
will
watch
your
yesterday
WORDS MISSPELLED IN FUNCTIONAL WRITING OF WEEK III

ate
alergic
and 4
aunt
axed
am 3
attacked
action
airplanes
arithmetic
bush
brought
back 3
built
barn
big
brown
bucked
bed
because 2
birds 2
boat
by
bear
color
country 10
cart
can't
cousin
chickens
calves
came 2
calf
can
circles 2
clothes 6
chimney
covered
clothing 2
clean
cleaning
dear
don't 2
didn't
different
did
dirt
do 2
dishes 2
dirty
enemy
friend 6
feel 2
feeling 3
from 2
full
farm 2
first 3
father
farmer 2
feed 2
family 2
fort
funny
for 6
favorite 5
girl
grandfather
grandmother
had
goat
get
going
game
glad 3
give
good
grateful
hope
here
hay
happened
horses 2
home
hikes
hate
have
hilltop
hear
him
happiest
is 2
I 5
ironing
iron 5
instance
I'm 3
instead
jug
know 2
little 4
lunch
loft
least
lot 2
legs
maple 2
meet
mother 3
many 2
more 2
mother 3
morning 2
my 2
making
mountains
meals
merry-go-round
money
much
new
night
near 2
our 7
owned
one
out
ocean
pretty 2
picture 4
played
powder
pony 2
pastures
them
pigs
television
please
taking
pants
thank
play
uncle 3
picnic
were
porcupine
well
pioneers
with 2
ponies 4
when 4
ride 10
right 2
white 2
rest
want 3
ready
wood
some 2
went
still
watched 2
spotted 2
wheel 2
saw 2
washing
stack
was
swimming 6
you 4
shorts
season 2
shores 2
start
shells
squirrel
singing
sliding board
said
too 7
tractor
two
trip 3
they
time 2
throw
trash
there 5
things 3
turkey
thought
that
to
the 2
WORDS MISSPELLED IN THE FUNCTIONAL WRITING OF WEEK IV

are 2
apart
always
arithmetic 3
am 2
and 3
America
all
almost
afternoon
also
buttons
build
basement 2
building
blown
babies 2
book 2
baseball 2
because 2
birthday 2
bigger
back
booklets
been
bowl
between
blinds
border
concrete
coal
chimney 3
certain
carried
card
changed
cement 1
chisel 1
crowbar 1
ceremony
care
cottage
catch 1
caught
don't
dress
dull
do
draw
drawer
done
does
decorate 2
decorators
drill
deer
Eskimos 4
ever
enjoy 1
either
front
furniture
first 1
feel 2
furnace
friend 6
fun
from 2
feeling 2
frame
for 5
fence
grass
game
getting 2
house 1
homes 3
helps 2
him
here 2
half
hurry
having
hammers 4
hike
including
improve
it's
it
kind
knife 1
laughing
less
level
light
like
moccasins 3
maybe 3
made 3
Miss 3
missed
make
might 3
mine
much
missed
mixers 3
Michigan 3
motor 1
manager
nice
next
name
one
other
over
our 4
paint 2
people
paper
playground
periods 2
pardon
pass
plaster 2
plumber
pliers
plastic
picnic
place
planning
power
rode
rainy
reading 3
reason 1
recess 1
room
rod
reel
shoes
stove
spinning
shadows
skirts
sincerely
since 2
still
spelling 3
stories
school 2
summer 2
sports
sitting 3
some
sorry
steel
said
swimming 5
too 12
their 3
tubs
them
then
tar
their
trousers 2
think 3
those
tell
that
time 2
tired
together
telling
truly 5
to 3
tonsils
things
torch
taking
there
using
very 6
women 2
whole 2
when 2
weather
warming 2
writing 6
work
what
Wednesday
with
well 2
were
wrong
window 2
wash
would
want
your 3
yours 3
you 4
against
animals
again
anything
allowance
believe
baseball
buy
bring
barn
because 2
back 1
basketball
bloom
block
base
bite
brother
climbed
class
children
congratulate 2
clouds
could
can't
carrying
didn't 2
dollars 1
dentist
dying
don't 3
delivering
enough
either
end
family
freedom
for 2
feet
fruit
forest 2
friendly
fishing
found
friend 3
first
fight
fish
glare
game
grow
guess
giraffe
got
hundred
has 1
hook
hard
horseback
home
important
kittens
little 1
living
lots 3
learned
moving
money
many
mistake
months
Mrs. 3
mice
makes
measles
market
mouse
music
Miss
no
name 3
next
night
our 1
on 3
old
planned
porch
place
picnics
postman
planning
robber
raining 2
rain 2
refreshing
rainy
river
riding
read
screamed
slave
stole
sweater
should 2
swimming 4
secret
stay
skyscrapers
stories
school
stung
summer
sports
too 5
tried 1
train
trouble 1
through
thankful
things
tag
to
tired
then 5
they
taking
their
七八
toys
upon
using
very 2
vegetables
went 3
water
would 7
weather
wade
with
way
where 2
want
Wednesday
watch
won