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A Procedure for Teaching Spelling Rules Inductively

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A PROCEDURE FOR TEACHING
SPELLING RULES
INDUCTIVELY

A Research Paper
Presented to
the Graduate Faculty
Central Washington State College

In Partial Fulfillment
of the Requirements for the Degree
Master of Education

by
Eula Irene Hickam
August 1962

THIS PAPER IS APPROVED AS MEETING THE
PLAN 2 REQUIREMENT FOR THE COMPLETION
OF A RESEARCH PAPER.

William D. Floyd
FOR THE GRADUATE FACULTY

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CHAPTER I

STATEMENT OF THE PROBLEM AND DEFINITION OF TERMS USED

I. THE PROBLEM

There is some indication that the inductive or discovery method might be an effective way of helping children learn in many if not all areas of the curriculum. This paper will attempt to show that the method might successfully be applied to the teaching of at least some aspects of spelling.

II. DEFINITION OF TERMS USED

Deductive

Deductive thinking is that which begins with the general rule or generalization and applies this rule to specific examples.

Inductive

Inductive thinking is that which starts with instances and from these progresses to a generalization.

III. REVIEW OF THE LITERATURE

Many authorities in education are aware of the need for using the inductive method in teaching spelling. Gertrude Hildreth, in her book Teaching Spelling, states that

Rules are useful to the extent that they are properly taught. The mechanical memorization of a rule is less useful to pupils than the discovery of the rule through repeated experience with the words that conform to the rule. A meaningful generalization can be used and applied by the pupil right along when he needs to write, whereas a memorized rule will be promptly forgotten (5:251).

Dr. Hildreth continues:

Instead of requiring the pupils to memorize a list of rules, the teacher and pupils working together discover the rule that governs spelling of a certain class of words, and then they apply the rule to other words. Through helping to formulate a rule the pupils tend to learn the rule and to apply it correctly (5:251-2).

Hardy Finch, in "Ideas on Teaching Spelling," says:

Teach a rule only when there is a need for it. Teach only one rule at a time. Teach a rule inductively--begin with the words and build up to the rule. Provide ample review of the rule taught (1:229).

The 1960 edition of The Encyclopedia of Educational Research, in the article about recent trends in spelling, indicates that the following methods should be used when teaching spelling rules:

1. Each rule should be taught inductively rather than deductively and should be developed in connection with the words to which it applies.
2. Only one rule should be introduced at a time.
3. In teaching a rule, it is important to emphasize both the positive and negative aspects.
4. When the rule has been taught, it should be systematically reviewed and applied.
5. Both in original teaching and in reviews the emphasis should be upon the use of the rule rather than upon the mere memorization of its verbal statement (3:1345).

Other authorities who tend to agree that some aspects of spelling should be taught inductively include the curriculum directors of the Seattle School District, who in the guide for teaching spelling state that the

inductive teaching of a spelling rule, that is, having the children formulate their own rule after the collection of sufficient data from their own observation, tends to result in permanent learning of the rule and, therefore, in greatest usefulness (9:14).

Mary A. Grupe, in "A Review of the Pedagogical Studies in the Teaching of Spelling," realized the effectiveness of teaching inductively:

Word analysis inductively taught should prove of assistance in giving children ability to approximate the meaning of many new words. . . word analysis is not without its dangers and used too literally leads to naive interpretations However, the context in which the word is found may generally be depended upon to check this tendency sufficiently (2:16).

It is seen that many authorities--past and present--in the field of education tend to agree that teaching spelling rules, at least, will yield superior results over teaching by mere memorization of facts.

CHAPTER II

REVIEW OF METHODOLOGY

In considering the possible advantages of teaching spelling by induction, it will be helpful to review some of the traditional methods of teaching spelling. These are based generally upon memorization rather than upon building generalizations inductively.

I. STUDY-TEST-STUDY METHOD

In the study-test-study method of teaching spelling the teacher helps children study the words to be learned, tests them, and helps them study the words again. She then gives them a final test over the week's words.

Procedure

In general, the procedure for using the study-test-study method of teaching spelling is as follows.

Monday. The teacher introduces the new words for the week on Monday. She may do this from the chalkboard or from a dittoed list. The children use the rest of the time allotted for spelling to study the list of words. This study usually consists of writing the words several times.

Tuesday. The pupils spend the spelling time studying the words to be learned during the week. The study may consist of drill work, vocabulary study, or other types of study.

Wednesday. The teacher administers a test of the words. She pronounces the word, uses it in a sentence, and pronounces it again. After the second pronunciation, the children write the word. This procedure is followed for all of the words. The teacher or the pupils correct the test papers and the pupils spend the remainder of the time in studying the words missed.

Thursday. The students spend the time allotted for spelling in studying the phonetic analysis of the words and practicing word recognition and developmental skills.

Friday. The teacher gives the final test on the words for the week. The same testing procedure as was used on Wednesday is used again. The teacher corrects the papers and the pupils write the words missed in their book of hard words (8:7-8).

II. TEST-STUDY METHOD

In the test-study method of teaching spelling the teacher pre-tests the children on the words to be studied for the week and then helps them study the ones they do not know.

Procedure

The accepted procedure for teaching spelling by using the test-study method is as follows.

Monday. The teacher passes out a list of words on a dittoed sheet. The children observe the list as the teacher pronounces each word. The children re-pronounce each word after the teacher says it. Then the children are given a pre-test. The teacher pronounces each word, uses it in a sentence, and pronounces it again. After the second pronunciation, the children write the word. This procedure is followed for each word in the list. The children then correct their own papers as the teacher spells the words orally. The remainder of the period is devoted to studying the words missed on the pre-test.

Tuesday. The children study those words missed on the Monday pre-test.

Wednesday. The teacher gives another test on the same list of words. The same procedure is followed as was used on Monday. The students correct the test again and spend the remainder of the time for study of those words that were spelled incorrectly.

Thursday. The spelling time is spent in studying the words missed on Wednesday. Those children who made a

perfect score on Wednesday are excused from the study time on Thursday.

Friday. The teacher gives a final test on the week's list of words. The same procedure as was followed on Monday and Wednesday is used to give the Friday test. After the students have corrected the papers, the teacher checks for accuracy of scoring (7:6).

III. LEARN-BY-LISTENING METHOD

In using the learn-by-listening method of teaching spelling, the main emphasis is on the children learning the words by hearing them spelled correctly. There is no time allotted for study of words.

Procedure

Less school time is spent in teaching spelling when the teacher uses the learn-by-listening method. The general day-by-day procedure is as follows.

Monday. On Monday, the children take a test over the week's words. They are not given any time to study the words before the test; in fact, they have not seen the words involved in the test. The teacher pronounces the word, uses it in a sentence, and pronounces it again. After the second pronunciation, the children write the word. Upon completion of the test, the teacher spells

the words orally as each child corrects his own paper. No additional time is given for study.

Tuesday. No time is given for the study of spelling on Tuesday.

Wednesday. On Wednesday, the teacher gives another test over the same list of words as was used on Monday. The same procedure is used. Each child corrects his own paper. No additional time is given for study.

Thursday. No time for the study of any words spelled incorrectly on the previous tests during the week is given on Thursday.

Friday. The teacher gives a final test over the week's words on Friday. The same procedure as was used on Monday and Wednesday is used. After the children correct their own papers, the teacher checks the papers for accuracy of scores (6:279).

One may conclude, then, after a close examination of the three previously outlined spelling programs, that when and if any spelling rules are taught, they are not taught inductively, and the stress seems to be on memorization.

CHAPTER III

INDUCTIVE THINKING IN LEARNING TO SPELL

I. THE INDUCTIVE METHOD

As has been previously stated, this paper is attempting to show that by applying inductive thinking in spelling, more effective learning will result than from mere memorization of rules. In order to understand exactly what is meant by using the inductive method of teaching spelling, a discussion of procedure will be given.

Procedure

The procedure in using the inductive method of teaching spelling is not based on a day-by-day sequence. The developmental sequence is important, but the individual teacher would include the various activities in whatever time schedule she found to be most effective. In general, the procedure of teaching a generalization by using inductive thinking is as follows.

First. In preparing to prove a generalization to her class, the teacher would collect examples that will prove the rule she is going to teach.

Second. The teacher and the children look at and discuss the examples she has collected and listed on the

chalkboard. The children are asked to tell all of the things they notice about the words--both differences and similarities.

Third. After looking at and discussing the similarities and differences of the words listed, the teacher helps the children state the principle involved.

Fourth. When the children have stated the principle about the similarities of the examples listed, the teacher would then restate the generalization or rule and correct it if necessary so that it would be more valid.

Fifth. If there are exceptions to the rule, they should be called to the children's attention and be taught at that time.

Sixth. The final item in the sequential order of teaching a spelling rule inductively would be to give the children plenty of practice in applying the rule learned. Characteristics of such programs would include both oral and written work with stress on the written aspect, spaced intervals, and working with the generalization with other and many words where it applies.

II. APPLICATION OF THE INDUCTIVE METHOD

The sequential development of using the inductive

method of teaching spelling generalizations has been stated. In order to more clearly understand the development of the method, a sample lesson is given.

Collection of Examples

The classroom teacher wishes to teach the generalization about the effect the final e has on short words. She first collects examples to show the rule she wants to teach. She uses these words as examples; name, came, take, make, made, grade, place, gave, game, hate, and cane. She writes these words on the chalkboard. All of these words contain the vowel a in the medial position and end with a final e.

Discussion of the Examples

The children and the teacher discuss the words she has written on the chalkboard. The children are asked to point out anything they notice about the words. The children may point out that all of the words have an e on the end and that they all have an a in the middle. They may also observe that they are all short words and are words of one syllable. The teacher should guide the discussion to bring out those points that will apply to the generalization she has in mind. The children will also notice that the final e is not sounded and that the a in the medial position has its long sound.

Formulation of the Generalization

After discussion of the examples the teacher has placed on the board, the children are helped to formulate the principle that in short words containing an a in the middle and having a final e, the final e is not sounded and the a has its long sound. The teacher should try to have the children state the generalization first.

Restatement of the Generalization

If the children have not stated completely or correctly the generalization that would apply to the examples, the teacher needs to restate the thought. She may say, "Usually in short words containing final e, the e is silent, and the previous vowel (in this case, a) has its long sound.

Discussion of Exceptions

If there are any exceptions to the generalization that in short words containing a in the medial position and having a final e, the e is silent and the a has its long sound, they would be studied at this time. It is important for the children to realize that while knowing some generalizations is helpful, usually any rule will have some exceptions.

Practical Application of the Generalization

The teacher would follow up on the teaching of the

generalization about the effect of the final e on the a in the medial position by having the children participate in various exercises containing words following this rule (4:226-7).

When the children have successfully learned the generalization about the effect the final e has on the a in a medial position, the teacher would continue using the inductive method of teaching to show them the generalizations concerning the effect the final e would have on other vowels in a medial position.

III. RULES TO BE TAUGHT INDUCTIVELY

In considering rules or generalizations about spelling that should be taught inductively, the teacher should keep these things in mind: (1) a rule that is taught must have wide application, (2) the rule must be one that can be understood and used by children, and (3) the rules to be taught must have few exceptions.

There are several other areas in reading and spelling where teaching generalizations inductively is useful. A discussion of some of these rules will be helpful in showing the advantages of using the inductive method.

Long Vowel Sounds at the End of Words and Syllables

In considering long vowel sounds at the ends of

words, the teacher can capitalize on sight words the children will have learned in reading. They will have learned a number of sight words containing a single vowel at the end of the word. In such cases the vowel sound is usually long (go, me, my, so, no).

Vowels which end a syllable in a word are usually long, also (ti-ger, mo-tel, fa-tal, to-tal); the generalization the teacher would emphasize is "a vowel at the end of a one-vowel word or syllable usually has the long sound" (4:227).

Vowel Sounds in Digraphs

When two vowels occur together in a word and stand for a single sound, they are referred to as vowel digraphs. Generally, the rule taught to cover these words is that when two vowels come together the first is usually long and the second is silent.

While this rule seems to apply to all two-vowel situations, there are about as many exceptions as instances when it applies. It would be wise for the teacher to emphasize that the rule applies only to specific vowel situations (ai, ee, oa, ea, ay).

The teacher can then show examples to prove the generalization when two vowels come together in a word the first one is usually long and the second one silent.

These words can be used as examples; coat, maid, mean, lied, feed, goat, meet, died, and pain.

To keep the child from over-generalizing from this rule, the instances where it does not apply should be reviewed. This would include the vowel digraphs au, eu, aw, ew, oo, where two vowels result in a single sound but not the long sound of the first vowel.

Examples of these instances might be: au as in haul, cause, haunt, and caught; eu as in feud, neutral, deuce, and neutron; aw as in lawn, hawk, draw, and trawler; oo as in goose, tooth, spoon, and broom; and oo as in good, took, look, and wood (4:227-9).

Vowel Sounds in One-vowel Words

Another generalization pupils can learn inductively is that the vowel sound is usually short in one-vowel words where the vowel does not end the word. The teacher can use these words as examples: cot, mad, lid, men, fed, set, get, met, did, and pan. The children should see that in all of these words the vowel sound is short (4:229).

Rules about Vowel Sounds to be Taught Inductively

According to Arthur Hellman, Principles and Practices of Teaching Reading, some of the generalizations or rules concerning vowel sounds that might be taught inductively are:

1. Long vowel sounds are usually identified as the names of the vowel letters a, e, i, o, u.
2. A single vowel followed by a consonant in a word or syllable usually has the short sound: can in cancel.
3. A single vowel which concludes a word or syllable usually has the long sound: me, ti-ger, lo-co-mo-tive.
4. In the vowel digraphs oa, ea, ee, ai, ay, the first vowel is usually long and the second is silent: coat, reap, lead, wait, play. The digraphs oo, au, and ew, form a single sound which is not the long sound of the first vowel: food, good, haul, few.
5. In words containing two vowels, one of which is final e, the final e is usually silent and the preceding vowel is long.
6. Single vowels followed by r usually result in a blend sound: fir, car, fur. The vowel a followed by l or w usually results in a blend sound: awl, tall, claw, awful.
7. The letter y at the end of words containing no other vowel has the long sound of i; my, try, sky, shy.
8. Diphthongs are two-vowel combinations in which both vowels contribute to the speech sound; house, boy, cow (4:229-30).

Consonant Sounds to be Taught Inductively

While many of the generalizations which teachers would help children learn inductively are concerned with vowels, the effective teacher will want to point out certain ideas about silent consonants.

After having learned several hundred words as sight words, the child has met many words containing silent

consonants. Such words, which have a high frequency of usage, must be learned as sight words in reading. However, the teacher may be able to help the children generalize some things about these words that may help them in spelling.

In the late primary and early intermediate grades, these words appear with increased frequency, and it may be desirable to prepare lessons for teaching certain of them. Instruction can stress the fact that the pronunciation of many words does not involve sounding all of the letters.

Teaching the Silent K at the Beginning of Words

In using the inductive method to teach a generalization about the silent k at the beginning of words, the teacher can use these words as examples: know, knight, knew, knee, knife, knit, knot, knapsack, knock, knowledge, knob, and kneel (4:230).

She may then develop through the developmental steps of the inductive method the generalization that usually the k followed by an n at the beginning of a word is not sounded.

Other Generalizations to be Taught Inductively

It is not within the scope of this paper to list all of the generalizations and rules that should be taught to

children to help them learn to spell. The above examples are merely illustrative and are not considered to be inclusive; several authorities would include other important rules or generalizations such as the i-e rule, the gu rule, and the fact that no correctly spelled English word ends with a y. The intelligent teacher needs to decide how many generalizations to teach. She must remember that the basic criteria for choosing a generalization to teach include the wide application of the generalization, the ability of the children to understand and use the generalization, and the fact that the generalization will have few exceptions. By keeping these points in mind, she will be able to wisely choose the generalizations most helpful to children.

CHAPTER IV

SUMMARY AND SUGGESTIONS FOR FURTHER STUDY

I. SUMMARY

This paper has attempted to show that the inductive method of thinking can be applied to many areas of the curriculum, particularly to certain aspects of teaching spelling. It has reviewed the thinking of some of today's educators concerning the use of inductive thinking in learning to spell. Dr. Gertrude Hildreth, Chester Harris, and Mary A. Grupe, among others, agree that using the inductive method in learning generalizations in spelling may be superior to merely memorizing facts (5:251-2; 3:1345; 9:14).

The paper has reviewed some of the traditional daily plans in teaching spelling, including the study-test-study method, the test-study method, and the learn-by-listening method. These methods depend almost entirely on memorization of the spelling of words.

The inductive method of teaching or developing generalizations has been explained fully and examples have been given to show how it may be applied.

A section of the paper has been devoted to suggestions concerning some of the generalizations that may be

taught to children. The suggestions made are not intended to be all inclusive, but are merely examples of the type that could be developed by using the inductive method of learning.

II. SUGGESTIONS FOR FURTHER STUDY

The inductive method of learning, a method whereby many examples are given and from these examples generalizations are formulated, needs further study. The present writer has merely suggested that the developmental sequence of building generalizations inductively may be superior to methods of memorization. Some authorities agree. A controlled experiment using the inductive method and comparing it with memorization would be helpful in proving or disproving this theory. It is hoped that a research student will undertake this problem in the future.

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APPENDIX

SPECULATIVE APPLICATION OF THE INDUCTIVE METHOD
TO TEACHING SPELLING TO MENTALLY
RETARDED CHILDREN

As a teacher of the educable mentally retarded child, the present reviewer has found interesting the possibility of using the inductive method in teaching mentally retarded children to spell. Her experience with these children has shown that some of them seem to be able to generalize. Whether the development of spelling generalizations with this type of child would be possible or feasible is not known. Some experimentation in this area of learning may be rewarding.

I. THEORIES OF TEACHING GENERALIZATIONS

If a teacher of educable mentally retarded children would want to experiment with attempting to teach generalizations in spelling to her group, she may want to structure the method in the following ways.

Readiness Level

She would first want to find out the spelling readiness level of the group. It would not be practical to attempt to teach this type of inductive thinking with children who were not reading on a first grade level or higher. The children would have to know the names of the

letters of the alphabet and would need to know some of the basic phonetic sounds of the consonants. They would need to have acquired some learning about the long and short sounds of the vowels. They would have to have had some successful experience with picking out similarities and differences in words. They would need to have understanding of what a letter is, a word is, and what a sentence is (the differences between them). When a child has reached this level of readiness, he is ready to learn to spell.

General Maturity and Attitudes

In addition to knowing the above factors involving the spelling readiness of the children, the teacher would need to have an accurate knowledge of the general level of maturity of the children. This is sometimes related to the mental age of the child and sometimes not. Some of these children, while having a low mental age, are able to learn better than others because of their maturity as persons. Some are able to assume responsibility more capably than others. The attitude each child has about school is important. If he is a happy child and enjoys coming to school, he will make a great effort to learn and to do well. These things have to be considered before proceeding with the teaching plan.

Procedure

Using a test-study-test plan of teaching spelling along with a structured set of words would be a useful method to employ in attempting to teach educable mentally retarded children to spell. A proposed plan might be carried out as follows.

Monday. On Monday, the teacher would introduce the words. She should include in the list of words to be learned those words that have similarities. There would not be more than ten words in a week's lesson. An example of a week's list of words might be; hat, mad, can, rid, fin, hid, hop, not, rob, and hug.

The generalization she would be teaching is "in short words having one vowel, the vowel has its short sound." She would discuss these words with the children by using the inductive method mentioned previously in this paper.

Tuesday. On Tuesday, the teacher and children could do various word-attack and analysis skills. She may want to continue to discuss or review similarities in the words. These children need much repetition.

Wednesday. The teacher would give a trial test on Wednesday. She would use the procedure outlined in the section of this paper under the study-test-study method

of teaching spelling. She should then correct each paper with each child, pointing out his errors and reviewing the generalization.

Thursday. On Thursday, some time would be given to a review of the generalization involved in the words for the week. More word study and comprehension skills would be stressed.

Friday. On Friday, the final test for the week would be given. The same procedure as was used on Wednesday would be employed again. The teacher should carefully check the papers with the children. She may want to include some of the words again in a later lesson.

In teaching generalizations to the educable mentally retarded child, the teacher would have to plan for units of three or four weeks each. Each unit would include the teaching of one generalization. There would be a review lesson at the end of the unit, and frequent reviews throughout the school year.

Whether this method would result in gains in the spelling ability of educable mentally retarded children is not known. An experiment with a control group learning the same words but with no emphasis on generalizations should prove or disprove this theory.