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ERROR'S ENDLESS TRAIN: WHY STUDENTS DON'T PERCEIVE ERRORS

Observation of the way that remedial writing students *see, hear, read* and *write* words has led me to appreciate Spenser's warning about the monster Error: *God help the man so wrapped in Error's endless train.* Teachers create the monster by being more preoccupied with recognizing than explaining student errors and, pressed for time, by offering simplistic solutions to complicated linguistic problems. Students, in turn, become obsessively involved with the making, recognizing, and correcting of errors at the cost of linguistic understanding and the full expression of their thoughts and feelings in writing.

Aware of this monster and hopeful of describing an aspect of it, I find myself wondering how writing instructors are to penetrate the linguistic and psychological process which students experience when making certain kinds of errors commonly labelled as spelling or proofreading mistakes: confusing similar words, *conversion* for *conversation;* failing to attach proper suffixes, *biology* for *biologist;* confusing voiced and unvoiced consonants, *thing* for *think;* reversing letters, *how* for *who;* leaving out syllables, *marlous* for *marvelous;* confusing minimal sound pairs, *on* for *own;* remembering two words and writing them as one, *undevlored* (a combination of *undeveloped* and *explored*) for *undeveloped;* and inconsistently using inflections like *-s* and *-ed.* Errors like these are the most resistant to improvement in remedial classes.

I am stymied. My students, generally seventeen to twenty years old—Black, Chinese, Greek, Irish, Italian, Jewish, Puerto Rican and Slavic—sit in front of me, inexperienced in and confused about written words, and, in some cases, no longer even curious about them. I see that on a very basic level these students have problems with words: they do not focus on words in a structural way so there is little generalization about form and function; they have basic sound

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confusions because of second language/dialect interference or poor early training in phonics; they do not have strategies for approaching unfamiliar words which they must spell or read; they have a limited visual word storage—some of the reasons why they have difficulty finding errors in their own essays.

We must start with words, the student's understanding of and perception of words and morphemes. Too often discussions of word perception and error ignore the influence of the senses upon cognition: the way in which we gather information about words and the way in which we process this information are considered separate functions. However, in practice, language is perceived through both visual and auditory shapes, and is therefore as much perceptual as conceptual. Rudolf Arnheim captures this relationship:

> . . . the cognitive operations called thinking are not the privilege of mental processes above and beyond perception but the essential ingredients of perception itself. I am referring to such operations as active exploration, selection, grasping of essentials, simplification, abstraction, analysis and synthesis, completion, correction, comparison, problem solving, as well as combining, separating putting in context. . . . By *cognitive* I mean all mental operations involved in the receiving, storing and processing of information: sensory perception, memory, thinking, learning. . . . I must extend the meaning of the terms *cognitive* and *cognition* to include perception. Similarly, I see no way of witholding the name of *thinking* from what goes on in perception. No thought processes seem to exist that cannot be found to operate, at least in principle, in perception. Visual perception is visual thinking.[1]

Finding and correcting errors which reveal perceptual and cognitive confusions such as those listed earlier is a skill which is often underrated by writing instructors who tend to consider such activities as simple, when they are, in fact, part of a very complex process. What we have minimized in our often misdirected preoccupation with error is the collateral relationship between perception and cognition explored in the field of psychology for the past sixty years. Students' perceptual confusions run rampant while professional composition journals blithely print articles with such titles as *English Composition as a Happening,* and day-to-day teaching is guided almost solely by pragmatic rather than theoretical considerations.

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[1] Rudolf Arnheim, *Visual Thinking* (Berkeley: University of California Press, 1971), p. 13–14.

Here is a sampling of some perceptual confusions found in student papers which emerge from conceptual, visual, and phonetic mis-codings. Conceptually, a student may not be aware that the form of a word indicates its function, that word endings indicate relationships between words. Because of this he may not know how suffixes operate and he will easily confuse words in the same family, writing *psychology* for *psychologist* or he may be unfamiliar with different forms in the same family turning the noun *conversation* into the verb *conversate.* Rhythmic features of words might lead the student astray so that he writes *incident* for *indigent;* similar beginnings of words may cause a student to write *conversion* for *conversation.* Or unfamiliar academic words will lead to guesses, as in *sugetivism* for *subjectivism.*

There is also a particular kind of spelling problem, which I have labelled the *portmanteau problem,* which has to do with word cues and memory. A student will begin to write a word and while in the process remember another word which leads her astray. For example, the student who writes *undevplored* for *undeveloped* starts off writing *underdeveloped* but perhaps at a certain point in her memory of the sequencing of letters, around the *-vpl-,* she is reminded of the word *explored* and so finishes the word on another track.

The student may also have speech habits, aside from second language or dialect variations, which cause her to slur final consonants and thus write *an* for *and.* Or she may confuse words in writing where sound discrimination is non-existent, as in the homophones *know-no,* which are also blurred with the word *now* because of similar visual word shape. Words where the sound differences are minimal also, cause problems, *sence* for *sense, one* for *won, then* for *than.* Consonant clusters cause difficulty, *attrack* for *attract,* as do voiced and unvoiced consonants, *altitute* for *altitude, savely* for *safely.*

A student may also make visual as well as phonetic generalizations about words, recalling words whole and then encoding without any conscious attention to sequencing of letters. Anticipating the *ur* in *future,* the student writes *furture.* Focusing on the presence of *t*'s in *situation,* he adds an extra *t* to *situtation.* Students reverse letters, particularly vowels as in *musuem* for *museum, dose* for *does.*

A student may also have not yet realized that similar sounds in English can be spelled different ways, writing *televition* for *television* (/š/ & /ž/), *shure* for *sure.*

Other students develop desperate strategies to cope with their lack of phonetic and visual word storage, and some of them have a marked tendency to write *phonetically, wot* for *what, addiquit* for

adequate. Others vaguely remember the visual shape of a word and you see it in the margin of an essay written several different ways: *gorgus, gorgos, gorgeus* for *gorgeous.*

The origin of these various types of word confusions differs depending on the student's language background, awareness and training, but in writing this exploratory paper I am groping toward an explanation of why certain remedial writing students fail to *see* certain errors in their own writing even after focused attention and seemingly effective grammatical instruction and practice. Why, I ask, don't my carefully-prepared, structured grammar lessons or my lessons in discrimination between confused pairs of words transfer to the writing of my students? What am I overlooking in the language learning process? Am I paying enough attention to the mediating processes which insure transfer? What part do recall and sequencing play in word perception? What is the relationship between word perception and grammatical knowledge and do these processes ever interfere with one another?

How often have we, as writing instructors, repeated monologues like this in conference with students:

> Did you reread your paper? You did? There is an error in this sentence. Can you find it? It is a verb form error. Do you see it now? Look here, this word: what's wrong with it? Focus on the ending. What's missing.

<div align="center">or</div>

> Let's compare this sentence which is correctly-written to the sentence next to it. Do you notice any difference between the way the two sentences are written? No? Look at the verbs in both sentences: is there any difference between them? Look at the endings. What did you add to the verb in the correctly-written sentence which is missing from the other?

What are we misunderstanding or minimizing when we ignore a student's revealing silences and charge ahead to refine her perceptual focus as in the above examples, launching into a grammatical explanation, and fulfilling the student's red pencil image of a writing instructor: someone who can be depended upon to perceive and correct errors.

And how do we view the errors we find? The Myopics see errors as flashing lights. They concentrate minute attention with red marks which swell up all over the student's paper at the expense of any thought or feeling ventured. The Romantics are bleary-eyed. They

believe that if teachers can motivate students to open the floodgates of self, to liberate the *voice,* then all mechanical and careless errrors will disappear. The Graces look heavenward. They are horrified that the basic skills of spelling and grammar are woefully lacking in student writing and keep insisting that *Correcting errors is a very small and trivial affair.* And so it seems, judging from numerous faculty discussions, that we are much like the ten blind academics and the student, disputing loud and long *each in his own opinion/Exceeding stiff and strong./Though each was partly in the right,/And all were in the wrong.* Perhaps our attitudes toward error are a part of the student's problem.

Generally, students with word perception problems are in an English-as-a-Second-Language or a remedial class, and can be grouped into three types: 1) those students who have an identifiable interfering schema derived from second language or dialect variation; 2) those who have a generalized or confused recall of words either because of poor early training in the coding of words, inexperience in and difficulty with reading, or a limited word storage related to a poor visual/phonetic memory; 3) those who have a partial interfering schema with attendant word confusions. All three types of students respond to the printed or written word passively, dramatically presenting through multiple errors, silences, and the comment, *I can't see what's wrong* their form of words as the only possible form.

We can explain the first type of student's limited sense of words with Piaget's theory of *assimilation* and *accommodation.* Such a student overlays her *schema* derived from a second language or dialect background, and makes what she sees on the written page conform to an internal idea of what should be there. Perception is inaccurate because the student *assimilates* the external words to her notions rather than *accommodating* herself to what is to be seen. But her notion of words is derived from an identifiable *schema.*

The second type of student has a generalized or confused recall of words which causes him to produce words which generally look or sound like the word in mind. The reasons for this inaccurate recall are various and related to the mysterious way in which words are conceptually, visually and phonetically gathered, stored and processed in the brain.

The third type of student is somewhere in-between the two types just described: he speaks another language or dialect or is surrounded by people who do, and thus he selectively shares some of the language features of an identifiable *schema.* However, the student is not literate

in that other language or is only vaguely familiar with its written form and so has many structural and conceptual confusions as a result of not knowing either language very well. This is the case of many of the Chinese-American and Puerto Rican students placed in our remedial classes.

These three types of students are out of touch with words and sentences *as they are,* something easily discovered by having students proofread or read aloud: a student who articulates *-ed* endings may not write them or notice that they are missing when proofreading; a student may sometimes articulate an *-s* which is not present on the printed page when reading; or a student who generally slurs word endings in pronunciation, such as saying *an* for *and,* may also not read and write such words correctly. Perception is inaccurate and the student *assimilates* words to his idea of them; however, with one type of student we have an identifiable system of interference patterns while with the other type of student identifiable patterns of confusion must be established for the individual. Once the teacher identifies the known and unique schemata of individual students she realizes that changing these schemata is a difficult job, and a major part of the difficulty is related to Piaget's general theory of *centering:* the inability of students to shift perspective so as to perceive configurations, including words, in a new way. The student has only one response or a number of desperate guesses available when reading, writing or proofreading, along with a limited repertoire of grammatical rules and limited language awareness; therefore, he cannot see what is wrong or thoughtfully imagine other possibilities.

How do we begin to bring such students closer to the standard forms of words?

For purposes of teaching, we must first *identify* the general categories of word perception errors for the heterogeneous language population in our ESL and remedial classes. This identification should cut across the categorization of the three types of students mentioned earlier, a useful grouping for understanding but not for the actual teaching situation or materials development. In the Appendix I present a categorization of perceptual problems based on an analysis of about 250 papers from all types of students in my remedial classes. Using these categories, I have begun to develop materials to help students *de-center* their response to words: to see and deal with words in a more flexible way by realizing the connections between parts and wholes, form and function. First, to encourage new ways of seeing words, I am developing slide-tape units which jar the student out

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of habitual ways of perceiving words. Second, to insure a greater transfer of grammatical knowledge to writing, I am developing step-by-step self-instructional units, to be illustrated later in relation to the inflection -s, which focus on a neglected stage in learning to write, the transferring or mediating processes. The units will deal with the perceptual problem areas listed in the Appendix through visual, spatial and aural strategies. Third, I am developing strategies and games for students to use in searching for errors, a complicated process commonly reduced to *proofreading.*

In our overall strategy, we must begin to link the student's perception, what he *sees* and *hears* when writing words with his conceptual understanding of word formation, grammatical rules and relationships. We must find out how long it takes young adults to coordinate knowledge and performance in the early stages of learning to write and how language connections are learned and maintained in their strength. We must link psychological with linguistic analysis, and turn away from the actual error on the student's paper to develop the underlying perceptual and cognitive operations necessary for students to see what needs to be corrected.[2] We must begin to develop the kind of language awareness in our classrooms which would enable students to treat language as an object of analysis and evaluation in its own right since such awareness is critical for the processes of reading and writing.

Such skills are dependent not only upon the understanding and generation of grammatical rules, our present emphasis, but also upon visual and aural word encoding and decoding skills established during the early years of learning to read and write. These skills set the stage for *de-centration,* the ability to see words in new ways. It is not a simple process of association or copying words seen or heard: word formation and perception depends on a system of generalizations and transformations which hopefully becomes progressively adequate as the student goes through school.

However, given the fact that many of our students have not received proper training in the encoding and decoding of words, they have not experienced this system of transformations in relation to word formation and understanding. It is probable that many of our students received sight word and comprehension training in their early years

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[2] Gilbert Voyat, "Minimizing the Problem of Functional Illiteracy," *Teacher's College Record,* 72, no. 2 (December, 1970), 171–186.

of learning to read at the expense of a coding emphasis.[3] Thus we have a group of students coming from homes where a second language or second dialect is spoken, who have never learned how to approach and analyze standard English sounds, letters, syllables, syntactic patterns, and who feel the daily strain of attempting to speak and write *educated* words in an academic atmosphere when they have barely mastered the seemingly common ones.

We need a new theory of error, one with more focus on how young adults acquire the word perception skills which have been neglected in earlier stages of readiness and development. It must deal with how students experience, process, and store words, and must resolve the existing tension between the *romantics,* those who expect that a student's *insight* into grammatical rules will solve his writing problems, and the *Gradgrinds,* those who believe that only *drills* will erase such problems. My contribution to a new theory of error is to emphasize the relationship between perception and cognition brought to my attention by Piaget, and, as far as I know, not yet focused upon as something theoretically as well as pragmatically important in the teaching of writing.

In examining psychological theories of perception, I have realized that what we have failed to pay attention to is the fact that perception interferes in cognition and cognition interferes in perception. A student's word perception, his ability to *see, hear* and structurally analyze words *as they are,* determines his ability to grasp a grammatical rule or to apply grammatical knowledge to his own writing. Let me here further describe how mis-perception and faulty understanding interfere with one another:

With the first type of problem, a student does not grasp a grammatical concept because of *cognitive interference,* and therefore can't *see,* understand, or correct errors in his writing. For example, the student who does not realize that words consist of parts and wholes, that word endings indicate relationships between words in a sentence, will have difficulty understanding certain adjective or noun markers. Such a student may confuse words in the same family, writing *tragedy* for *tragic.*

With the second type of problem a student may not be able to apply a grammatical concept that she knows because of *perceptual interference.* For example, she may understand the use of the inflection

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[3] Jean Chall, *Learning to Read: The Great Debate* (New York: McGraw Hill, 1967).

-*s* after instruction in our classes, be able to apply her knowledge in structured exercises, and still be unstable in her use and perception of -*s* in writing. This student's awareness of -*s* on the paper in front of her, her ability to *see* and focus upon it in the way that she must in order to solve her problem, is deficient, and she needs perceptual training of a sort I will illustrate later. Part of this instability in her skill is caused by our lack of emphasis on perception of error on the written page, proofreading strategies, and transfer. The steps between the sudden insight into a grammatical concept and accomplished learning should involve more preoccupation with perception and repetition of an operation on a carefully graduated continuum of structured and non-structured writing exercises. The instability in seeing -*s* is also caused by teachers' and students' lack of respect for the skill commonly called proofreading, a separate step in writing which remedial writing students need to focus on not only to master error and thus concentrate on meaning, not only to appreciate writing as a craft, but also to deal with the very real demands of academic instructors who according to most research will tolerate no more than 2–3% error rate in a student's paper before being unfavorably distracted.

Piaget's description of perception is helpful here.[4] Briefly, he implies that as perception develops it follows a logical sequence of events. Piaget limited himself to the study of visual illusion and here I apply his theories to word perception errors in writing. In the first stages of development, perception is static and *centered.* A student sees a word or object in one way, his way, and visual and cognitive exploration is unfocused and unsystematic. This student may perceive letters and parts of words, but recognition will not itself result in meaningful interpretation. The *field* or *ground*[5] dominates what is seen and perceptions are not analytic but restricted to the general forms of a word or an entire essay. In the later *de-centered* stages of development, the self and seeing are more flexible and an internal equilibrium arises. As this awareness develops, perception becomes a more stable function of *accommodation* to the external world whereby the student progressively approximates and eventually generates what is seen or heard. He develops the ability to mentally re-arrange, re-group, and re-orient parts and wholes: letters, syllables, prefixes, suffixes,

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[4] Jean Piaget, The Mechanisms of Perception (London: Routledge & K. Paul, 1969), ch.2.

[5] Form, continuity and closure determine what is seen in the visual field.

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words, words in relation to one another. The student's exploration becomes more active, more thorough, and is directed by a strategy.

Inattentiveness to or ignorance about omitted, added, condensed, expanded or reversed letters, parts of words or sequences of sound may indicate a lack of knowledge about word formation, instability in spatial perceptions, limited visual and phonic word storage, field dominance or lack of cognitive strategies for finding errors. The student's perception remains in the preliminary *centered* stage.

Some research indicates that students with average or better intelligence who have difficulty retaining verbal configurations have difficulty spelling because of severe instability of spatial and temporal *Gestalten.*[6] Eleanor and James Gibson have concluded in *A Developmental Study of the Discrimination of Letter-Like Forms* that certain critical features of letters like the number of coils (m,n); curved letters (c,o); asymmetrical letters (m-w, c-u, d-b, p-b, g-q) and differently oriented or compressed forms cause more errors in discrimination.[7] Students spatially transform letters by rotation or reversal writing *c* for *u, d* for *b, p* for *b, g* for *q.* Though these are extreme orientation problems, many of our students do have word confusions and generalizations of letters and words, phonetically as well as spatially. Which type of generalization occurs depends on the way in which the individual stores words in the brain. Phonological interferences are often due to the presence of a second language, second dialect, or poor early training in sound-letter correspondence. The problem is compounded by the fact that the same sound can be spelled many different ways in English.

The effect of trials or practice, that is the slow growth in the ability to perceive letters and words as a function of repeated presentations of words, has been explored in the perceptual studies of Haber and Hershenson[8] and Eleanor Gibson has suggested that perception becomes more accurate through training involving dif-

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[6] Katerina de Hirsch, "Two Categories of Learning in Adolescence," *American Journal of Orthopsychiatry*, 33 (1963), 87–91.

[7] Eleanor and James Gibson, "A Developmental Study of the Discrimination of Letter-Like Forms," *Journal of Comparative and Physiological Psychology*, 55 (1962), 897–906.

[8] M. Hershenson and R. N. Haber, "The Role of Meaning on the Perception of Briefly Exposed Words," *Canadian Journal of Psychology*, 19, no. 1 (March, 1965) 42–46.

ferentiation of smaller and smaller difference between pairs of words.[9] Perhaps this research along with David Elkind's experiment *Reading Achievement in Disadvantaged Children as a Consequence of Non-Verbal Perceptual Training* indicates a need for perceptual training, to refine and stabilize our students' approach to words.[10] Elkind concludes that an experimental group of elementary school children made greater progress in word formation and recognition skills after being exposed to a series of visual training materials than a control group being taught through traditional basal readers.

Gibson, Haber and Hershenson, and Elkind believe that structured practice brings a student to closer and closer approximations of words until accurate perception results. Through gradual, step-by-step perceptual training they seek to implement the operations of *assimilation* and *accommodation* which Piaget describes as part of the process of learning. For Gibson, Haber and Hershenson and Elkind words are *out there* in the world, on the printed page, to be approximated and finally accurately perceived and learned. They are preoccupied with the mechanistic or atomistic way in which perception can be trained.

Jerome Bruner, on the other hand, believes that intelligence structures reality and helps to program the way in which perceptual data are collected. Perception changes when one is motivated and learns appropriate ways of structuring or categorizing external events. Bruner's strategy for making possible the perceptual growth that Piaget describes involves the student's understanding the ways of classifying parts of words, a knowledge of where to concentrate attention, and a knowledge of pertinent grammatical rules. His emphasis is on the cognitive.

Both the cognitive and mechanistic orientations in the field of psychology are reflected in teaching practice. One group believes that word perception problems are caused by the lack of conceptual understanding of the way words function, and the other group believes that students need perceptual training in order to see and correct errors even though they may have a conceptual understanding of particular grammatical forms and functions. Teaching experience

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[9] Eleanor Gibson, "Improvement in Perceptual Judgments as a Function of Controlled Practice or Training," *Psychological Bulletin*, 50 (1953), 401–431.

[10] David Elkind and JoAnn Deblinger, "Reading Achievement in Disadvantaged Children as a Consequence of Non-Verbal Perceptual Training," Final Technical Progress Report, Office of Education, (1968).

has led me to combine both approaches in the classroom and materials development: an overall conceptual understanding and strategy for finding errors along with focus and training in particular areas of perceptual problems such as those listed in the Appendix. Only a teacher's analysis of the unique origins of an individual student's word perception problems will indicate the use of one or the other or both strategies described.

As Bruner has noted, a strategy is one of the most important things a student needs when searching for errors. Aside from particular perceptual interference problems, a strategy is what most students lack. When rereading an essay to find errors, students tend to focus on several aspects of words and sentences at a time. Often the meaning of a sentence will dominate her attention, as in speaking, and individual letters, syllables, sounds of word relationships in a sentence will remain uninspected. An essay will not be perceived as an aggregate of patterns: words, phrases, clauses, sentences, paragraphs, thoughts, and because a student is not aware of writing as such a series of manageable patterns or stages her seeing is undifferentiated and unfocused. Development in learning to see errors is marked by her ability to deal with these several dimensions of writing simultaneously, allocating the time and attention appropriate to these several levels.

Also the student's attention to certain critical features of words, such as endings or sentences is not consistent. In Piaget's term, the student has not yet established a conscious principle of *conservation* with words whereby he operates with consistent rules or criteria.

Discouraged about his ability to master language skills, the student may adopt a *don't look back strategy,* and, on a broader level, may not even believe in the search for errors. As Bruner states:

> One of the chief enemies of search is the assumption that there is nothing one can find in the environment by way of regularity or relationship. . . . For the person to search out and find regularities and relationships in his environment, he must either come armed with an expectancy that there will be something to find or be aroused to such an expectancy so that he may devise ways of searching and finding.[11]

The student, not having a consistent expectancy or criterion to operate with, feeling the need to use *educated* words, under stress, and confused

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[11] Jerome Bruner, "On Perceptual Readiness," *Psychological Review,* 64 (1957).

between his own and newly-learned schemas, develops premature conclusions about written words. The student generally has a poor visual memory for the shape of words, as well as phonetic confusions. He is unanalytical and passive in his approach to words and does not operate with a consistent strategy, rather with what Bruner labels *perceptual recklessness*. And this strategy doesn't work.

Recently I have found that one of the most useful strategies for changing inaccurate perceptual habits for a large group of students in the beginning remedial course is to focus on the visual perception of errors in writing. This focus occurs along with and reinforces the grammatical discussions in class. The processes of perception and cognition continually influence each other until a discovery is made or an equilibrium is reached, depending upon whether you favor the Gestalt or Piagetian framework. By diminishing the force of misperception of words, partially through a series of exercises (some of which will be illustrated later), cognition and perception can be integrated so that more effective and lasting learning occurs.

The student, for example, who does not perceive or generate final -s should be gradually taken through the steps of perceptual development: exercises which expect the student to have a generalized perception of -s in phrases, clauses, sentences, paragraphs, essays; exercises which expect the student to discriminate between the five kinds of -s in the English language in clauses, sentences, paragraphs; exercises which expect the student to show the relationship between certain -s's and other words in the sentence; exercises which expect the student to perceive selected -s errors in essays; and finally, exercises which would be designed to specifically generate a composition involving the use of present tense third person singular. Here is a sample of some exercises for students which give a visual emphasis to the perceptual/cognitive discrimination of -s:

GRADUATED PERCEPTUAL EXERCISES: THE INFLECTION -s

1. The generalized perception of *words which end in -s:*
   a. in short phrases
      i.e. Circle all of the words which end in -s in the following phrases:
      City Limits
      The Boys on the Bus
   b. in sentences
      i.e. Circle all of the words which end in -s in the following sentences:

One thing bothers me when I pass hitchhikers: fear.
c. in paragraphs
    i.e. Circle all of the words which end in -s in the following
    paragraphs:
    (paragraph)

2. The perception of the *final -s:*
   a. in sentences
      i.e. You have been circling all of the *words* which end in -s
      on the last three pages. Now go on to circle *only the final*
      letter -s in the following sentences:
      Even an animal uses sounds and movements to share informa-
      tion.
   b. in paragraphs
      i.e. Same principle as 2.a.

3. The principle of "conservation": operating with a consistent rule
   for -s:
      i.e. Move around the letters in the nonsense words below
      and make a recognizable word. Leave the -s *constant* at the
      end of each word.

      ksas   = _____ s

      jpmus   = _____ s

4. Perceptual exercises in the uses of -s in the English language:
   i.e. Since you have completed the Module on the uses of -s in
   the English language, you know that there are five kinds of -s:

   VERB -s
   PLURAL -s
   POSSESSIVE -s
   CONTRACTION -s
   NATURAL -s

   Using this knowledge, circle the different kinds of -s in the following
   headlines:
   a. Circle only the POSSESSIVE -s.
   b. Circle only the VERB -s.
       Brooke appeals to Nixon to Resign for Nation's Sake
       Defeat of Reagan's Tax Plan
   c. Circle only the PLURAL -s.
       Earthquakes Rock Iran

The Market Continues to Drop

5. Manipulating the five kinds of -s by generating phrases from a set of cards:
i.e. Using the set of cards given to you, make as many phrases as you can using at least one kind of -s in each phrase.

The student	's	book
card 1	card 2	card 3

Write each phrase on this page.

6. Encouraging students to perceive the RELATIONSHIPS and CONNECTIONS between words fostered by -s:
i.e. Three of the four kinds of -s signal relationships or connections between words:

VERB -s
POSSESSIVE -s
PLURAL -s

   a. In the following sentences, circle VERB -s and then draw an arrow to the word it connects with. Your circle and arrow will show the relationship between words in a sentence.
   b. POSSESSIVE -s. Apply same principle as 6.a.
   c. PLURAL -s. Apply same principle as 6.a.

7. The perception of isolated kinds of -s in student essays.
i.e. Circle and correct the errors in the following student essays. (Each essay has problems with one particular kind of -s.

8. The perception of multiple -s problems in student essays:
i.e. Circle and correct the errors in the following essays. (Each essay exhibits multiple problems with the different kinds of -s.)

9. The student is asked to generate a short essay to test the TRANSFER of the perception of -s to his own writing:
i.e. Write a short essay (200–300 words) in which you describe what one member of your family does every morning (your mother, sister, father, brother, aunt, grandmother etc.).

Every morning my _____

   What we must start to do is to identify those students who, despite a general ability, manifest perceptual problems with the written

language. On a daily basis, we must jar students out of their *whole word* approach by stimulating them to generalize, use structural analysis, and devise strategies for finding errors. Non-verbal activities with particular emphasis placed on visual/spatial and occasionally aural strategies are proposed here as a way of generating changes in the student's dynamic of seeing words and word endings. Perhaps what is needed now, as well as in the earlier grades, is more dynamic visual teaching of the written language. More attention should be paid to the mediating process of perception.

This focus should be considered as an adjunct to and a reinforcement of writing, and not as a comprehensive writing program which necessarily involves grammatical understanding, development, and organization of ideas and writing and re-writing activities. We must determine the degree of conscious work needed in the area of word perception and proofreading without impeding the student's flow of ideas. Perhaps we make too many assumptions about the way in which students experience words, and it is probably time that remedial programs develop more intensive, specialized, self-instructional units for students with certain types of perceptual problems, auditory and visual, which are more pervasive than we wish to acknowledge. This strategy for teaching and materials development deals with the *perception* of error as a dimension of grammatical understanding. It seeks to give students strategies to master and overcome their fear of the monster Error and her *endless train.*

APPENDIX

WORD MIS-PERCEPTION CATEGORIES

These categories of mis-perception emerged during an analysis of errors in the essays of two hundred and fifty remedial writing students. This categorization brought seemingly random or careless errors closer together so that I could generalize about areas of perceptual confusion in the overall remedial student population. Of course, distinctions between the perceptual and the cognitive cannot be strictly drawn without knowledge of an individual student and several samples of his writing, but these groupings of perceptual confusion are indicators of areas in which materials and learning strategies could be developed.

VISUAL STRATEGIES FOR TEACHING: the following categories of error seemed to be caused by the students' lack of memory for the visual

shape of words, perhaps caused by inexperience in reading the written word. The sound distinctions between the confused pairs below are minimal and so a visual strategy and materials for teaching are being developed.

HOMOPHONES:

birth / berth
break / brake
buy / by
capital / capitol
do / due
fair / fare
for / four
foul / fowl
hear / here
hole / whole
know / now / no
knowbody / nobody
meat / meet

piece / peace
plane / plain
prepair / prepear / prepare
roll / role
seam / seem
shown / shone
sought / sort
their / there / they're
theirfore / therefore
threw / through
to / too
waist / waste
ware / wear
whether / weather
witch / which

/s/ CONFUSION:

absense / absence
advise / advice
cent / sense
choise / choice
deside / decise
facinated / fascinated
noncence / nonsense
sence / sense
sigarette / cigarette

/š/ AND /ž/ CONFUSION:

conclution / conclusion
directen / direction
desicion / descicion / descion / decision
educatan / education
explotion / explosion
fashon / fashion

possesian / possession
pulusion / pollution
sanitatian / sanitation
televition / televissin / television

/w/ *CONFUSIONS:*

were / we're / where
wait / wate / wot / what
wich / wish / witch / which
went / when

AURAL STRATEGIES FOR TEACHING: in origin, the following categories containing words which students confuse are based on a lack of discrimination between certain sounds. The teaching strategy should focus on the auditory perception of the student.

SLURRING OF FINAL CONSONANTS (PARTICULARLY /t/ *AND* /d/):

an / and
attain / attend
builting / building
curren / current
done / dont
lease / least
mine / mind
one / want
pass / past
when / went

ONE PHONEME DIFFERENTIATION:

accept / except
affect / effect
choose / chose
his / he's
lose / loose
mislead / misled
one / won
then / than
weak / wake
will / well

Particularly Troublesome Sounds: /d/, /t/, /θ/, /ð/. Missing, added or confused medial sounds are most commonly /m/, /n/ and /r/.

CONSONANT CLUSTERS:

attrack/attract
contack/contac/contact

VOICED AND UNVOICED CONSONANTS (PARTICULARLY /d/ AND /t/, /f/ AND /v/)

/d/ *and* /t/	/f/ *and* /v/
altitute/altitude	believes/beliefs
attendant/attendant	myselve/myself
bandid/bandit	releave/relief
badle/battlemedal/metal	savely/safely
president/president	strive/strife
seeded/seated	
thread/threat	

STRUCTURAL ANALYSIS STRATEGY FOR TEACHING: these categories of error seem to be caused by the student's ignorance of or inability to distinguish parts/wholes in his conception of words. Conceptual understanding of suffixes along with visual and aural strategies are being developed.

Suffixes: particularly troublesome suffixes are -ly, -y, -ing, -er, -est, -ic, -ist.

Missing Suffixes:	*Incorrect Suffixes:*
actual/actually	biology/biologist
bad/badly	frightful/frightening
beautiful/beautifully	hypocrite/hypocritical
big/biggest	optimistical/optimistic
bore/boring	psychology/psychologist
bright/brighter	psychoanalysis/psychoanalyst
difficult/difficulty	remedize/remedy
ever/every	slightness/slightest
total/totally	tragedy/tragic
young/younger	yelled/yelling

WORD PAIR STRATEGY: this category of commonly confused words is created by students' overgeneralization of words which are some-

what alike in root, visual shape, rhythm or sound.

angerly/agrily
aspect/respect
agreedments/agreements
acquirements/requirements
brothered/bothered
instance/instant
lie/liar
morale/moral
prepare/prepair/prepare
priviledge/privilege
quiet/quite
reguarding/regarding
remainded/reminded

conversion/conversation
dumby/dummy
doughtfully/doubtfully
dissented/decended
finely/finally