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SPELLING ATTITUDES AND ABILITIES OF SECONDARY STUDENTS

by
Michael C. Porter

A Thesis

Submitted in partial fulfillment of the requirements of the
Master of Science in Teaching Degree
of
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at
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Approved by _____
Professor

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ABSTRACT

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SPELLING ATTITUDES AND ABILITIES OF SECONDARY STUDENTS

2002/03

Dr. Thomas Monahan

Master of Science in Teaching

The purposes of this study were to a) gauge the attitudes of a group of high school seniors ($n = 211$) about the importance of spelling, which strategies they use to solve spelling problems, and the adequacy of spelling instruction at the high school level; b) assess the same group of seniors according to Ganske's developmental levels of spelling; and c) gauge the attitudes of high school language arts teachers in the same school ($n = 16$) about the importance of spelling and the adequacy of spelling instruction at the high school level, and to determine their spelling assessment practices. Most students judged spelling to be important and felt that spelling instruction during high school was insufficient. Most of the students were predicted to be in the highest developmental level of spelling, although 10% of the students were assessed as not being in an appropriate developmental stage for their grade level. Teachers also judged spelling to be important and in need of increased attention during high school. Their assessment of student spelling varied, but most teachers usually penalized students for incorrect spelling on papers.

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CHAPTER 1

Introduction

While once the quiet, neglected handmaiden to higher profile stepsisters, spelling has recently attracted the attention of researchers and teachers. Because of its visibility, spelling has often been viewed as a representation of literacy in general. Lately, it also has been a prominent touchstone in the debate between advocates of whole language and traditional language arts instruction (Templeton & Morris, 1999). The historically dismissive attitude of psycholinguists toward spelling is changing, and many researchers are beginning to recognize spelling as a complex multifaceted skill and are paying more attention to the cognitive processes involved in acquiring it (Kamhi & Hinton, 2000). From a classroom perspective, spelling is one of the skills taught in school that has the most long lasting and visible effects on a student's life. While a person's ignorance of the process of photosynthesis or the causes of the War of 1812 is seldom a cause for embarrassment in his or her post-school life, misspellings often are. Rightly or wrongly, the public often considers spelling to be the hallmark of an educated person (Maxwell & Meiser, 2000). Even as early as second grade, students themselves begin to view negatively writers who misspell (Varnhagen, 2000). Furthermore, good spelling is a necessary skill for both higher education and the workplace (Chandler, 2000).

Given its importance, why does instruction in spelling end for most students after elementary school? Although most schools emphasize the incorporation of vocabulary study into all of the content areas, concentrated study of spelling patterns and principles

is almost non-existent at the secondary level (Milner & Milner, 1999). This is particularly unfortunate because, as some researchers point out, only at the secondary level do students have the experience and intellectual maturity to learn some of the more complex spelling principles (Maxwell & Meiser, 2000). In my own experience in middle and high school classrooms, students frequently expressed frustration about their problems with spelling.

Is there a place for spelling instruction at the secondary level? One goal of this study was to determine whether teachers and students perceived a need for instruction in spelling at the secondary level. Another goal was to determine whether, aside from their opinions, students' spelling abilities demonstrated the need for further spelling instruction. The purpose of this study, broadly stated, was to assess, by addressing the following questions, the need to incorporate instruction in spelling in the language arts curriculum at the secondary level:

- At what developmental levels are high school seniors spelling?
- How competent do high school seniors perceive themselves to be as spellers?
- Do high school seniors perceive a need for additional instruction in spelling during high school?
- How frequently do high school seniors encounter words that they don't know how to spell?
- What strategies do high school seniors employ when confronted with a word that they don't know how to spell?
- What are the beliefs and attitudes about spelling of students who are assessed as poor spellers?

- How important do secondary teachers consider spelling to be?
- To what extent do secondary teachers hold students responsible for correct spelling in their work?
- What change, if any, have secondary teachers perceived in the spelling abilities of their students?
- Do teachers consider the attention presently given to development of spelling skills during high school sufficient?

CHAPTER 2

Review of the Relevant Literature

Published research in spelling assessment, instruction, and attitudes at the secondary level is limited. Interest in the development of spelling skills and the best pedagogical methods for developing them at the elementary level, however, have been increasing for the past 20 years. Fortunately, much of this research can serve as a helpful foundation for my research questions.

Appreciating the need for spelling instruction at the secondary level requires an understanding of why spelling is difficult, how spelling is connected to literacy overall, how skill at spelling develops, and how spelling has traditionally been taught.

Difficulty of English Spelling

A good preliminary question is why some students have difficulty with spelling. At least part of the problem can be attributed to the particular difficulty of learning the spelling of English, whose orthography is considered one of the most challenging of any language. Block (2001) sums up some of the reasons for its difficulty:

- Spelling must be attended to along with other cognitive tasks, such as writing and paragraphing. The amount of practice students spend on spelling is limited, because they speak and listen three times as much as they write.
- Young children receive positive reinforcement when learning oral language, but receive negative reinforcement, or even punishment, when learning written language.

- The English language is a particularly thorny one to spell. Its 26 letters must combine in hundreds of different patterns to represent 44 to 46 sounds and more than 26 dialectical variations: for the 21 single consonant sounds in English there are 68 spellings, and for the five single short vowel sounds there are 53 spellings.

This situation is complicated by the English language's high concentration of foreign words, which became part of the language with their irregular spellings intact. These factors limit the effectiveness of spelling a word based on how it sounds: using a phonological strategy alone will enable a student to spell only 70% of the words in the English language correctly (Joshi, 1995).

Why is it important for students to overcome these difficulties? One important reason, especially given the current emphasis on literacy, is the connection between spelling and reading.

Spelling and Reading

The connection between reading and spelling has generated much interest and some dissension. A strong correlation exists between good spelling and good reading ability; indeed, reading ability is the strongest predictor of spelling ability (Kamhi & Hinton, 2000). As children read, they are exposed to the orthographic patterns that they must replicate in their spelling (Masterson & Apel, 2000). Some researchers conclude, therefore, that reading and writing draw on the same base of word knowledge (Templeton & Morris, 1999). Other theorists point to the paradox of good readers who are poor spellers and argue that two cognitive processes with separate lexicons are involved. After reviewing recent studies examining the paradox, however, Kamhi and Hinton (2000) conclude that good readers who meet criteria of poor spelling are in fact only good at one

aspect of reading (decoding or comprehension). Smith (1998) argues that a direct correlation exists between how well a student reads and how well he or she spells. Identifying students who are poor spellers, therefore, might have the additional benefit of identifying students who are poor readers as well. Recent research, which has suggested that learning spelling requires a variety of cognitive processes and is accomplished in distinct stages, provides a tool for identifying these students (Ganske, 1999; Kamhi & Hinton, 2000).

Spelling Development

Psycholinguists have recently acknowledged the complicated cognitive process that correct spelling involves and the different kinds of knowledge it requires. In addition to phonological and orthographic knowledge, spelling requires knowledge of language (semantic, morphologic, and syntactic); basic cognitive processes, such as the ability to use analogies; and visual memory (Kamhi & Hinton, 2000). A variety of observations has even supported the theory of a genetic component to spelling disabilities (Raskind, 2001).

One of the most significant recent findings of spelling research is the discovery that spelling is a skill that develops in distinct stages. While most researchers concede this, the precise numbers and names of these stages, as might be expected, differ among theorists (Templeton & Morris, 1999; Bear, Invernizzi, Templeton, & Johnston, 2000; Tompkins, 2000; Heller, 1999; Block, 2001; Treiman & Bourassa, 2000). They do, however, generally agree about the general trends and milestones of the development of spelling skill, as can be seen from a quick review of the leading theories of spelling development.

Templeton (1999) argues that students progress developmentally from a concrete to a more abstract level of understanding about spelling. At the initial concrete level, students identify spelling exclusively with the sounds of words and invent spellings in their writing, such as *bol* for *ball* or *enuf* for *enough*. Students progress to the next level when they learn that groups or patterns of letters combine to represent sounds, such as when a silent *e* combines with *i* to make a long vowel sound in *kite*. At this stage students also learn the syllable pattern and how words are formed with prefixes and suffixes. At the final level students come to understand that elements in words that share the same meaning share the same spelling, despite differences in pronunciation, as in *critic* and *criticize*. Templeton (and others) have made the interesting observation that this progression of the individual speller mirrors the historical development of English spelling in general (Cummings, 1988).

Tompkins (2000), adapting Bear et al. (2000), cites five stages of spelling development. During the *emergent* spelling stage, children progress from drawing letters and letter-like forms, which they do not associate with sounds, to being aware of how spelling works and understanding that letters represent word sounds. In the *letter name* spelling stage, children learn to represent phonemes (the sounds that make up words) with letters. Their initial spellings are abbreviated severely (e.g., *ke* for *cookie*) and represent the most prominent features in words. Students begin to capture long vowel patterns and more complex consonant sounds during the *within word pattern* spelling stage. During the *syllables and affixes* spelling stage, students apply what they have learned about one-syllable words to longer words, learn about inflectional endings, and are introduced to the more common prefixes and suffixes. During the final stage,

derivational relations spelling, students are introduced to the relationship between spelling and meaning and learn that words with related meanings are often related in spelling as well.

Block (2001) also divides the development of spelling skills into five stages. During the initial pre-communicative stage, children merely scribble and do not understand that writing is composed of individual letters. During the semi-phonetic stage, children first realize that letters, as opposed to lines or numbers, are used for spelling and begin to use one or more letters to represent words. During the phonetic stage, students use the basic phonograms, although their spelling is still not conventional. In the fourth transitional stage, students pay more attention to visual patterns, clues in words and sentences, and the basic rules of English orthography. Students start to understand the idiosyncrasies of English spelling during the final correct spelling stage, usually between eight and nine years of age. Heller's (1999) stages closely follow Block's, although she condenses the five stages into four.

Presumably, most high school students have reached the final stage of spelling. Some students, particularly in lower level language arts classes, may be "stuck" at some of the lower stages. Discovering this, one of the goals of this study would have important implications for the need for spelling instruction at the secondary level. Spelling instruction with these developmental stages in mind has only recently begun to find its way into the classroom and replace the traditional instruction of spelling based on rote memorization (Traynelis-Yurek & Strong, 1999).

Traditional Spelling Instruction

Traditionally, the procedure used to teach spelling in most language arts classes was to assign students to memorize a weekly list of words, then to administer a pretest and a final test to assess their word knowledge. The goal of this approach was that by the sixth grade students would have been taught and assessed on more than 97% of all the words they would use in their writing, both as children and adults. One of the major limitations of this approach was that while students may have memorized the spelling of words for their spelling test, they often did not integrate the words into their writing in a meaningful way. Neither did they understand the principles behind the spelling of words. Recent research, however, has shown that learning to spell effectively requires not just memorization of words, but also understanding these principles. The result has been an instructional emphasis on patterns that can be detected in words, rather than on how to spell words individually (Templeton & Morris, 1999). Consequently, in the late 1980s, both the philosophy and strategies of teaching spelling began to change (Block, 2001).

Invented Spelling

One of the most significant of these changes was the widespread acceptance of invented spelling, the practice of encouraging beginning writers to write freely without worrying about the exact spelling of the words that they use. One of the most common arguments supporting this practice was that by focusing on mistakes in students' writing and insisting that words used be spelled correctly, teachers were stifling the creativity of students and forcing them to limit themselves to the use of words that they knew how to spell (Laminack & Wood, 1996; Traynelis-Yurek, Strong, 1999).

Although this practice has come under heavy criticism by board members and parents alarmed at their children's error-ridden journals and tests, recent research

indicates that invented spelling does more than free students creatively. When students attempt to represent their speech in writing, they begin to use language principles and to apply phonics in an authentic context (Block, 2001; Templeton & Morris, 1999). If the developmental theory of spelling is correct and children master conventional forms of literacy gradually through approximation, then invented spelling, rather than being a subversion of conventional spelling, is one of the approximations that students make (Sipe, 2001). Sipe likens the process of a student learning to spell to a camera lens that slowly comes into focus and also compares this gradual process to a child's early attempts at making meaning through speech, as when adults appreciate "wa-wa" as an important step toward the child using the word "water." Block (2001) supports an active appreciation of students' initial forays into the thicket of English spelling, calling students' invented spelling their hypotheses about the principles of our writing system. Gentry (2000) suggests the usefulness of invented spelling for literacy assessment, arguing that invented spelling allows assessment not only of spelling, but also aspects of phonemic awareness, phonics, and writing.

Invented spelling in practice, however, is somewhat problematic. As children improve their spelling skills, they gain fewer benefits from invented spelling (Clarke, 1988). The question arises, therefore, of how long students should be allowed to use invented spelling before being expected to use conventional spelling (Templeton & Morris, 1999). Another problem is that many teachers who use invented spelling do not offer children adequate instruction in how to improve their spelling (Block, 2001). Students themselves, however, become aware very quickly of the existence of conventional spelling (Templeton & Morris, 1999). Without concentrated spelling

instruction, however, many students carry their poor spelling skills through elementary and into secondary school, where these skills are, for the most part, not addressed at all, let alone improved.

Spelling Instruction in the Secondary School

In high school, teachers usually devote less time to systematic language exploration and limit spelling instruction to editing text. Some researchers decry this deemphasis (Maxwell & Meiser, 2000, Solley, 2000). In the upper grades students are better able to understand more sophisticated approaches to spelling that involve analysis and generalization (Hughes & Searle, 1997). Maxwell and Meiser (2000, p. 162) point out that “some aspects of spelling are learned best at the secondary level, when students have both greater intellectual maturity and life experience.” Milner and Milner (1999, p. 319) conclude that the complexity of spelling rules “makes it a task better undertaken in later grades by students with more intellectual capacities.” Chandler (2000, p. 88) argues that because the process of learning to spell well is complicated, it requires the “explicit consideration of secondary teachers” and that holding secondary students accountable for correct spelling without helping them to become better spellers is an abdication of a teacher’s responsibility. The first step in helping secondary students is to assess their present skills.

Assessment of Spelling Skills

Three basic methods are used to determine the status of a student’s spelling skills according to age or grade expectation (Masterson & Apel, 2000). In *dictation*, an examiner reads aloud a list of words and instructs students to write the spelling of each. The advantage of dictation using special word lists is that it enables assessment of

specific types of spelling knowledge that occur at different developmental levels.

Because no single comprehensive list exists to gather all the relevant data, testing from a list is best viewed as a starting point of assessment. In *connected writing*, the student must generate text of his or her own in response to a picture or to retell a story he or she has just heard. This method provides a way of assessing student spelling in a meaningful context. In *recognition*, a student is given a group of words containing the correct spelling along with several misspellings and is asked to choose the correct spelling. This method has been criticized or dismissed altogether because the task of identifying misspelled words, while important, is a skill different from formulating spellings (Moats, 1998). Joshi (1995) argues that decoding skill and comprehension skill are the two fundamental components of reading ability and that proper assessment isolates these two components from each other.

Determining the level of a student's ability is not sufficient for effective intervention; describing his or her specific spelling skills is a crucial part of assessment (Masterson & Apel, 2000). A qualitative analysis of the words that a student misspells helps to reveal his or her developmental stage or spelling skills (Joshi, 1995). Several taxonomies exist for describing these skills. Some are based on the linguistic category of the intended form, while others are based on an analysis of the invented spelling used by the student. Bear et al. (2000) concentrate on feature analysis; specific orthographic features relevant to the spelling level of the student are used to assess a student's mastery of them. Masterson and Apel (2000), on the other hand, argue that the best way to assess spelling skills is to collect a sufficiently large sample of a student's writing (50 to 100

words) and examine it for patterns of spelling errors, which will become the focus of intervention.

Another recent trend in assessment of spelling has been authentic or alternate assessment (Joshi, 1995). Proponents argue that the best way to assess students' spelling achievement is to carefully monitor their spelling in written products such as journals and tests (Ediger, 2001). A student's misspelled words may then be used as a basis for assessing his or her developmental stage and for appropriate intervention. This approach is somewhat impractical, however, because of the amount of time and record keeping it requires.

A more limited, but valid and convenient assessment is Ganske's (1999) Developmental Spelling Analysis [DSA], a simple assessment instrument that diagnoses a student's developmental stage. Ganske (2000) follows Block in listing five stages, but uses the following names for them: emergent, letter name, within word pattern, syllable juncture, and derivational constancy. The DSA's Screening Inventory is composed of 20 words carefully selected to assess a student's knowledge of the salient features of each developmental stage. The Screening Inventory has been found to identify a student's developmental stage with 90% accuracy (Ganske, 1999). Because of its ability to provide a quick, accurate identification of a student's developmental spelling stage, the Screening Inventory served as an excellent tool for answering one of the key questions of this study: how well do high school seniors spell? Another significant virtue of this instrument is that it provides a context for a student's spelling ability, rather than just a measure of which words a student cannot spell correctly and suggests specific spelling features for

instruction. This instruction will only occur, however, in an environment in which there is a will to address spelling skills. Does this will exist?

Teacher and Student Attitudes about Spelling

In the relatively few studies done, both students and teachers have expressed concern about spelling abilities. In a study of elementary students, Varnhagen (2000) found that negative attitudes about misspellings started as early as second grade and increased across the elementary grades tested. Do these negative attitudes about poor spelling translate into increased attention to correct spelling? Apparently not; the perception of many teachers is that students today spell more poorly than students did in the past. Seventy-three percent of one group of 42 experienced teachers expressed this belief (Johnston, 2001). Twenty-six percent of them attributed this decline to the use of invented spelling, and 12% attributed it to a lack of accountability, which may also relate to invented spelling. And while both the International Reading Association and the National Council of Teachers of English gave spelling a key role in their *Standards for the English Language Arts*, a 1996 survey found that very few states have adopted these standards (Traynelis-Yurek & Strong, 1996).

Spelling, then, is a complex skill that is worth considering because of its link to overall literacy. It develops in stages that can be measured and can serve as a basis for instruction. Until recently, instruction in spelling did not take these stages into account either by assessing them or directing attention at helping students progress from stage to stage. Consequently, current high school students may be in lower developmental stages and may need instruction in spelling principles. Fortunately, they also possess cognitive abilities that may make these principles easier to understand than when they were

younger. Hence, the primary purpose of this study is to determine a) whether an assessment of high school seniors using Ganske's Inventory Screening demonstrates a need for further instruction in spelling, based on the developmental stages of most seniors and b) whether high school students themselves and their teachers perceive a need for further instruction in spelling.

CHAPTER 3

Methodological Approach

Research Site and Subjects

Two groups of subjects participated in the study: high school seniors and grade 9-12 language arts teachers at the site of the researcher's student teaching – a large, suburban high school in New Jersey. The racial composition of the school district is 89% white, 6% black, 4% Asian, and 2% Hispanic. Twelve percent of the district's students are involved in special education. Seniors were selected as the target research group for assessment because they have achieved the maximum amount of instruction in spelling provided at the secondary level. Language arts teachers were selected for the opinion survey because, by the nature of their content area, they are likely to have a high interest in and knowledge of the need for spelling skills at the secondary level.

Implementing the project required negotiations with students, their parents, teachers, and school administrators. Permission for the project was obtained from the school principal and the district language arts supervisor after they were informed of the project's rationale, methodology, requirements, and intended consequences. The research was explained to teachers whose classes were selected as part of the cluster sample, and they were given the option to participate or not. None of the teachers approached opted not to participate. The research was described to parents in a consent letter sent home with students younger than 18 years of age. Finally, before data collection, the purpose of the research was discussed, and students were given the option to participate or not. Only

two of the students present in the classes selected as part of the cluster sample on the day that data were collected did not participate; in both cases because they entered class midway through the spelling assessment.

Data Collection Procedure

The following sections describe how data were collected from the students and teachers in the study.

Sample. At the school where the research was conducted, seniors are grouped by ability into six levels of instruction. From highest ability to lowest ability, the levels are Advanced Placement, Advanced English, College Preparatory English A, College Preparatory English B, Language Arts Literacy, and Literacy and Composition. Thirty-six senior language arts classes are grouped as follows:

- Advanced Placement – 2 classes
- Advanced English – 7 classes
- College Preparatory English A – 9 classes
- College Preparatory English B – 12 classes
- Language Arts Literacy – 5 classes
- Literacy and Composition – 2 classes

Because of the difficulty of assessing and surveying students in all 37 classes, a cluster sample of 13 classes was selected as follows:

- Advanced Placement – 1 class
- Advanced English – 3 classes
- College Preparatory English A – 3 classes
- College Preparatory English B – 4 classes

- Language Arts Literacy – 1 class
- Literacy and Composition – 1 class

Specific classes were randomly chosen for the cluster sample from the total number of classes in each level. A total of 211 students participated in the survey and assessment (103 female and 108 male).

In addition, all 25 tenured 9-12 grade language arts teachers at the high school were surveyed about spelling at the secondary level.

Instrumentation. Students in the selected classes were given a consent form (Appendix 1) to be signed by their parents, or by the students themselves if they were older than 18 years of age. The consent form was distributed two days before the administration of the survey and assessment. Consent forms were collected and held for the researcher by the subjects' language arts teachers. Students who had not signed the consent form or obtained a parent's consent did not participate in the survey or assessment.

Subjects completed a survey (Appendix 2) that assessed the following:

- Student attitudes about their own spelling ability
- Student attitudes about the importance of spelling
- Frequency with which students encounter spelling problems
- Strategies students use to help them with spelling problems
- Student attitudes about the adequacy of spelling instruction during high school.

Subjects completed the survey during their language arts class on a day agreed upon by the researcher and the teacher. Prior to data collection, the researcher read aloud the following statement, which was also printed at the top of the student survey:

This survey is being carried out as part of a master's degree research project. While your participation is voluntary and you are not required to answer any of

the questions, your cooperation and participation are important to the success of the project and are greatly appreciated. If you choose to participate, please understand that all responses are strictly confidential and no personally identifiable information is being requested and none will be reported. If you choose not to participate, or change your mind about participating, you are assured that your decision will have no effect on your grade, your standing in class, or any other criteria associated with this class. If you agree to participate, simply complete the survey and assessment and return them as instructed. If you choose not to participate, do not complete the survey and assessment, but still return them as instructed. In either case, do not place your name or any other identifying information on this survey.

Subjects were instructed to complete the questions on the survey and to turn the paper over on their desks to indicate completion of the survey. After all of the students in the class had finished the survey, the instructor read aloud the following statement:

I am going to say some words that I want you to spell for me. Some of the words will be easy to spell, and some will be more difficult. When you don't know how to spell a word, just do the best you can. Each time, I will say the word, then use it in a sentence, and then I will say the word again.

The researcher then read aloud the words and sentences from the student spelling assessment (Appendix 3) and gave students adequate time to write down their spelling attempts. Developmental spelling stage was predicted based on the following scoring system (Ganske, 2000):

- 0-4 Letter name stage
- 5-6 Transition between letter name and within word stages
- 7-9 Within word stage
- 10-11 Transition between within word and syllable juncture stages
- 12-14 Syllable juncture stage
- 15-16 Transition between syllable juncture and derivational constancy stages
- 17-20 Derivational constancy stage

For the purposes of this study a “poor speller” was the designation given to any student who was not spelling at the derivational constancy stage (i.e., scores less than 17), a stage which students typically reach in the seventh or eighth grade (Ganske, 1999).

Teachers completed a survey (Appendix 4) that assessed the following:

- The degree to which they assessed spelling in their class
- Their opinion about how the spelling abilities of students had changed
- Their assessment of the need for additional instruction in spelling
- Their opinion about whether spelling was taught adequately at the secondary level

Teachers received a copy of the survey in their mailbox with a disclaimer similar to the one used above.

Analysis. The assessments of students’ spelling were corrected manually by checking their spelling attempts, then tallying the number of words spelled correctly and incorrectly. Frequencies and percentages were obtained for both the students’ and teachers’ surveys using SPSS.

CHAPTER 4

Findings and Discussion

Findings

Spelling Ability. According to the assessment of spelling ability, a large majority of students (almost 90%) had reached the final developmental level (derivational constancy). In fact, most of the students (55.9%) spelled all 20 words correctly. More than 10%, however, had not achieved the derivational constancy level. The lowest score was 7 words out of 20 spelled correctly. As indicated, some students scored in ranges suggesting that they could be in either of two developmental levels (see Table 1).

Table 1
Analysis of Student Spelling Assessment

Developmental Spelling Level	Frequency	Percent
Derivational constancy	189	89.6
Syllable juncture/Derivational constancy	9	4.3
Syllable juncture	5	2.4
Within word/Syllable juncture	3	1.4
Within word	5	2.4
<u>Total</u>	211	100

Importance of Spelling. Only one respondent rated spelling as “not at all important.” All other respondents considered it to be at least “somewhat important.” Most students (75.9%) rated spelling as either “important” or “very important” (see Table 2).

Table 2

Analysis of Spelling Importance

Importance of spelling	Frequency	Percent
Very important	59	28.0
Important	101	47.9
Somewhat important	50	23.7
Not at all important	1	.5
<u>Total</u>	211	100

Opinion of spelling skill. A fairly large majority of students (73.5%) responded that they “wished that they were a better speller”; 26.5% responded that they did not. Self-ratings of their spelling skills were fairly evenly distributed. Only 2.8% of the students rated themselves as having “very poor” spelling skills (see Table 3).

Table 3

Analysis of Student Opinion of Spelling Skill

Wish you were a better speller?	Frequency	Percent
No	56	26.5
Yes	155	73.5
<u>Total</u>	211	100
Opinion of spelling skill	Frequency	Percent
Very well	47	22.3
Well	67	31.8
Average	67	31.8
Poorly	24	11.4
Very poorly	6	2.8
<u>Total</u>	211	100

Frequency of spelling problems. More than one third of the students surveyed claimed to “hardly ever” need to write a word that they’re not sure to spell. A very small percentage (4.7%) reported encountering difficulty spelling words on a very frequent basis (“several times every day;” see Table 4).

Table 4
Analysis of Frequency of Spelling Problems

Frequency of writing a word not sure how to spell	Frequency	Percent
Several times every day	10	4.7
A few times every day	27	12.8
Several times every week	22	10.4
A few times every week	74	35.1
Hardly ever	78	37.0
<u>Total</u>	211	100

Spelling Strategies. Students surveyed did not, for the most part, often use the three surveyed methods of arriving at the correct spelling of a word of whose spelling they are uncertain (using a dictionary, asking another student or teacher for help, and thinking of a similarly sounding word). Findings suggest that dictionaries, in particular, are gathering dust: Only 5.2% of the students surveyed said that they used a dictionary “often” or “very often.” Students were somewhat more inclined to ask for help from another student or teacher and think of a word similar to the one they are trying to spell than they were to use dictionaries (see Table 5).

Table 5
Analysis of Student Spelling Strategies

	Use a dictionary?		Ask for help?		Think of a similar word?	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Very often	2	.9	6	2.8	7	3.3
Often	9	4.3	35	16.6	23	10.9
Sometimes	40	19.0	73	34.6	75	35.5
Hardly ever	101	47.9	75	35.5	56	26.5
Never	59	28.0	22	10.4	50	23.7
<u>Total</u>	211	100	211	100	211	100

Sufficiency of spelling instruction in high school. A fairly large majority of students said that not enough attention was paid to spelling in high school (see Table 6).

Table 6
Analysis of Sufficiency of High School Spelling Instruction

Enough attention paid to spelling in high school?	Frequency	Percent
No	149	70.6
Yes	61	28.9
<u>Total</u>	210 (1 respondent did not answer this question)	98.5

Characteristics and attitudes of poor spellers. The characteristics and attitudes of students who demonstrated poor spelling skills (i.e., scored fewer than 16 correct words) were of special interest, so their data, along with being considered as part of the total student population, were analyzed in isolation from students who demonstrated competence at the appropriate developmental level. Almost 60% of the poor spellers were males. A large percentage of them (almost 60%) rated themselves as average spellers or better. All of them rated spelling as at least “somewhat important” (see Table 7)

Table 7
Analysis of Characteristics of Poor Spellers

Gender	Frequency	Percentage
Female	9	40.9
Male	13	59.1
<u>Total</u>	22	100
How well do you do as a speller?	Frequency	Percentage
Very well	1	4.5
Average	12	54.5
Poorly	8	36.5
Very poorly	1	4.5
<u>Total</u>	22	100
How important is spelling?	Frequency	Percentage
Very important	4	18.1
Important	10	45.5
Somewhat important	8	36.4
Not at all important	0	0
<u>Total</u>	22	100
Do you wish you were a better speller?	Frequency	Percentage
No	5	22.7
Yes	17	77.3
<u>Total</u>	22	100
Enough attention to spelling in high school?	Frequency	Percentage
No	16	72.7
Yes	6	23.7
<u>Total</u>	22	100
Class	Frequency	Percent
College Prep. A	1	4.5
College Prep. B	7	31.9
Language Arts and Literature	5	22.7
Literature and Composition	9	40.9
<u>Total</u>	22	100

Teacher attitudes toward spelling. Of the 25 teachers who received surveys, 16 completed and returned them, one returned a blank survey, and eight did not respond. All agreed that spelling was at least somewhat important (see Table 8).

Table 8
Analysis of Teacher Attitudes Toward Spelling

Importance of spelling	Frequency	Percent
Somewhat important	1	6.2
Important	7	43.8
Very important	8	50
<u>Total</u>	16	100

Assessment of spelling. The spelling assessment practices of the 15 teachers who responded to the questions about when they penalized students for spelling errors varied considerably. Most teachers did not place strong emphasis on correct spelling in students' examinations or journals. The teachers' practices seemed to be most consistent in penalizing for spelling errors in students' papers (see Table 9).

Table 9
Analysis of Teacher Spelling Assessment Practices

	Penalize spelling errors on examinations?		Penalize spelling errors in papers?		Penalize spelling errors in journals?	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Always	1	6.7	11	73.4	2	13.3
Usually	3	20.0	2	13.3	1	6.7
Sometimes	9	60.0	2	13.3	1	6.7
Never	2	13.3	0	0	11	73.3
<u>Total</u>	15	100	15	100	15	100

Change in spelling abilities in last 5 years. Teachers overwhelmingly agreed that students' spelling skills had declined in the last 5 years (see Table 10).

Table 10
Analysis of Teacher Opinion of Changes in Spelling Abilities

What changes have you noticed in spelling in the last 5 years?	Frequency	Percentage
Decline	14	87.5
Improvement	2	12.5
No change noticed	0	0
<u>Total</u>	16	100

Degree of change. Although they agreed that spelling skills had changed, teachers surveyed differed on the degree of that change, with a clear majority of teachers (62%) stating that they had observed “substantial” or “much” decline in spelling skills (see Table 11).

Table 11
Analysis of Teacher Opinion of Degree of Change in Spelling Skills

Degree of change?	Frequency	Percentage
Much improvement	1	6.3
Small improvement	1	6.3
Small decline	4	25
Much decline	6	37.4
Substantial decline	4	25
<u>Total</u>	16	100

Discussion

The results of the spelling assessment were encouraging: most students demonstrated an adequate grasp of basic spelling principles. In terms of the developmental stages of spelling delineated by Ganske (1999), almost 90% of respondents had reached the final stage (derivational constancy), which is appropriate for students at this level. According to Ganske (1999), some students reach this stage by the fourth grade, and most students reach it by the seventh or eighth grade. Thus, the high percentage reflected in the study’s findings is to be expected. Moreover, the results confirmed that over the course of their elementary and secondary education most students, whether by accident or design, progressed through all of the developmental spelling stages.

This does not mean, of course, that once a student reaches the derivational constancy stage no further work needs to be done in spelling. Indeed some of the most important work in an understanding of spelling principles occurs during this level,

particularly coming to a deeper understanding of the connection between spelling and meaning (Ganske, 2000). Students at the derivational constancy stage can concentrate their attention on the more complicated, less frequently encountered, but important words that they will need to comprehend in their reading of advanced texts and incorporate into their writing, both at the high school level and during college.

Despite the high percentage of students displaying competency in spelling, a significant number (10%) of the students demonstrated a definite need for remedial instruction in spelling. These students failed to spell at the derivational constancy stage, a stage appropriate for their grade level. More worrisome, 3.8% of the students assessed were not even spelling at the syllable juncture stage, a stage normally reached in the intermediate elementary grades (Ganske, 2000). This finding would be similar to discovering that a similar percentage of high school seniors are unable to solve long division problems in mathematics. In this study, students who were assessed as “poor spellers” (spelling fewer than 12 words correctly) were unable to spell correctly such basic words as the following: *grain*, *crawl*, *clerk*, *clutch*. These students are susceptible to the stigmatizing that accompanies bad spelling in college and the work world. More importantly, because of the connection between spelling and reading (Kamhi & Hinton, 2000), these students are likely experiencing similarly serious difficulty reading high school level texts. One of the most important implications of this study is that some students, though a minority, have enough difficulty with spelling to warrant identification and intervention to help them achieve more advanced stages.

The attitudes of these poor spellers suggest that many of them may not themselves be aware of their need for help or may need to be convinced of the importance of getting

help. More than half rated themselves as “average” spellers; one even claimed to spell “very well.” Nearly one fourth of them said that they did not wish they were better spellers. Finally, more than one third rated spelling as only “somewhat important.”

Both teachers and students demonstrated a belief in the importance of spelling. Of the 211 students surveyed, only one student considered spelling “not at all important.” The remaining 99.5% of respondents rated spelling as somewhat important (23.7%), important (47.9%), or very important (28.0%). Similarly, 93.8% of the responding teachers rated spelling as “important” or “very important.” The remaining single respondent acknowledged it to be “somewhat important.” This acknowledgement of the importance of spelling can serve as an impetus for increased attention to spelling, especially for those students lagging behind.

Further reinforcement of this belief in the importance of spelling is the finding that 73.5% of the respondents wished that they were better spellers. This large percentage is especially significant given that most students classified themselves as average or above average spellers. Even good spellers expressed an interest in sharpening their spelling skills. Again, this fairly widespread interest justifies increased attention to spelling. A fairly large majority (70.6%) of students surveyed supported additional spelling instruction at the high school level. Sixty-eight percent of the teachers who responded agreed that spelling was not adequately addressed at the high school level.

Part of the explanation for this desire to improve their spelling skills may be the frequency with which students encounter difficulty spelling words that they want to use in their writing. Although 37% claimed to “hardly ever” need to write a word, most students acknowledged needing to spell difficult words at least a few times every week.

This finding may be evidence of achievement of one of the major goals of invented spelling: developing in students the habit of using complex words that they do not necessarily know how to spell rather than restricting their vocabularies to more familiar, hence easily spelled, words (Laminack & Wood, 1996).

One curious finding is that, despite their belief in the importance of spelling and a desire to be better spellers, most of the students surveyed do not seem to work very hard at taking basic steps to strengthen their spelling skills. Among the students surveyed, dictionaries, for example, are woefully underused: only 5.2% of the respondents used the dictionary “often” or “very often” to help them spell difficult words. It is difficult to reconcile students’ stated beliefs in the importance of spelling and the desire to be better spellers with this reluctance to use one of the most simple, easily available tools for spelling.

The lack of reliance on dictionaries is especially interesting given the responses of teachers concerning when and how they are most likely to emphasize correct spelling in students’ works. The findings show that teachers are far more rigorous in their enforcement of correct spelling when evaluating student papers, as opposed to student journals or examinations. Unlike journals and examinations, which students generally handwrite and work on in class, students largely write their papers outside their English classes. Furthermore, most teachers expect students to prepare such assignments using personal computers. Most word processing software programs have built-in spell checking programs. These devices, while not infallible, have replaced student use of and reliance on reference sources, such as dictionaries, for checking their work. One teacher

explicitly attributed the decline of spelling to the rising use of computers by students in an (unsolicited) comment on his survey.

Coinciding with heavier reliance on spell checking software is the increasing use of the Internet and electronically-based programs (e.g., CD-ROMs) for research and fact-checking when preparing papers. While this development may not directly correlate with problems with spelling, it may be contributing to a lessened familiarity with and reliance on traditional text-based reference sources, including dictionaries, encyclopedias, and thesauri. Because current students are using text-based sources for complex assignments less frequently than previous generations of students did, they also may be using these sources less often for simple, but important, tasks, such as checking the spelling of unfamiliar words. The influence of the reliance on technology over text sources suggested here might be a fruitful area for further research.

Perhaps students are reluctant to actually work at improving their skills because of the seemingly low priority given to assessment of spelling in their school work. Although most of the teachers surveyed penalized students for spelling errors in papers, the most easily controlled written products that students develop, fewer teachers penalize students for spelling errors on examinations, and fewer still penalize students for errors in journals. Perhaps students perceive spelling to be a low priority in their written work and take a lax attitude toward it. In retrospect, asking if teachers correct spelling errors in the various written products their students submit, rather than just penalize them, might have been a useful finding to obtain.

Given the need and desire for additional spelling instruction at the high school level, what approach should be taken and what methods used to help students improve

their spelling skills during high school? The literature suggests several possibilities.

While some advocates of whole language instruction argue that instruction in spelling that is isolated from meaningful contexts is ineffective (Butyniec-Thomas, 1997; Solley, 2000), others argue that examination of words in isolation, as well as practice, is necessary for most students to develop awareness of and internalize spelling patterns (Templeton, 1999; Tompkins, 2000; Chandler, 2000; Block, 2001). Explicit instruction in spelling does not, however, require the resuscitation of a weekly spelling list and test.

Milner et al. (1999) agree that while explicit instruction in spelling is necessary, spelling lists are not the best way to instruct in spelling. They suggest three strategies that increase in abstractness and are more suitable to secondary students' maturity and development. The first strategy, *acquisition*, encourages students to read more text of almost any kind to move further along the developmental path of spelling skills and to process the words they read in context with more awareness. The second strategy, *mastery*, requires students to learn carefully selected sets of words. For example, a teacher may give students a list of 50 especially challenging words for secondary students and expect the students to start using them in class work to show competency in their spelling. The third strategy, *rules*, requires students to concentrate on learning a small set of complex rules. This strategy builds not only upon spelling, but also moves beyond the comprehension of lists of words to comprehension of discrete patterns associated with language (e.g., doubling a consonant before adding a suffix that starts with a vowel).

Exposing secondary students to orthographical principles and patterns is a common recommendation by researchers (Chandler, 2000; Ganske, 2000; Templeton, 1999). Doing so helps students to apply these patterns when reading unfamiliar words

and when trying to determine their spelling. Using a discovery approach for these rules is best, however, because students who articulate a rule in their own words are more likely to understand it (Chandler, 2000). Teacher-directed learning organizes students' examination of words to guide them to an understanding of how these principles and patterns work (Templeton, 1999). Chandler (2000) recommends instruction in the four spelling rules that are regular enough to teach to students as a starting point. These rules are as follows:

- Remembering the rules governing *ie/ei*
- Dropping *e* before suffixes
- Changing *y* to *i* before suffixes
- Doubling consonants before suffixes

Scott (2000) points out that the poorest spellers, especially, need instruction in these patterns and principles.

While most of the research on particular interventions and instructional methods is directed at elementary students, some of these strategies can be adopted for secondary students. Among those Chandler (2000) recommends are generating a class list of spelling strategies and helping students monitor their own use of these strategies, exploring patterns in spelling workshops, and having students keep personal spelling dictionaries. Topping (1995) developed a technique for peer tutoring that is applicable to students of all ages in which students work in pairs to learn self-chosen words. Tompkins (2000) suggests appointing one or two students as dictionary checkers to consult when spelling questions arise. This might be a useful strategy for increasing not only spelling competence, but also appropriate use of text-based language resources, which, as this

study suggests, is an area needing improvement. Wright (2000) advocates setting up a regular weekly spelling meeting to concentrate on spelling issues. Both Templeton (1999) and Tompkins (2000) extol the virtues of word sorts, an activity in which students sort words according to patterns.

Chapter 5

Conclusions

Results of the spelling assessment and survey point to both the need and desire for additional instruction in spelling during high school for students at all levels of spelling ability. Even students who demonstrated proficiency at the highest developmental spelling level expressed a desire to sharpen their spelling skills. Teachers concurred that more attention needs to be focused on spelling during high school, especially given a perceived decrease in spelling skill among students. More attention should be given in language arts classes not only to vocabulary, the traditional means of spelling education in high school, but also to an explicit analysis of orthographic principles from which all students can benefit. Enhanced instruction in and practice of the use of traditional text-based language resources should also be considered.

Some of the students clearly demonstrated a need to receive concentrated instruction in these basic spelling principles, which are usually mastered at a much lower grade level. Students experiencing such difficulties should be sought out and given the extra attention they need. This is an area in which teachers need to be especially vigilant, because the findings suggest that many of these students lack self-awareness about their problems with and performance of spelling.

One way to discover such students is to assess spelling skills regularly. Recently, some schools have adopted Ganske's developmental assessment and used it to monitor, document, and guide student word study throughout elementary school, grouping

students who are at the same developmental stage and giving them instruction targeted at helping them to progress (Ganske, 2000). Similarly, at the secondary level, Ganske's assessment can be used to locate students with spelling difficulties and target instruction to each student's specific needs. Ideally, a coordinated effort among schools would be implemented so that students with spelling difficulties are identified and assisted throughout their entire school career. In this way, disconnects between spelling instruction at the elementary and secondary levels could be eliminated, and at-risk students could have increased chances of receiving the guidance and reinforcement needed.

Changing attitudes of students and teachers about the importance of spelling will require a shift from some of the tendencies of a whole language approach, a shift that has recently been widely observed. This is not to cast the whole language approach to language arts as the villain in this scenario. Perhaps some simple modifications are adequate to boosting student spelling performance. In this study many students demonstrated a willingness to devote time and energy to improving spelling skills. Teachers and curriculum planners must act upon this good will and not squander it.

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Appendix 1

May 12, 2003

Dear Parent or Guardian:

I am writing to request permission for your child to participate in a research project that I am conducting in my graduate study for a master's degree. The purpose of the research is to discover the spelling abilities of high school seniors, as well as their attitudes about spelling and spelling strategies. I will be working in conjunction with your child's regular teacher and my Rowan University supervisor to ensure the validity and usefulness of this project

While your child is not required to participate in the research, his or her cooperation and participation are important to the success of the project and are greatly appreciated. If you choose to allow your child to participate, please understand that all responses are strictly confidential: no personally identifiable information is being requested and none will be reported. If you choose not to allow your child to participate, or change your mind about his or her participating, you are assured that your decision will have no effect on your child's grade, standing in class, or any other criteria in class.

If you agree to allow your child to participate, simply sign below and return this letter to me. If you would prefer that your child not participate, please indicate your preference below.

Thank you for your cooperation. If you have any questions, feel free to contact me through email (port3789@rowan.edu). You may also contact me if you wish to review the results of the project upon its completion.

Sincerely,

Michael C. Porter

My child _____

_____ has my permission to participate in Mr. Porter's spelling assessment and survey.

_____ does not have my permission to participate in Mr. Porter's spelling assessment and survey.

Signature: _____ Date: _____

Student: If you are 18 years of age or older you may consent to participate in this project without your parent's or guardian's permission. If you choose to do so, please sign the statement below.

I am 18 years of age or older and consent to participate in the research project described above. Signature: _____ Date: _____

Appendix 2

Spelling Survey

This survey is being carried out as part of a master's degree research project. While your participation is voluntary and you are not required to answer any of the questions, your cooperation and participation are important to the success of the project and are greatly appreciated. If you choose to participate, please understand that all responses are strictly confidential and no personally identifiable information is being requested and none will be reported. If you choose not to participate, or change your mind about participating, you are assured that your decision will have no effect on your grade, your standing in class, or any other criteria associated with this class. If you agree to participate, simply complete the survey, fold it in half and return it as instructed. If you choose not to participate, do not complete the survey, but still fold it in half and return it as instructed. In either case, do not place your name or any other identifying information on this survey.

1. Specify your gender: ☐ Female ☐ Male

2. How well do you think you do as a speller? *(Mark only one response)*

☐ Very well ☐ Well ☐ Average ☐ Poorly ☐ Very poorly

3. How important do you think it is to be a good speller? *(Mark only one response)*

☐ Very important ☐ Important ☐ Somewhat important ☐ Not at all important

4. Do you wish that you were a better speller? *(Mark only one response)*

☐ Yes ☐ No

5. How often do you have to write a word that you're not sure how to spell? *(Mark only one response)*

☐ Several times every day ☐ A few times every day
☐ Several times every week ☐ A few times every week ☐ Hardly ever

6. How often do you use a dictionary to find out how to spell a word? *(Mark only one response)*

☐ Very often ☐ Often ☐ Sometimes ☐ Hardly ever ☐ Never

7. How often do you ask a teacher or another student to help you spell a word? *(Mark only one response)*

☐ Very often ☐ Often ☐ Sometimes ☐ Hardly ever ☐ Never

8. How often do you try to think of a similar sounding word to help you spell a word? *(Mark only one response)*

_____ Very often _____ Often _____ Sometimes _____ Hardly ever _____
Never

9. Is enough attention given to improving spelling skills during high school? _____ Yes

_____ No

Thank you for answering these questions.

Appendix 3

Spelling Assessment

In addition to completing the survey of attitudes about spelling, 20 words will be read aloud to students who will be asked to spell the words to the best of their ability. Their answers will be used to estimate which developmental level of spelling they have achieved.

The following statement will be read before instructions are given regarding the assessment:

This assessment is being carried out as part of a master's degree research project. While your participation is voluntary and you are not required to answer any of the questions, your cooperation and participation are important to the success of the project and are greatly appreciated. If you choose to participate, please understand that all responses are strictly confidential and no personally identifiable information is being requested and none will be reported. If you choose not to participate, or change your mind about participating, you are assured that your decision will have no effect on your grade, your standing in class, or any other criteria associated with this class. If you agree to participate, simply complete the assessment and return it as instructed. If you choose not to participate, do not complete the assessment, but return it as instructed. In either case, do not place your name or any other identifying information on this survey.

The following instructions will be given regarding the assessment, followed by the words and sentences below:

I am going to say some words that I want you to spell for me. Some of the words will be easy to spell, and some will be more difficult. When you don't know how to spell a word, just do the best you can. Each time, I will say the word, then use it in a sentence, and then I will say the word again.

- | | |
|-----------------|---|
| 1. hen | The hen sat on her eggs. |
| 2. wish | The boy made a wish and blew out the candles. |
| 3. trap | A spider web is a trap for flies. |
| 4. jump | A kangaroo can jump high. |
| 5. brave | A brave dog scared the robbers. |
| 6. smile | A smile shows that you're happy. |
| 7. grain | One kind of grain is called wheat. |
| 8. crawl | The baby can crawl but not walk. |
| 9. clerk | The clerk sold some shoes to me. |
| 10. clutch | The clutch in the car needed fixing. |
| 11. palace | The king and queen live in a palace. |
| 12. observe | I like to observe birds at the feeder. |
| 13. shuffle | Please shuffle the cards before you deal. |
| 14. exciting | The adventure story I'm reading is very exciting. |
| 15. treason | The man was found guilty of treason. |
| 16. column | His picture was in the first column of the newspaper. |
| 17. variety | A grocery store has a wide variety of foods. |
| 18. extension | The workers need an extension ladder to reach the roof. |
| 19. competition | There was much competition between the two businesses. |
| 20. illiterate | An illiterate person is one who cannot read. |

Appendix 4

This survey is being carried out as part of a master's degree research project. While your participation is voluntary and you are not required to answer any of the questions, your cooperation and participation are important to the success of the project and are greatly appreciated. If you choose to participate, please understand that all responses are strictly confidential and no personally identifiable information is being requested and none will be reported. If you agree to participate, simply complete the survey, fold it in half and return it as instructed. If you choose not to participate, do not complete the survey, but still fold it in half and return it as instructed. In either case, do not place your name or any other identifying information on this survey.

Spelling Survey

1. Specify your gender: ☐ Female ☐ Male 2. How many years have you taught?

3. Which classes do you teach? _____

4. Which grade level(s) do you teach? _____ 9th _____ 10th _____ 11th _____ 12th

5. How important do you think it is to be a good speller? (Mark only one response)

_____ Very important _____ Important _____ Somewhat important _____ Not at all important

6. Do you penalize students for spelling errors on examinations?

_____ Never _____ Sometimes _____ Usually _____ Always

7. Do you penalize students for spelling errors in papers?

_____ Not Applicable _____ Never _____ Sometimes _____ Usually _____ Always

8. Do you penalize students for spelling errors in journals?

_____ Not Applicable _____ Never _____ Sometimes _____ Usually _____ Always

9. What change(s), if any, have you noticed in students' spelling skills within the last 5 years?

_____ Improvement, change for the better (go to question 9a)

_____ Decline, change for the worse (go to question 9b)

_____ No changes observed (go to question 10)

9a. To what extent have you observed improvement in students' spelling skills? (Mark only one)

_____ I have observed substantial improvement

_____ I have observed much improvement

_____ I have observed only a small degree of improvement

9b. To what extent have you observed a decline in students' spelling skills? (Mark only one)

_____ I have observed substantial decline

_____ I have observed much decline

_____ I have observed only a small degree of decline

10. Is enough attention given to improving spelling skills during high school? _____ Yes

_____ No

Thank you for answering these questions.