Spelling error corpora in EFL

Reima Al-Jarf

(College of Languages and Translation, King Saud University, Riyadh 11451, Saudi Arabia)

Abstract: Spelling error corpora can be collected from students' written essays, homework, dictations, translations, tests and lecture notes. Spelling errors can be classified into whole word errors, faulty graphemes and faulty phonemes in which graphemes are deleted, added, reversed or substituted. They can be used for identifying phonological and orthographic problems; spelling strategies that EFL students use in spelling English; spelling error causes or sources and relationship between spelling and decoding weaknesses. The paper gives examples of spelling errors and shows how spelling errors are quantified. Recommendations for remediation are also given.

Key words: spelling; error corpus; EFL; phonological errors; orthographic errors

1. Introduction

Spelling errors in the first and second languages have been the focus of many studies. Since the 1920's, several spelling errors corpora have been available in the literature. For example, the Birkbeck spelling error corpus (Mitton, 1985) is collection of files that contains 36,133 misspellings of 6,136 words gathered from various sources, available as separate files with detailed documentation from the Oxford Text Archive (Mitton, 1985). It includes the results of spelling tests and errors from free writing, taken mostly from schoolchildren, university students or adult literacy students. It includes native and non-native English-speakers' error corpora. Examples of native speakers' error sub-corpora are:

(1) CHES: Misspellings of 30 words by 200 10-year-old children in England and Wales. These children were a random sample from the several thousands tested in the Child Health and Education Survey in 1980.

(2) NFER: Misspellings made in two short dictations by 80 adult literacy students in England and Wales—a sample from a survey conducted by the National Foundation for Educational Research in 1978-1979.

(3) PERIN: Three sets of material collected by Dolores Perin in research conducted in the late 1970s: (a) A dictation and a piece of constrained writing from 36 secondary-school leavers and from 6 adult-literacy students; (b) Misspellings from free writing by 6 adult-literacy students; (c) A spelling test of 40 words from about 170 students in London secondary schools.

(4) PETERS: Two samples of the material collected by Margaret Peters in primary and secondary schools in Cambridge in the 1960s: (a) Misspellings from about 150 children in spelling tests and dictations at the ages of 9, 10 and 11, and in a spelling test and a piece of free writing at age 15 (i.e., each child at four different ages); (b) Misspellings from short compositions by over 900 15-year-olds.

(5) FAWTHROP: Two files supplied in computer-readable form by David Fawthrop, collected in the course of his research into spelling correction at Bradford University: (a) A compilation of four collections of American spelling errors, already in published form; (b) A collection of misspellings from the writing of three British people,

Reima Al-Jarf, professor of College of Languages and Translation, King Saud University; research fields: technology integration in language teaching, error analysis and reading in L1 and L2.

all of whom considered themselves to be poor spellers.

(6) GATES: The most common misspellings of 3876 words taken from spelling tests given to schoolchildren in New York City in the 1930s; this material was taken from the book *A List of Spelling Difficulties in 3876 Words*, by Arthur I. Gates (1937).

(7) HOLBROOK: Passages taken from the creative writing of about 20 children in a British secondary school in the 1960s, published (with their original misspellings) in *English for the Rejected* by David Holbrook (1964).

(8) SHEFFIELD: A list of about 380 misspellings, mostly keying errors, taken from typewritten or computer-terminal input, collected from staff and students in the Department of Information Studies of Sheffield University by Angell, Freund and Willett as part of a piece of research into spelling correction.

(9) WING: Misspellings from essays written by 40 candidates in the Cambridge University Entrance Examinations in 1976. This corpus was collected and put into computer-readable form by Wing and Baddeley (1980) and is described in their paper *Spelling errors in handwriting: A corpus and a distributional analysis*.

(10) MASTERS: Misspellings of 260 words made in spelling tests by 600 students in Iowa in the 1920s—200 8th graders, 200 high-school seniors and 200 colleges seniors-collected by H. V. Masters for his Ph.D. research.

(11) UPWARD: Misspellings taken from answers to a questionnaire completed by 160 15-year-olds in Nottingham. The material was supplied by Chris Upward of the Dept of Modern Languages, Aston University.

The Birkbeck spelling error corpora also include collections of non-native speakers' spelling error sub-corpora as in the following:

(1) EXAMS: Misspellings taken from scripts submitted in English examinations by overseas students in 18 countries, with 50 or 100 scripts from each country. The scripts were made available for this exercise by the University of Cambridge Local Examinations Syndicate and the University of London Schools Examinations Board.

(2) ABO: Misspellings collected from Finnish-speaking Finns and Swedish-speaking Finns in a series of tests conducted in the 1970's by Dr Rolf Palmberg and Dr Hakan Ringbom of the Abo Akademi, Finland.

(3) APPLING: Two files of data (APPLING1 and APPLING2) collected by the students of the Applied Linguistics Department of Birkbeck College in the course of their work as teachers of English.

(4) BLOOR: Errors taken from a corpus of written English by 12 Algerian students. The file was supplied by Meriel Bloor of the Department of Modern Languages, Aston University.

(5) SUOMI: Errors taken from test papers written by 60 Finnish speakers and 45 Swedish speakers aged 15-16 years. The data formed part of a thesis submitted by Riitta Suomi at the Abo Akademi, Finland.

(6) TELEMARK: Errors taken from examination papers written by 145 advanced Norwegian students of English at Telemark College, Norway. They were recorded in a study by Nils Rottingen.

(7) TESDELL: Errors from 56 students taking an English Language Proficiency Test at Iowa State University in 1981-1982. The material was collected by Lee Tesdell.

Another collection of errors corpora is the Japanese corpus that consists of 5060 different misspellings representing over 12000 attempts at 1184 target words. The misspellings in the corpus are types, not tokens. For example, "hight" was written 181 times for "height", but it has only one entry. The corpus is an amalgamation of the following seven sub-corpora:

(1) AEMH-error.txt: Misspellings extracted from English essays handwritten in class by 244 Japanese university students, 201 of them majoring in English. There were 20299 running words in total and 296

misspellings of 234 target words.

(2) EXAMS-error.txt: 162 misspellings of 151 target words, taken from the Japanese part of EXAMS. The misspellings were taken from compositions written in the examinations for the Cambridge First Certificate in English.

(3) HELC-JR-error.txt: Junior high-school students were given sentences in class to translate from Japanese into English. There are 286 target sentences. The sub-corpus contains 1921 misspellings of 431 target words. The original source is maintained as Hiroshima English Learner's Corpus No.1 by Shogo Miura at Hiroshima University, Japan.

(4) HELC-SR-error.txt: Similar to the previous corpus except with senior high-school students. There are 68 target sentences and 40638 running words. This sub-corpus contains 346 misspellings of 187 target words. The original source is maintained as Hiroshima English Learner's Corpus No.2.

(5) SAMANTHA-error.txt: 333 Japanese university students took a test of 53 English words. For each word, they were given a written definition in Japanese and an approximation in katakana to the English pronunciation. They made 2071 misspellings. The original error corpus, named *Samantha Error Corpus* is maintained by Takeshi Okada at Tohoku University, Japan[1].

(6) SUZUKI-error.txt: A personal collection of 46 misspellings of 43 target words made by an unspecified number of Japanese high-school students in their classroom activities or in short tests, collected by Michiaki Suzuki at Nan'yo High School, Yamagata, Japan.

(7) FRGRI-error.txt: 366 misspellings of 324 target words obtained from compositions written by 88 Japanese freshmen students not majoring in English. The students also submitted translations of their compositions. The list is given in an article written in Japanese by Furugouri and Hiranuma (1987).

As in the spelling error corpora described above, a corpus-based approach to spelling errors can be also collected, analyzed and used to describe the types of spelling errors made by Saudi students learning English as a Foreign Language (EFL). A spelling error corpus is not yet available for Saudi students. Such a corpus is needed because the differences in the English and Arabic sound systems (such as the number and quality of vowels and diphthongs, consonant clusters in word initial, medial and final positions and the Arabic diacritic system) would provide new insights into the spelling weaknesses among Saudi students. Hence the aims of the present study are to show where the students' spelling error corpora can be collected from, how errors can be scored, identified and classified; what units can be identified and what types of spelling problems, strategies and spelling error sources can be based on spelling error corpora. This study will show researchers how to collect a valid error corpora, show them how errors can be reliably and objectively analyzed, and which aspects of errors can be analyzed and reported.

2. Subjects

The spelling error corpora for Saudi students can be collected from students learning English as a Foreign Language (EFL) at the junior and senior high school levels; from college students learning English for specific purposes, such as medical, pharmacy, engineering and science students; from college students learning English as a university requirement (3 hours); and from college students majoring in English literature, linguistics and translation. In the latter group, spelling errors can be collected and compared for freshman, sophomore, junior and

[1] Retrieved from http://www.intcul.tohoku.ac.jp/okada/corpora/Samantha/Samantha-top.html.

senior students or for good and poor spellers and readers at each college level.

2.1 Collecting spelling errors

Spelling errors are either freely produced or elicited by certain tasks. Spelling error corpora can be collected from students' written essays, homework, lecture notes, dictations, Arabic-English translations and tests. The students can be given different types of tests as in the following examples:

(1) A printed text in which certain letters or letter combinations (vowels or consonants) are deleted from words. The students supply the missing letters.

(2) A dictation which consists of a taped dialog or text. The same dialog or text is printed, and certain words are deleted and replaced by gaps. The students listen to the dialog from the audio-tape sentence by sentence, while following the printed dialog or text and fill in the gaps in the printed dialog with the words they hear (not from memory). They have to write the exact words that they heard in the flow of the dialog. There should be pauses between the sentences of the dialog to give the students ample time to write the words that they hear in the blank.

(3) Oral or written questions that require written responses. The responses can be single words, phrases, sentences or paragraphs.

(4) Arabic words, phrases, sentences, or longer texts to be translated from Arabic to English by the students.

2.2 Identifying spelling errors

First, students' responses are marked individually. Any word that does not match the target word in part or in full is marked as a misspelling. Any faulty words, faulty graphemes (single vowel, single consonant, vowel digraphs, consonant digraphs, phonogram, suffix or prefix) within a word are counted as an error. Any graphemes that are added, deleted, substituted by another or reversed are counted as misspellings.

Second, to record the misspellings of the whole group of subjects, a list of all target words is made. The researcher goes through the students' papers one by one, recording the faulty forms given by each student for each target word. Thus for each target word, all misspelled forms given by all the subjects are recorded. Each faulty phoneme and/or grapheme in each misspelled word is underlined. The spelling error corpus is then divided into the following groups: (1) whole word error; (2) words containing 1 error; (3) words containing 2 errors; (4) words containing 3 errors; and (5) words containing 4 errors and so on (see Table 1). Each misspelled part is marked as a faulty grapheme or a faulty phoneme.

Table 1 Examples of words with one, two, three, four, five and six spelling errors

Number of errors per word	Target word	Errors
faulty grapheme per word	Specially	specialy
faulty graphemes per word	Specially	spicialy
faulty graphemes per word	Specially	espicaly
faulty graphemes per word	Question	quishchin
faulty graphemes per word	Specially	aspechely
faulty graphemes per word	Automobile	oulompeul

2.3 Classification of spelling errors

Spelling errors are classified into whole word errors, faulty graphemes and faulty phonemes. Thus the unit of analysis is the whole word, faulty grapheme and faulty phoneme, each of which is defined below.

(1) Whole word errors are those in which the student does not write anything in the gap (in dictations) or in which the target word is substituted by an extraneous word, or by a partially or a fully invented word.

(2) Faulty graphemes or grapheme clusters are those where the misspelled word does not look like the printed target word because a grapheme is deleted, added, substituted by another or reversed with another. A faulty

grapheme can be a deleted, added, reversed or substituted written vowel, consonant, vowel or consonant digraph, phonogram, morpheme, suffix or prefix.

(3) Faulty phonemes are those in which the misspelled word does not sound like the target word because a consonant, a vowel, a syllable, a prefix, a suffix, a grapheme or a grapheme cluster is deleted, substituted by faulty ones, added, or reversed with other. Here the written form does not correspond with the spoken sound as in writing “rember” or “member” instead of “remember”.

3. Identifying spelling problems

Spelling problems can be classified into phonological and orthographic problems. Phonological problems refer to errors in which the misspelled word does not sound like the target word because the whole word, a consonant, a vowel, a syllable, a prefix, a suffix, a grapheme or a grapheme cluster is not heard at all, is misheard, is added or reversed with another. Here the written symbol does not correspond with the spoken sound, syllable or word. Instances of phonological problems are: failing to hear or discriminate all or some of the phonemes in the word, failing to hear the correct word sequence, failing to hear the word boundary, failing to discriminate between minimal pairs, failing to discriminate single vowel or consonant phonemes, failing to hear the final syllable or suffix, failing to hear the correct sequence of CV phonemes in a word, vowel phonemes, consonant phonemes or syllables, or failing to recognize flaps and elision (see Table 2).

Table 2 Examples of phonological problems

Phonological problems	Target word	Errors
Discriminating most phonemes in a word	Worry	Know
Hearing all phonemes in a word	Ferry	No word
Discriminating V	Especially	espicially
Hearing suffix	Staying	stay
Hearing V	Another	anther
Confusing minimal pairs	Hill	hell
Discriminate voiced/voiceless C	Cable	caple
Remembering word sequence	Down	up
Hearing C	Tourist	toress
Discriminating suffix	Attraction	attractive
Hearing final syllable	country	cont
Discriminating C phonemes	Ferry	thery
Hearing middle syllable	transportation	transportion

Notes: C=consonant; V=vowel.

Table 3 Examples of orthographic problems

Orthographic problems	Target word	Errors
V digraph	Cheapest	Cheepest
Silent V	Relatives	Relativs
Double C	Middle	Midle
Confusing homophones	Hall	Whole
Silent C	Excellent	Exlelant
Remembering VV sequence	Break	Braek
C digraph	Brought	Brout
CV sequence	Use	Ues
C forms	Economical	Echonomical
Phonogram	Connects	Conex
Hidden C	Question	Equesion
Silent digraph	neat	Neaght

On the other hand, orthographic problems refer to those instances in which the misspelled word sounds like the written target word, but the written form or grapheme used for the misspelled part does not correspond with the target word or target grapheme. Instances of orthographic problems are: confusing vowel graphemes that have the same sound, confusing consonant graphemes that have the same sound, confusing vowel and consonant digraphs, deleting silent vowels and consonants, doubling of consonants or vowels, reducing double consonants or double vowels, deleting a vowel in vowel digraphs, adding or deleting final silent vowels, reversing CV and VV sequences, representing consonants with hidden sounds phonetically, and substituting a word by another homophone (see Table 3).

4. Identifying spelling strategies

A strategy refers to the conscious or unconscious processes which students employ in learning and using a second language. It is the way in which a student attempts to figure out the meanings and uses of words, grammatical or spelling rules. A learning strategy may be applied to simple tasks, such as learning a list of new words, or more complex involving language comprehension and production (Richards, Platt & Platt, 1992). In this study, a spelling strategy will refer to the mental processes that EFL students use to represent spoken sounds by written symbols.

The spelling strategies that students used in whole word errors were classified into: reversal, insertion, substitution and omission strategies. A reversal or transposition strategy is used when the student reverses the order of two target words, two vowels, two consonants or a vowel and a consonant in the target word. Examples of reversal strategies in dictations are: filling a gap with the word that the student was supposed to write in a previous gap, filling a gap with the word that the student was supposed to write in a following gap or reversing two vowels, reversing two consonants or a consonant and a vowel in the target word (see Table 4).

Table 4 Specific deletion, addition, substitution and reversal strategies used in whole word errors

Specific strategies	Target word	Errors
Delete word (leave blank)	Ferry	------
Substitute by a real unrelated word	Worry	know
Substitute by a real word with same initial C/syll.	Prison	present
Substitute by minimal pair counterpart	Hill	hell
Substitute by a real rhyming word	Worry	many
Substitute by a homophone	Hall	whole
Substitute by a rhyming invented word	Take	kake
Substitute final syllable (use another derivative) Substitute by	Attractive	attraction
invented wd with same initial C/syll.	Incredible	incronible
Substitute by a synonym	Relatives	family
Substitute by any invented word	Ferry	unters
Reverse (transpose) word	down	up

A substitution strategy is used when the student substitutes a word by another real or invents word, substitutes a vowel by one or more vowels, substitutes a consonant by one or more consonants or substitutes a syllable or a suffix by another. Examples of substitution strategies at the grapheme level are: changing a vowel, changing a vowel digraph, changing a single vowel into a digraph, changing a consonant digraph into another, changing a morpheme into another, changing a phonogram, changing a consonant or replacing a consonant by another consonant with the same sound (see Table 4 & Table 5).

An insertion or addition strategy is used when the student adds a vowel, a consonant, a syllable or a word that

is not part of the target word. Examples of the insertion strategy are: filling the blank with any unrelated word, with a word that forms with the target word a minimal pair, with a rhyming word, with a rhyming invented word, with a homophone, with an invented word that begins with the same initial consonant, with a similar word, with a real word beginning with the same initial consonant or syllable, with a synonym, with any invented word, with a derivative, with an invented word that has the same final or middle syllable; adding a morpheme; adding a vowel; adding a final vowel; adding a consonant or adding a silent digraph (see Table 4 & Table 5).

An omission or deletion strategy is used when the student deletes a word, a vowel, a consonant, a syllable or a suffix or more from the target word. Examples of omission strategies are: Leaving out the target word, deleting silent vowels, reducing double consonants into one consonant, reducing a vowel digraphs into one vowel, deleting a morpheme, deleting a vowel, deleting a silent consonant, deleting a vowel digraph, deleting a consonant, deleting a middle or a final syllable, or deleting a hidden consonant (see Table 4 & Table 5).

Table 5 Specific deletion, addition, substitution and reversal strategies used in faulty graphemes

Specific strategies	Target words	Errors
Substitute V by another	Especially	espicially
Delete silent V	Relatives	relativs
Reduce (delete) double C	Middle	midle
Substitute V by V digraph	Relatives	realatives
Substitute V digraph	Cheapest	cheepest
Reduce V digraph	Cheapest	chepest
Delete suffix	Staying	stay
Delete V	Another	anther
Delete silent C	Excellent	exelant
Add suffix	Bus	buses
Delete V digraph	Enough	enghe
Add final V	Ask	aske
Substitute by devoiced/voiceless C	Cable	caple
Add V	Question	quesition
Reverse VV	Break/system	braek/sestym
Delete C	Tourist	toress
Duplicate C	Met	mett
Substitute C digraph	Enough	enghe
Reverse CV	Now/use	nwo/ues
Substitute C by another (same sound)	Economical	echonomical
Substitute suffix	Attraction	attractive
Delete final syllable	Country	cont
Substitute phonogram	Connects	conex
Add C	Excellent	excslant
Substitute C	Ferry	thery
Delete hidden C	Question	equesion
Add silent digraph	Transportation	transportion
	neat	neaght

5. Identifying spelling error causes

Errors made by second language learners can be classified into interlingual and inter-lingual errors. Interlingual errors are those that result from language transfer, i.e. caused by the learner's Native Language (L1). As (1957) Lado hypothesized that errors in the Second Language (L2) are caused by the interference of the student's native language. Such errors reflect the student's inability to separate L1 and L2. Therefore, a contrastive analysis between L1 and L2, he thought, will help predict the areas of difficulty in L2. Odlin (1989), James (1980) and Brown (1980) pointed out that students' errors in L2 are caused by several processes. These include transfer,

overgeneralization and communication strategies. Transfer refers to the effect of L1 on the learning of L2. In transfer, patterns from L1 are borrowed. In overgeneralization, patterns may be extended from L2 by analogy. Overgeneralization is a process common in both L1 and L2 learning in which the student extends the use of a grammatical rule of linguistic item beyond its accepted uses, generally by making words or structures follow a more regular pattern. A communication strategy is used to express meanings using the words and grammar which are already known (Ellis, 1985; Davies, Criper & Howatt, 1984; Selinker, 1972).

By contrast, intralingual errors are those which result from faulty or partial learning of L2, rather than from language transfer. Richards (1974) suggested that the errors made by ESL students do not reflect the student's inability to separate L1 and L2, but those intralingual and developmental errors reflect the student's incompetence at a particular stage and illustrate some of the general characteristics of L2 acquisition. Their origin is found within the structure of L2 itself, and through reference to the strategy by which L2 is acquired and taught. Ellis, Davies, Criper and Howatt, and Selinker indicated that intralingual errors may be caused by the influence of one target language form upon another. Since the language which the learner produces using these processes differs from L1 and L2, it is said that result from the learners' intralanguage system or approximative system. Richards (1974) classified types and causes of intralingual and developmental errors into: overgeneralization, ignorance of rule restrictions, incomplete application of rules, and false concepts hypothesized. Intralingual errors were also classified by Richards, Platt and Platt (1992), Odlin and Ellis into seven types. Overgeneralizations errors caused by extending L2 rules to inappropriate contexts); simplification errors result from producing simpler linguistic rules than those found in L2; developmental errors reflect natural stages of development; communication-based errors result from strategies of communication; induced errors result from transfer of training, errors of avoidance result from failure to use certain L2 structures because they are thought to be too difficult; and errors of overproduction which refer to structures used too frequently.

In this study, spelling error sources can be classified into sources of whole word errors and sources of faulty graphemes. Sources of whole word errors (in dictations) can be subcategorized into:

(1) Communication breakdown: This refers to failure to hear all the phonemes in the target word. Instances of communication breakdown are blanks, use of extraneous words and invented words.

(2) Partial failure: This refers to inability to hear part of the word whether a single phoneme or a syllable.

(3) Interference from other English words refers to those confused with their homonyms or minimal pairs.

(4) Errors due to the speed of the speakers are those which result from the students' inability to follow the speaker.

(5) Errors due to poor short-term auditory memory span are those in which the students reversed the order of the words.

Similarly, sources of faulty graphemes and faulty phonemes can be classified into:

(1) Errors attributed to ignorance of the English spelling rules are those in which phonics, orthographic and morphological rules are ignored, such as adding an "-s" to a word ending in "-y"; adding "-ing" to a word ending in the vowel /e/.

(2) Errors due to transfer from Arabic are those in which the students spelled an English word with a non-phonetic spelling the way it is pronounced as it is the case in Arabic spelling. Arabic spelling is mainly phonetic and there is a close relationship between spoken phonemes and written graphemes. There is a one-to-one correspondence between phonemes (spoken sounds) and graphemes (written symbols). Each consonant and each vowel has only one sound. Arabic has no double letters, few silent letters, no consonant and vowel digraphs, and

no hidden sounds as in “mission”.

(3) Mispronunciation refers to errors in which the student spelled the word the way she pronounces it.

(4) Overgeneralization refers to imposing certain spelling features such as double letters, silent consonant and vowels, silent consonant and vowel digraphs on words that do not contain them, such as doubling a single consonant, adding a silent vowel at the end of a word, adding a silent consonant to a word.

(5) Errors due to unfamiliarity with American pronunciation included failure to recognize flaps and elision.

6. Reliability

Classifying spelling errors into phonological and orthographic errors into deletion, insertion, substitution and reversal errors, into interlingual and intralingual errors objectively and reliably requires that a second analyst classify a sample of the error corpus using the same classification criteria. The percentage of agreement in classifying the same error sample between the two analysts is computed. Disagreements are resolved by discussion.

7. Statistical analysis

The total number of spelling errors, whole word errors, faulty graphemes and faulty phonemes, deletion, insertion, substitution and reversal errors, interlingual and intralingual errors is computed for each subject and for all of the subjects in the group under the study.

Using SPSS, the mean, median, standard deviation, standard error, range and sum of the spelling, are computed for the whole word errors, faulty graphemes, faulty phonemes for all the subjects in the group under the study.

To find out whether there is a difference between EFL freshman, sophomore, junior or senior students’ spelling error means scores, a one-way Analysis of Variance (ANOVA) is computed.

To find out whether there is a relationship between EFL students’ spelling ability and decoding skills, spelling and listening skills, and spelling and decoding scores, each subjects misspelling score, listening score and decoding score are correlated using the Pearson correlation.

8. Conclusion

Spelling is a complex cognitive activity in which many interrelated skills are involved. Mastering the English spelling system means learning the correct association between English phonemes and written graphemes. The fact that English spelling is more complex than that of Arabic, it is expected to pose several spelling difficulties for Arab students particularly in the early stages of spelling development.

Although language programs offer several English language courses, such as listening, speaking, reading, writing, vocabulary building and grammar, the spelling skill is usually ignored. Since many Saudi college students are poor spellers, a spelling course can be developed and integrated into the teaching of listening, reading, writing, grammar, and vocabulary and dictionary skills courses. The aims of such a course are to provide students with the basics of English spelling and to help them associate the spoken sounds with the written forms. The course consists of a series of graded spelling lessons that cover the following: English vowels, different pronunciation of the vowel letters a, i, o, e, u; adding a final silent e; pronunciation of vowel digraphs (oo, ee, ea, ou, ai, oi, oa, au, ie, ei, ow, ew, aw, ue, ui, ua, oe, eo, io, eu, ia); vowel digraphs and silent e; vowel digraphs with the same

pronunciation; consonant letters with more than one sound; different pronunciations of consonant letters c, cc, g, ch, s; silent consonants; double consonants; geminates; words with two pronunciations; two words with the same pronunciation; words with two parts of speech; words commonly confused; doubling consonants before -ed, -ing, -er; hidden sounds; spelling rules for regular verbs; dropping silent e before a suffix; doubling consonants before a suffix; changing y into i before a suffix; adding -s and -es to verbs and nouns; adding -ed, -ing, -er to verbs; spelling rules for the present progressive, the simple present tense and simple past tense; spelling of irregular verbs, plural nouns, adjectives, adverbs; rules for adding affixes (adding consonant and vowel suffixes, dropping silent e before a suffix, changing y into i before a suffix, doubling of consonants, adding a combining vowel or a combining consonant, consonant replacement before a suffix; changing pronunciation of a consonant before a suffix (assimilation); adding verb-forming, noun-forming, adjective-forming and adverb-forming suffixes; words with two parts of speech (such as words ending in -ate, -ment, -age, -ain); spoken vs. written forms (assimilation, elision, flaps, reduction, vowel linkage, pause and juncture); punctuation (such as use of hyphenation in compound, apostrophes, contracts, ordinal numbers); acronyms and abbreviations; spelling variations (as in American vs. British spelling). Each lesson consists of one rule and words illustrating that rule. To help the students compare and contrast, make the right connections and recall the rules, a summary lesson is given every 5-7 lessons. Minimal pair practice can also be given. The written forms should be always associated with the spoken sounds and vice versa. The students should be encouraged to make their own word families. Pre- and post-test results can be used to find out the differences in spelling performance between students who have taken and those who have not taken the spelling course, as well as differences in the spelling performance of the same students before and after taking the spelling course.

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