Although clinical testing is necessary for a final diagnosis of learning disabilities, spelling errors can serve as one of the major "red flags" to warn teachers of the possibility of their existence. Two steps that teachers can take to help poor spellers are: (1) determining the specific type of spelling weakness in light of the common "routes" to correct spelling (visual, auditory, rule, semantic, and morphological); and (2) informally classifying misspellings as typical or unusual. Brief case studies of three poor spellers illustrate how, with support and instruction in spelling, well-motivated poor spellers can often learn to cope with their deficiencies. (Writing samples from the three students are appended.)

(RS)
SEEKING THE SOURCE OF SPELLING PROBLEMS: A TEACHER'S PROFILE OF UNDERACHIEVING SPELLERS

Spelling errors have always been a problem for students, and studies suggest that the problem is getting worse. In an analysis of student themes in 1939, John C. Hodges of The Harbrace Handbook ranked spelling the number two writing problem. In a similar analysis in the 1980's, Robert J. Conners and Andrea Lunsford found that spelling had gone to number one—by a factor of 3 (406). Likewise, when Gary Sloan compared 1000 freshman themes from the '50's with 1000 from the 70's, misspellings had risen about 300% (156-60). For basic writers, the problem is often particularly severe. We in the University of Georgia's developmental studies program found some of our students making as many as one error in every fifteen words. In fact, we formed special sections of composition for these problem spellers.

Generally, the poor spellers in these classes fall into three categories according to the main reason for their weaknesses. The first group is made up of disadvantaged students—those who, because of culture and/or educational background, have had "limited practice in reading and writing... [and] cannot be expected to make visual discriminations of the sort most people learn to make only after years of practice and instruction" (Mina Shaughnessy, p. 174). The second group is made up of students from more advantaged backgrounds; they simply seem to lack interest in written forms and do not or cannot pay attention to them. These students may have been developmentally delayed and/or have below average verbal or visual skills—problems no doubt exacerbated by our increasingly oral culture. Often in college
they seem ready to focus on the task of writing, but their skills are lacking. Finally, there are students who are not disadvantaged and who have average to above average intelligence, but who have a real perceptual disorder. Their brains are apparently not processing properly in a certain area or areas. Thus their sensual processing is in some ways dysfunctional—for practical purposes, blocked—and often their spelling is affected. Most of our students were in categories two and three.

Although the degree of the spelling problem and the reasons for it vary, a large number of spelling errors clearly can hurt students' academic progress and make them feel insecure about writing. And while some of these weak spellers may at times be able to use a computer with a spell-check, much of their writing must be done without a computer. Just as doctors want to get patients out of an iron lung and breathing on their own, we as teachers should try to get these poor spellers in better shape for writing on their own.

What can be done to help poor spellers? A first step is to determine the specific type(s) of spelling weakness each student has by analyzing his or her misspellings. Most people arrive at a correct spelling of a word by using a combination of techniques or "routes." Five of the most common are:

1) The visual route: Seeing a mental picture of the word or recognizing the correct spelling when seeing it.
2) The auditory route: Sounding out words.
3) The "rule" route: Knowing and applying common spelling patterns (i before e except after c).
4) The semantic route (for homophones): Being aware of meaning and context so that the right word of two or more "sound-alikes" is chosen.
5) The morphological route (from morpheme, a linguistic unit of meaning): Adding prefixes and suffixes to root words or "semantic cores."

If we analyze the types of spelling errors a student makes in light of these routes, we can get an idea of which of his or her route(s) are weak—like a lazy eye, or even blocked—like a blind eye. Here are some of the most common spelling error types found in students’ writing. The categories are based on a list by R.F. Cromer (1980), which has been adapted by Noel Gregg (1988).

1) Auditory (phono-graphical) errors occur when the way a word looks gives no clue to the student as to its correctness; thus he or she spells the word mainly according to its sound (sertain).
2) Context or semantic errors occur when the student, while writing a homophone (led), does not consider the word’s meaning and context, but only its sound, and thus selects the wrong "sound-alike" (lead).
3) Visual errors occur when the student’s auditory sense is weak; thus he or she spells the word mainly on the basis of the word’s remembered appearance. Thus letters may be transposed, repeated, or omitted (phsychology).
4) Spelling rule errors occur when the student is not familiar with or does not recognize certain basic English
spelling patterns--like dropping the e before adding -ing (hence we get hopeing for hoping). This type of error could result from a visual or educational weakness.

5) Segmentation errors occur when the student puts two separate words together (alot) or separates one word into two (all though). This error type could also result from either a visual or educational weakness.

6) Morphological errors occur when the student omits prefixes or suffixes from root words (can goods for canned goods). This kind of error could result from a visual weakness (the student never sees that an -ed is missing) or it could be an auditory error (the student may write according to the sound of the word in his or her dialect, where these morphemes are omitted.)

As the definitions above indicate, sometimes an individual error can result from more than one type of weakness; but errors taken as a whole in a student's work usually do reveal a pattern that suggests which spelling route(s) are weak or bl. ked.

A second step in analyzing a student's misspellings is informally to classify spelling errors as typical (commonly found among students) or unusual (rarely seen). As Amy Richards and Carolyn O'Hearn point out in their articles on learning disabled students, unusual or bizarre errors usually have a cognitive rather than environmental or educational source. In the following list of misspellings from student papers, we have a) identified the intended word b) categorized
the probable error type or types and c) labeled the error unusual or typical. (However, there is no one right answer for b or c).

<table>
<thead>
<tr>
<th>MISSPELLED WORD</th>
<th>INTENDED WORD</th>
<th>ERROR TYPE</th>
<th>T or U</th>
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<td>visual/auditory</td>
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The patterns that emerge from analyzing a student’s spelling error types and their typicality suggest which spelling routes are blocked and whether or not the student is learning disabled.
But to understand a student's writing weaknesses more fully, a teacher needs of course to be aware of the whole student, noting his/her organization and content, handwriting, personality and motivation. To illustrate different patterns of poor spelling interwoven with other aspects of writing, and the relationship of these patterns to learning disabilities, I want to discuss writing samples from three of our "spelling" students. (In these writing samples, the misspellings are circled and numbered.)

First is a paragraph by Bill, a highly motivated student, comparing an aspect of dorm life and home life. (See Visual 1). Bill's background was "advantaged." He was intelligent and creative, he organized his essays well, and he was often able to apply spelling rules and other remedial techniques to eliminate his spelling errors. This excerpt gives a sense of his labors—underlining words he was not sure of and checking their spelling in a dictionary. Here, in a passage of approximately eighty words, he checked seven words and found three correct spellings (surpasses, creates, aroma) and four errors (arive, beautiful, poanio, lazanya). He missed two other errors (gental and insterment). Since all of his misspellings are auditory, it would appear that his visual route is blocked; the appearance of words provides him with no clue to their spelling. When Bill was tested at the University of Georgia Learning Disabilities Adult Clinic, he was indeed diagnosed as "dyslexic," a condition involving visual problems.

Next is an excerpt from an essay by Tracy, describing the Discipline of Culture as described in John Holt's "Kinds of Discipline." (See Visual 2). Tracy also had an advantaged background.
A sweet, shy girl who praised her teachers, blamed herself for her spelling weaknesses, and organized her essays well, Tracy made a variety of spelling error types. Here she has auditory errors (especially, possibly and three versions of imitate—immatate, immutate, and immitate), two visual errors (quietly for quietly and the for they—and the differing auditory versions of imitate suggests a visual weakness also), and two semantic errors (excepted for accepted and stair for stare). Tring (line 7) could be a visual, auditory, or rule error. Omitting letters and spelling a word three different ways in one paragraph is somewhat unusual, but most of Tracy's mistakes are typical. Tracy also had problems with punctuation. Like Bill, Tracy was tested for learning disabilities at the UGA Clinic. Her testing revealed a weakness (below average achievement scores) in visual discrimination, but the discrepancy among her test scores was not great enough to suggest cognitive deficits. The LD Clinic team concluded, therefore, that she was not learning disabled but that her weaknesses may have arisen from a developmental delay (perhaps during her second grade year, which she had to repeat) or from lack of appropriate instruction at that time. They suggested that further instruction would result in improvement.

Last are the opening two paragraphs of an essay by Bob. Bob was to describe another of Holt's kinds of disciplines—the "Discipline of Superior Force" as he had experienced it in his life, including some rewards and punishments he had received at its hands. However, in a typical behavior pattern, Bob altered the topic to show how he—or the group he was part of—defeated a Superior Force, in this case, the principal and the Board of Education. (See Visual 3.) Bob's change of
topic and the way he changed it are symptomatic of one of his major differences from Bill and Tracy: Bob tended to resist classroom authority. Not only would he alter assignments, but he openly expressed his "animosity" toward grammar and "unsuitable topics." Bob also had problems with organization and coherence. The ideas in the excerpt, for example, are not easy to follow, although he does attempt to list his points; and his paragraphs were generally short, with little clear connection. As for spelling errors, Bob's were even more frequent than Bill's and Tracy's and mostly auditory. In this passage his auditory errors are handled for handled, symalar for similar, fashion for fashion, conferrs for confers (all of which I would label unusual), and posession for possession. Rule errors are negateing for negating (an unusual rule error) and personaly for personally; a semantic error is principle for principal. (These last two errors would probably be considered typical.) Bob, like Tracy, also had problems with punctuation.

Bob's tests at the LD Clinic revealed a wide discrepancy among his scores--from above average to significantly below average; he was diagnosed as having deficits in visual processing (accounting for his spelling errors, as with Bill) and in organizational skills (accounting for his coherence problems.)

Because they were learning disabled, both Bill and Bob were eligible for modifications in their writing classes--extra time, the use of word processors, and, if they wanted it, tutoring and counseling through the Learning Disabilities Adult Clinic. Tracy, not being learning disabled, continued as a "regular" student. Tracy and Bill both went on from the "spelling" sections of developmental
composition to deal with their writing problems and to complete successfully their freshman English requirements. Bob, however, was unable to do so.

What these brief case studies suggest is that, although a clinical testing is necessary for a final diagnosis of learning disabilities, spelling errors can serve as one of the major "red flags" to warn teachers of the possibility of their existence. These cases also indicate that with support and instruction in spelling, well-motivated "weak" and "LD" spellers can often learn to cope with their deficiencies.
prepared by the most genteel, sweetest, kindest woman in the world—my mother. To me her cooking surpasses the cooking of the finest chefs. When she creates lasagna, the aroma is powerful enough to bring me home from miles around. When I arrive, I am not greeted by an ex-member of the East German weightlifting team. I am greeted by a woman who cares for my every need. And blue eyes. I am greeted by a woman who thinks of the stove as her \textit{grand piano}. An instrument to create beautiful music.
What is discipline? Is it the discipline of young people to learn and not be afraid to be wrong when people do not like or agree with others? Is discipline the ability of young people to act like adults and be prepared to be wrong in some situations? If discipline is the ability of young people to act like adults and be prepared to be wrong in some situations, does this mean that young people are not disciplined if they make mistakes? 

In his poetry, Walt Whitman points out that in his own society, a cultural animal is killed and its animal nature is denied. Young animal people apply a game to them. Did the animal nature of young people in his society, a cultural animal, die?
THE PROBLEMS I HAVE ENCOUNTERED

2. WHILE NEGATING SUPERIOR FORCE PLACED ON ME

3 IN A GROUP, A SEPARATE GROUP OR MYSELF AUTONOMOUS

4 WE'RE ALL HANDLER IS A SYNTHETIC FASHION

5 THE THREE MOST IMPORTANT THINGS TO CONSIDER

6 ARE THAT "THE POSITION OF THE MEANS"

7 CONFER THE RIGHT TO USE THOSE MEANS AS THE OWNER

8 "SPEAK FIT, OR SIMPLY PUT. "MIGHT MAKES RIGHT" THIS

9 IS THE MOTTO OF THE ENEMY THEY HAVE A COACH

10 DECK. THE ENEMY MAY BE THE BOARD OF EDUCATION OR

11 THE PRINCIPLE OR A SCHOOL THUS THEY ALL GET HANDLED

12 THE SAME WAY.
REFERENCES


