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Spelling in the Middle School: The Testing of Three Teacher Approaches

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SPELLING IN THE MIDDLE SCHOOL

THE TESTING OF THREE TEACHER APPROACHES

THESIS

Submitted to the Graduate Committee of the

Department of Education and Human

Development

State University of New York

College at Brockport

in Partial Fulfillment of the Requirements

for the Degree of Master of Science

in

Education

by

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Abstract

The objective of this study was to evaluate three current practices in the teaching of spelling to see if these approaches were effective. These approaches were the teaching of spelling rules, the practice of independently assigned word lists, and the teaching of syllabication to aid in the memorization of list words. Each method was also compared to see if any one approach was more effective than another. The subjects of this study were 51 twelve year olds heterogeneously grouped into three seventh grade classes. Data were collected from identical teacher-made pre and posttests. Posttests were administered six weeks after direct instruction was concluded. An analysis of variance was used to determine the statistical difference between each treatment's pretest and posttest means, and a secondary analysis was used to determine which pairs of pretest and posttest means were significant across groups. The statistical evidence indicated that there was a significant difference between pre and post tests for all three treatment groups. A significant difference was also found to exist between the syllabication and list

groups for both the pretest and posttest means. There
was no significant difference for either pre or post
between syllabication and rule, or between list and
rule.   This difference between syllabication and list
groups seemed to indicate that the list group's
knowledge was higher at the pretest level. Therefore,
it was concluded that all three treatments were
statistically effective, but no single treatment was
more effective than another.

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Chapter I

Statement of the Problem

Purpose

The purpose of this inquiry was to measure the immediate and long term effectiveness of three teaching approaches for spelling instruction.

Overview

Spelling instruction in most of today's classrooms has not advanced beyond where it was in the 1890's (Frith, 1980; Funk & Funk, 1987). Although research has been carried out in this area, very few teachers have implemented these findings in their instructional approaches (Funk & Funk, 1987; Lehr, 1984). Some have no systematic spelling instruction, or the average class offers two or three fifteen minute instructional periods for it per week (Frith, 1980).

Likewise, public school systems do not place enough importance on the teaching of spelling (Frith, 1980). This is surprising considering that today's society uses the ability to spell as a measurement of

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an individual's educational and social background
(Hodges, 1982). The ability to spell correctly is
often regarded as a sign of literacy (Recht, Caldwell,
& Newby, 1990).

This does not mean that there are not dedicated
teachers spending their time and efforts in attempting
to teach children how to spell. They try different
approaches, but still fail to see learned material
retained over time or transfered into other contexts
(Recht et al., 1990).

This study investigated three formal teaching
methods: the teaching of spelling "rules," assigning
independently-learned word lists, and the teaching of
the use of syllabication in the learning of list words.
Are these approaches effective in helping students to
retain and apply learning to future, similar
situations?

Questions to be Answered

1. Will seventh grade students apply spelling
rules for pluralization, six weeks following
formal (direct) spelling instruction?

2. Will seventh grade students using
syllabication retain the correct spelling of
list words, six weeks following formal
(direct) spelling instruction?

3. Will seventh grade students retain the correct
spelling of list words, independently learned, six
weeks following a formal spelling program?

4. Is there any significant difference in spelling
achievement between the three methods: the
teaching of spelling rules, assigning
independently-learned word lists, and the
teaching of syllabication in the learning of list
words?

Need for the Study

There is a real concern for the quality of
education today. Coman and Heavers (1991) state that

one fourth of the population of the United States is
scarcely literate enough to function in
our society. Government is pledging improvements in
education. Local school boards are examining
curriculum, and parents are questioning if their
children are learning basic skills. There is an
emphasis on "back to the basics." Spelling is one of
these basic skills.

Goals of a spelling program should include
developing independent spellers and spellers who edit
their written work. Most programs are developed by
teachers, and they need to know what methods work best
for their students. Instructional practices should be
maintained only if they are effective and agree with
what is proven through research (Hodges, 1982; Manning
and Manning, 1981).

There is a need for investigating some specific
formal methods in the teaching of spelling. The three
methods investigated in this study proved to be
effective in helping students to apply what they
learned to future situations. This inquiry may aid
teachers in developing their programs.

Definition of Study Terms

explicit phonics - Each of the sounds associated
with a letter is identified in isolation, then blended
together with other letter sounds to form words
(Anderson, Heibert, Scott, & Wilkinson, 1985, p. 39).
formal spelling instruction/approach - Students are
given lists of words and/or rules to study and are
tested to see if mastery has occurred (Manning and
Manning, 1981, p.9).
implicit phonics - The sound associated with a letter
is never pronounced in isolation, but always
accompanied with other letters to form a word (Anderson
et al., 1985, p. 39).
informal spelling instruction program - Students learn
to spell as part of their reading and writing (Manning,
1981, p. 7).
invented spelling - The prereader's and beginning
reader's spelling of words using symbols that they
associate with the sounds they hear in the words that
they wish to write (Clarke, 1988, p. 282)
phonics - The relationship between letters,

speech, and sound (Anderson et al., 1985,

p. 38).

syllabication - Breaking words into their biggest

pronounceable parts, or syllables (Early and Sawyer,

1984).

traditional spelling - Refers to a child's use of the

standard spelling of words by memorization or

duplication (Clarke, 1988, p. 282).

Whole language - Reading, writing, and spelling are

seen as processes that develop as the learner responds

to and acts upon his/her environment (Pickering, 1989,

p. 144).

Whole word approach - Words are learned as a "whole"

instead of through a "sounding-out" process (Henderson,

1985, p. 8).

Limitations of the Study

This study included only three heterogeneously grouped seventh grade classes, totalling 51 students. These classes were from a rural area in western New York.

The instructional and testing materials were teacher-made for all four groups using the seventh grade level final exam from one school district. This may not be considered the standard level for all seventh graders.

Summary

This study's primary focus was to measure student retention and application of learning when tested six weeks after initial learning occurred. This would offer some insight into the effectiveness of three formal instructional approaches for the teaching of spelling.

Chapter II

Review of the Literature

Overview

In conducting this investigation of spelling, it
seemed necessary to include some research on why
developing accuracy in spelling is such a problem, the
hierachies of spelling development, different teaching
approaches including current studies, and researchers'
suggestions for effective spelling programs.

Some Causes of Spelling Difficulties

Some researchers have investigated and found that
students have good reasons for their difficulty in
grasping and using spelling skills:

> Almost without exception, language
> scientists and historians are
> impressed— one might say distressed—
> by the lack of regularity in the English
> spelling system. Not only do our
> twenty-six letters not represent sounds
> consistently, but some sounds have no
> letter to represent them, some
> letters may have no sound of their own,
> some sounds can be signalled by
> different letters, and some letters may
> represent different sounds (Henderson,
> 1985, p. 6).

This sound-to-letter relationship causes a lot
of room for error for a child learning to spell.
Henderson (1985) goes on to state that one of the added
spelling difficulties is that too often the instructor
does not understand how a child develops into a
"speller." This prevents the teacher from choosing an
appropriate instructional program that meets the needs
of the students within his classroom environment.
Lougheed in her investigation of research (1980)
concluded that student reliance upon the use of rules
has created spelling confusion. Students need to
visualize, identify "hard spots," listen to correct
spellings using the visual, and write the correct
spelling while maintaining a visual-auditory
correspondence.

Many educators cannot pinpoint the role of
spelling or decide upon a reliable curriculum to use in
the teaching of spelling. Some teachers react by not
teaching spelling at all. Since spelling is not
acquired naturally by many students, these undecided
educators produce students, who by society's standards,
appear to lack literacy. This is because society seems

to equate literacy with accuracy in spelling (Yule, 1986). Hodges (1982) believes that teachers' methods should include varied opportunities for students to generate rules about the written language themselves and not just be "told" the rules; the wrong methods have also created the "problem." DeStefano and Haggerty (1985) suggest that learning to spell does not come singularly through spelling lessons, but from experiences with language. Research by Cronnell and Humes (1980) seems to suggest that materials used in spelling programs often do not provide enough practice or allow students to use list words in a meaningful way.

Some researchers believe that a formalized type of spelling is taught too early in school. It should not be taught until the latter part of second grade when students have already begun to read. Rushing the developmental process can cause frustration and damage to a beginning reader (DiStefano & Haggerty, 1985).

Henderson (1985) lists three crucial levels of spelling that each child developmentally enters. As a child develops through these phases, he acquires a

learned vocabulary (sight and meaning) through his/her spelling, reading, and writing.

1. letter to sound: The child recognizes and uses the relationship between the letter and its designated sound.

2. pattern: The child recognizes and uses combinations of letters which represent sounds or syllable units. These patterns serve in a fairly regular repetitive way.

3. meaning: The child recognizes and uses words and parts of words to extract and produce meaning.

Teaching Approaches

Phonics, as a teaching approach, is instruction in the relationship between letters and speech sounds. Most beginning (primary) spelling programs, even elementary programs, include the use of phonics (Anderson, 1985). Anderson details two forms of phonics instruction, explicit and implicit. In explicit phonics instruction, each of the sounds associated with letters is identified and taught in isolation. Then, they are blended together to form words. In implicit phonics instruction, the sounds

associated with a letter are never supposed to be
pronounced in isolation. Instead, a teacher writes a
list of words on the board or paper and inquires as to
what the words have in common. The students arrive at
a common sound, or combination of sounds, that they
associate with other words that have the same
letter-sound combinations. Following this, the
students are asked to contribute to the list of words
already given.

In Becoming a Nation of Readers (1985), Anderson
and his fellow authors go on to offer that a number of
reading programs try to teach too many letter-sound
relationships. Most programs include spelling, and
phonics instruction drags out over too many years. The
best way to get children to refine and extend their
knowledge of letter-sound correspondences is through
repeated opportunities to read. Furthermore, the
authors believe that the use of phonics should be
implicit, not explicit. This would allow the child to
understand and discover for himself the unique
relationships involved in the written and spoken word.

Advocates of a whole word approach believe that

words should be learned directly because English spelling is too irregular, and sounding out words is more detrimental to learning than helpful. Once a pupil recognizes a word, its spelling needs to be memorized (Henderson, 1985).

A whole language approach allows children to write and read what they have written. As they learn to read and write, they also learn to spell. Researchers such as Clarke (1988) have proven that there is a connection between spelling, reading, and writing. Reading achievement and spelling achievement correlate closely at the beginning stages. However, reading alone will not guarantee that a student will spell accurately. At the point of being a reader, studying word lists becomes essential to spelling competency (Henderson, 1985).

Children have been successful in writing even before they met traditional standards of spelling or reading. This success has been demonstrated through invented spelling versus traditional spelling. Clarke (1988) conducted a study to test the validity of invented spelling and its contribution to

the spelling, writing, and reading achievement of 102

first grade students. Half of the group wrote using

invented spelling, and the other half used a

traditional approach. The students were given 80 to

100 minutes of writing time per week. Their prime

source of reading instruction was from a basal program

with phonics being taught as part of the language arts

program. Letter sounds were generally taught in

isolation, and children were asked to identify words

within reading selections that had the same sounds.

Sound sequencing and initial letter sound

identification were taught as an aid to word reading.

Oral drills and worksheets were used to reinforce

phonic lessons. Groups represented a wide range of

abilities and socioeconomic, as well as geographical,

backgrounds. Equivalence between groups was pretested

and children's behaviors during the study were

observed, their spelling and reading performancewas

evaluated by posttest. Tests included the Wide Range

Achievement Test, Spelling Subtest Level 1, and a

spelling list selected so that half were high frequency

and half low frequency misspelled words.

Results indicated that in writing neither group was restricted in their creativity. Invented spellers "invented"; traditional spellers looked or asked for the correct spellings. Ideas in both groups were not resticted by methods. In reading, the invented spellers in the groups were able to use their spelling and phonics skills more easily proving they benefitted from their practice in letter-sound relationships. In spelling, traditional spellers arrived at higher tested scores; however, this did not necessarily automatically transfer into their writing. Invented spellers had been reminded that their ideas were more important than their spelling, while more emphasis for spelling accuracy was placed on traditional spellers during the writing sessions.

The results of an experiment by Dulaney (1987) also strongly suggests that instruction in spelling can and should be correlated with reading instruction because it does lead to increased recognition of words. Seda's (1989) review of present research on the teaching of spelling and teacher application of research seems to show that teachers do not use

research in determining their spelling teaching methods.

Suggestions For Spelling Programs

Manning and Manning (1981) specify two kinds of spelling programs and offer a guideline for the success of each:

1. Informal: Students learn to spell as part of their writing and reading. Care must be taken to initiate experiences that widen the child's interests in reading and writing, so that the learning is not redundant.

2. Formal: Students are given lists of words and/or rules to study. Later, they are tested to see if mastery has been achieved. Writing and reading opportunities must be included within the instruction to add relevance to the memorizing and transfer of the learning of list words.

A study conducted by Hearne, Cowles, and DeKeyzer (1987) indicated that "methodology is a matter of finding a common denominator between the child and the task;... kids know how they learn best;.... and spelling is easier if combined with other areas of

language development (p. 201)." Murphy and McLaughlin's study (1990) on the effects of tactile and kinesthetic learning in improving spelling performance indicated that tracing target words and writing with target words in dictated sentences improved the spelling performance of a handicapped student who had repeatedly experienced spelling difficulties.

Anderson (1985) suggests that students beyond elementary level (and adults) experiencing spelling difficulties have not understood or experimented sufficiently with the rules of spelling. They usually rely upon phonics to decode and spell words as they read or write. These learners must be shown relationships (e. g. roots, affixes) to develop an understanding. As they begin to come to this understanding, they will become more confident and be able to learn more difficult relationships.

A study conducted by Yurek (1988) on twelve high school seniors who were spelling and reading deficient indicated that the repeated correct oral spellings of words given to students as they traced the words cursively could result in a significant increase in spelling achievement. This approach utilized a

combination of sensory "channels" (p. 105) that may
have helped the students learn the correct spellings.

In a study by Battaglia (1986) mnemonic training
as a strategy for teaching spelling proved to be
intrinsically motivating for the students using the
method.

Lougheed's (1980) research suggested that the
training of self study strategies enhances the learning
of spelling.

Summary

The English language has built-in difficulties for
spellers. Spellers have developmental stages that they
pass through as they learn to spell. Effective
spelling programs need to be developed using this
knowledge. Students seem to learn best when they are
given varied experiences with language using
multi-sensory approaches.

Chapter III

Design of the Study

Introduction

This study attempted to evaluate three current
practices in the teaching of spelling to see if these
approaches were effective. It also compared each
method, to see if any one approach was more effective
than another. The results of this study may add to the
current information that has been learned about what
might constitute a successful spelling program.

Research Questions

1.   Is there a statistically significant
difference between the mean pretest scores and the mean
posttest scores on identical tests of student recall
and application of learning for each group?

>   a.   spelling rules
>
>   b.   independent word lists
>
>   c.   syllabication training for list words

2.   Are there statistically significant
differences among groups when comparing the
pretest and posttest mean scores from each
group?

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Methodology

Subjects

The subjects of this study included three seventh grade classes of 17 students per class, heterogeneously grouped by ability and socio-economic status by random computer selection. Each class served as one of the three groups receiving different treatments during this study. The students were from a rural community in western New York.

Materials

Materials were teacher-made. They included weekly word lists (four with ten words for four consecutive weeks), a "rule" packet for noun plurals that was sectioned for use during four instructional sessions (one session per week for four weeks), and a four-sectioned weekly test sheet to evaluate learning on a weekly basis. This weekly test included a section for the spelling of the ten list words, and a section where ten nouns (five nonsense and five real nouns) were to be pluralized, except for the first week where

only five nonsense words were added to be pluralized.
(see Appendix B and C).

Instruments

The pretest and posttest were identical and
teacher-made (see Appendix A). They included a top
section with four columns of ten words each for the
spelling of the 40 list words, and a bottom section
that tested the students' ability to pluralize nouns by
giving them ten nonsense nouns and six real nouns.
This totalled 56 spellings.

Procedures

Students in each class were administered a
teacher-made spelling pretest to determine their
beginning knowledge of the spelling of forty
multisyllabic seventh grade-level list words. These
words were selected from this school district's seventh
grade final exam. The students' application of eight
noun plural spelling rules (nouns requiring the use of
the suffixes s and es to form their plurals; nouns
ending in patterns of consonant -y, vowel -y,

consonant _–o,_ vowel _–o,_ and ending in _f_ and _fe,_ all
needing to be changed into their plural form) was also
tested. A separate spelling approach was administered
to each group for four consecutive weeks. Group one
was given instruction in noun plural rules and
independently learned ten list words weekly. Group
two was given instruction in noun plurals and
instruction in the use of syllabication for the study
of their ten weekly list words. Group three received
only a list of ten words to be tested weekly. Finally,
a posttest identical to the pretest was administered to
each student in each group.

Group 1 – The instructor used a teacher–made packet to
present and give practice in the use of eight noun
plural rules, two rules per week, for four weeks, two
days per week, thirty minutes per session. Students
also were given a list of ten words per week that they
were to memorize independently. At the end of each
week students were given a weekly test, with space for
the ten list words (given orally, in isolation, and
then used in the context of a sentence) and the five
nonsense and real nouns to be pluralized.

Group 2 - The instructor used a teacher-made packet to
present and give practice in the use of eight noun
plural rules, two rules per week, for four weeks, two
days per week, thirty minutes per session. Students
also were given a list of ten words per week that they
were to memorize independently. However, this group
also received approximately ten minutes of added
instruction each of the two teaching days. The first in
which the ten multisyllabic list words were accurately
divided into syllables by the teacher and the students
for study purposes. The students, on the second day,
took a pretest to determine which syllables of the list
words were inaccurate so that they could study these
syllables for the weekly test. At the end of each
week students were given the same weekly test as group
one, using the same procedures.

Group 3 - These students received a list of ten words
per week to be learned independently. At the end of
each week, students were given the same weekly test as
groups one and two using the same procedures.

Analysis

The pretest and postest scores were analyzed using a two factor analysis of variance with repeated measures on one factor. The treatment factor represented the three different treatments as described above. These treatments were (1) Rule, (2) Syllabication, and (3) List. The repeated measures factor represented the pretest and posttest occasions.

Chapter IV

Statistical Analysis

Purpose

The purpose of this study was to evaluate and compare the effectiveness of three approaches to the teaching of spelling.

Analysis and Interpretation

The analysis of variance results (Table 1)

Table 1   Analysis of Variance

Summary Table

Source (Factor)	SS	DF	MS	F	Prob.
Between groups	10933.66	2	5466.83	7.41*	.0019
Sub. w/in grps.	35414.04	48	737.79		
Within grps.	6448.24	1	6448.24	168.44	.0001
A x B	332.77	2	166.39	4.35*	0.018
B x Sub.					
w/in grps.	1837.49	48	38.28		

Totals 54966.21   101

*$p. < .05$

indicated a significant interaction between the two factors. The calculated F- ratio was 4.35 which was significant at the alpha = 0.05 level. A further investigation of their interaction effect showed that the pretest and posttest scores followed the same pattern with the posttest scores higher than the pretest scores (Figure 1).

Figure 1   Comparison of Pre and Post Tests Means

Post

Pre

A   B   C

Syllabication   List   Rule
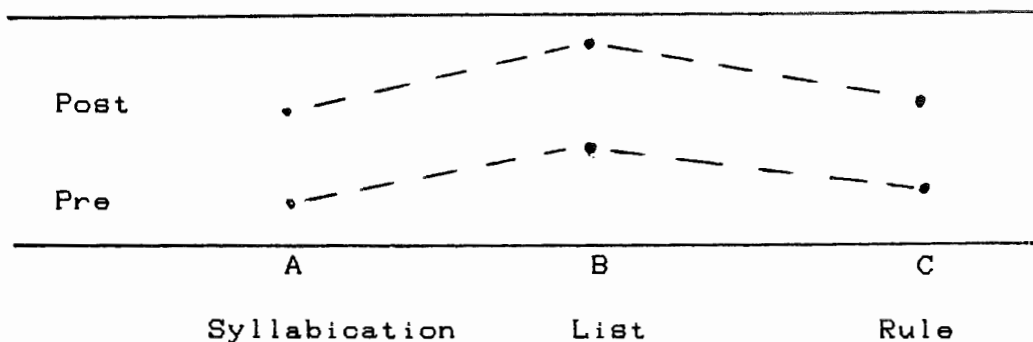
Because of the parallel nature of the pretest to posttest differences, the interaction was discounted and the main effects were investigated.

The treatment factor was also significant at the Alpha = 0.05 level with a calculated F-ratio of 7.41. This indicated that there were significant differences in the treatment group's means on both the pretest and the postest. A secondary analysis was used to

determine which pairs of means were significant for the pretest and the posttest (Lindquist, 1956, p. 93).

The differences in pretest means are shown in Table 2. The critical value for the difference between pairs of pretest means was calculated using the formula:

$$d = t\sqrt{\frac{2MSw}{n}}$$

and found to be :

$$d = 2.013\sqrt{\frac{2(737.7924}{17}}$$

$$d = 18.75$$

Table 2   Differences in Pretest Means

	Syll	List	Rule
Syll	—	*28.65	15.24
List	—	—	13.41
Rule	—	—	—

*p<.05

The only significant difference between pretest means
is between Syllabication and List.

The difference in postest means are shown in Table
3.   The critical value for the difference between pairs
of posttest means was also calculated using the same
formula , resulting in d = 18.75.

Table 3   Differences in Posttest Means

	Syll	List	Rule
Syll	—	*21.93	15.06
List	—	—	6.88
Rule	—	—	—

*p.<.05

The only significant difference between posttest means
is between Syllabication and List.

Summary

The statistical evidence indicated that there was a significant difference between pre and post tests for all three treatment groups. There was, also, a significant difference between the Syllabication and List groups for both the pretest and posttest means, but there was no significant difference for either pre or post between Syllabication and Rule or between List and Rule.

Chapter V

Conclusions and Implications

Purpose

The purpose of this study was to evaluate and
compare the effectiveness of three approaches to the
teaching of spelling.

Conclusions

The statistical results from the analysis of
variance indicated that all three treatments were
effective in that there was a statistically significant
increase in learning between pre and post tests for
each group.

The secondary analysis statistically indicated
that performance by the List group was significantly
higher on both pretest and postest than the
Syllabication group.   This might indicate that the
List group's knowledge was significantly higher than
the Syllabication group's knowledge at the pretest
level, before any treatment was applied. Therefore, no
real difference in effectiveness may exist between
treatments and groups.   This is further supported

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by the fact that no significant difference was found

between any of the other treatment groups (See Table 2

& 3, chapter 4).

Classroom Implications

This study indicates that all three methods could

be used as successful approaches in the teaching of

spelling. Students were capable of recalling and

applying learning six weeks following the end of

initial instruction, even at differing levels of

ability.

If this information is taken in context with what

is currently known about spelling and its relationship

to reading and writing, teachers can develop a holistic

approach to the teaching of spelling. This is one that

not only includes formal instruction in spelling, but

also the opportunity to learn through reading and

writing.

Research Implications

In future research, a study could be developed
that would measure how much learning of spelling
students actually apply when writing. Another
important study would be how much spelling is actually
learned through reading. Both of these studies would
help educators develop a successful, well-researched
spelling program.

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Appendix A

Pretest/Posttest (keyed)

Name:

#1

1. government
2. grammar
3. adjective
4. immediate
5. interrupt
6. paragraphs
7. addresses
8. plural
9. waltzes
10. singular

#2

1. coupon
2. argument
3. arithmetic
4. lounges
5. autumn
6. averages
7. minimum
8. taxes
9. peaches
10. occupation

#3

1. banana
2. mathematics
3. believe
4. environment
5. calendar
6. experience
7. ministries
8. adverb
9. cowboys
10. kisses

#4

1. mosquito
2. fragile
3. oxygen
4. freight
5. persuade
6. sheriffs
7. marshes
8. properties
9. banjos
10. democracies

Give the correct plural forms for the nonsense nouns below:

1. chulach: chulaches
2. francheo: francheos
3. empity: empities
4. roaf: roaves
5. purless: purlesses
6. matlox: matoxes
7. readil: readils
8. suriff: suriffs
9. loay: loays
10. furlash: furlashes

Give the correct plural forms for the nouns below:

1. goose: geese
2. trash: trash
3. child: children
4. tooth: teeth
5. man: men
6. ox: oxen

Appendix B

Weekly tests

Name:

Week #1:   Week #2:

  1.   1.
  2.   2.
  3.   3.
  4.   4.
  5.   5.
  6.   6.
  7.   7.
  8.   8.
  9.   9.
10.   10.

Give the correct   Give the correct
plural forms for   plural forms for
the nonsense nouns   the nonsense nouns
below: below:

1. chloate   1. masach
2. morax   2. tunnay
3. flpoush   3. tuness
4. usuch   4. emprax
5. plees   5. shuasy

Give the correct
plural forms for the
nouns below:

1. sheep
2. rubbish
3. ox
4. man
5. child

Appendix C

Weekly Tests

Name:

Week # 3:	Week #4:
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.

Give the correct plural forms for the nonsense nouns below:

1. sublash
2. cafilio
3. sunapp
4. dinorax
5. platito

Give the correct plural forms for the nouns below:

1. tooth
2. alto
3. tomato
4. eskimo
5. mouse

Give the correct plural forms for the nonsense nouns below:

1. creatto
2. umplax
3. huncliff
4. oreamach
5. releaf

Give the correct plural forms for the nouns below:

1. goose
2. roof
3. grandchild
4. foot
5. belief