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BASIC WRITING AND SOCIAL SCIENCE RESEARCH PART II

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Cover design by Jamie Ross

Journal of Basic Writing

CALL FOR ARTICLES

We welcome manuscripts of 10-20 pages on topics related to basic writing, broadly interpreted. Lynn Quitman Troyka will serve as editor starting with the 1986 issues. Authors need not limit themselves to topics previously announced because *JBW* issues will no longer be devoted to single topics.

Manuscripts will be refereed anonymously. We require four copies of a manuscript. To assure impartial review, give author information and a biographical note for publication on the cover page *only.* One copy of each manuscript not accepted for publication will be returned to the author, if we receive sufficient stamps (no meter strips) clipped to a self-addressed envelope. We require the new MLA style (*MLA Handbook for Writers of Research Papers,* 1984). For further guidance, send a stamped, letter-size, self-addressed envelope for our one-page style sheet.

All manuscripts must focus clearly on BW and must add substantively to the existing literature. We welcome manuscripts that are original, stimulating, well-grounded in theory, and clearly related to practice. Work that reiterates what is known or work previously published will not be considered.

We invite authors to write about matters such as the social, psychological, and cultural implications of literacy; rhetoric; discourse theory; cognitive theory; grammar; linguistics, including text analysis, error descriptions, and cohesion studies; English as a second language; and assessment and evaluation. We publish observational studies as well as theoretical discussions on relationships between basic writing and reading, or the study of literature, or speech, or listening; cross-disciplinary insights for basic writing from psychology, sociology, anthropology, journalism, biology, or art; the uses and misuses of technology for basic writing; and the like.

The term "basic writer" is used with wide diversity today, in some cases referring to a student from a highly oral tradition with little experience in writing academic discourse, and in other cases referring to a student whose academic writing is fluent but other wise deficient. To help readers, therefore, authors should describe clearly the student population to which they are referring.

Our incoming editor wishes particularly to encourage a *variety* of manuscripts, including speculative discussions that venture fresh interpretations; essays that draw heavily on student writing as supportive evidence for new observations; research reports, written in nontechnical language, that offer observations previously unknown or unsubstantiated; collaborative writings that provocatively debate more than one side of a central controversy; and teaching logs that trace the development of original insights.

Starting with the 1986 issues, a "Mina P. Shaughnessy Writing Award" will be given to the author of the best *JBW* article every four issues (two years). The prize is $500.00, courtesy of an anonymous donor. The winner, to be selected by a jury of three scholars/teachers not on our editorial board, will be announced in our pages and elsewhere.

CORRECTION: [Apologies to John Schafer] Our Spring 1985 issue of *JBW* erred in naming one of Irvin Hashimoto's coauthors of *Strategies for Academic Writing* (University of Michigan Press, 1982). They are: Barry Kroll and John Schafer.

BASIC WRITING AND SOCIAL SCIENCE RESEARCH PART II

Lynn Quitman Troyka
Editor Designate

PREVIEW FOR 1986

In 1986, *JBW* will inaugurate two new policies. We will become a refereed journal, and we will move away from single-theme issues so that we can publish new material quickly. The splendid previous editors of *JBW* helped basic writing come of age. As *JBW* begins its second decade of publication, we hope to offer the broadest possible range of topics and of types of articles. For a sense of our interests, prospective authors are invited to read our new "Call for Articles" in this issue.

Our first 1986 issue promises to become a classic quickly. Authors include David Bartholomae, Michael Brookes, Andrea Lunsford, Myra Kogen, George Jensen, Alan C. Purves, and Marilyn Sternglass. In that issue, you will find a personal essay by an experienced academic dean who volunteered to become a novice teacher of basic writing; a report about a major international study that reveals fresh information about multinational rhetorical styles—information indispensible to all of us who teach ESL students in our basic writing classes; a discussion of how basic writers might be described by theories of cognitive styles; an analysis of how different assignments affect a basic writer's writing power; and much more. We plan also the first *JBW* index which will cover 1975-1985.

To enhance what is already a close relationship with our readers and authors, we cordially invite you to send us for possible publication reponses to our articles and letters to the editor (limit for each is two double-spaced pages).

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Sarah D'Eloia Fortune

INTRODUCTION

Part II of Basic Writing and Social Science Research looks at various applications of psychological theory to the pedagogy of the basic writing classroom.

Gerry Coleman and Anna Berg report an experiment in which students worked on the cognitive skills which undergird academic tasks and writing rather than actually writing essays or drilling grammar rules. These skills included classification of data, hypothesis formation, and hypothesis testing. The data students examined included, but was not limited to, grammatical concepts they would need to copyedit their papers. Students wrote up the processes they had to go through to establish categories and to state and test their hypotheses. The rather astonishing result was that the experimental students did better not only in the end-of-term assessments of cognitive abilities, but on the standardized reading and holistically scored writing tests as well.

Joan Elifson and Katharine Stone examine James Fowler's paradigm for human development, which because of its several dimensions, gives a richer interpretation of human growth than models which trace the form of logic, form of moral judgement, or ability to shift perspectives separately. Fowler places a new emphasis on maturity of the imagination—what he calls "faith" (not to be confused with religious belief)—the ability to formulate complex synthetic constructs which acknowledge and integrate the complexity of real life. While cautioning against an oversimplified view of stage theories and an abuse of them in designing pedagogical sequences, Elifson and Stone see many connections between students' levels of maturity and the kinds of writing it will be appropriate to assign. They present as a tantalizing possibility the notion that writing may present a unique context for stimulating developmental growth, both because writing demands intense concentration and precision and because it interacts so intimately with many aspects of meaning-making.

Annette Bradford reviews the role of self-regulating speech (talking out loud to oneself) in the maturation of the child and in adults in stressful situations, its use among experienced writers testing the sound of their prose, and its usefulness in therapeutic settings as a behavior modification technique. She concludes that self-regulating speech—freely talking out loud to oneself or to others while composing—might be particularly useful to the basic writer in coping with novel or difficult writing problems, in generating and elaborating ideas or pursuing solutions to a problem, and in providing verbal instructions to oneself about such matters as sequencing

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the task.

David Rankin suggests an integrated approach to oral reading, listening, and writing which makes use of teacher and student recordings and student transcriptions of professional writing. The proposed sequence not only encourages students to absorb the larger patterns and signals of organization and structure indirectly, but focuses their attention perforce on just those parts of the written code to which they are most blind when reading, and deaf when listening. Rankin encourages direct transcription—word for word copying— of difficult passages as valuable both in teaching subtleties of structure and as a prewriting exercise for "limbering up" one's own fluency. Similarly, recording and listening to their own essays will suggest to students where their sentences are overlong, choppy, or mispunctuated.

Three articles focus on the problem of persistent misspelling. Frank Parker reviews the literature on dyslexia, concluding that dyslexia seems most likely caused by a specifically linguistic disability rather than a more generalized disability with visual processing, sensory integration, and/or serial order perception. He argues from this conclusion that certain activities are likely to have little value, while other strategies may be pursued aggressively. He particularly recommends direct instruction in specific areas of language structure including word analysis and synthesis, and systematic phonemic and orthographic correspondences.

Amy Richards looks at "writing disability" as a specific kind of learning disability - sometimes connected to a corresponding reading or math disability. She closely analyzes the kinds of "predictable" errors among inexperienced writers, contrasting them with the more anomalous kinds of errors which have characterized students independently identified as learning disabled (the learning disabled writer too, if inexperienced, produces both kinds of error). She includes the spelling, punctuation, and sentence construction errors which characterize these two populations. Over the years, she has seen that learning disabled students can learn to compose long, sustained essays and that many learn to copyedit and use a dictionary successfully; however, some few students are never able to perceive that elements are missing from words or sentences.

Chopeta Lyons zeroes in on spelling as a kind of error in which most students can learn to practice the close observation required in copyediting, can experience rapid improvement, and gain motivation. Her system for classifying errors encourages the student to perceive the problem in terms of its source before turning to the large number of rules necessary in different cases to produce the right letters in the right order.

As this Board of Editors steps down, we wish for our successors the genuine pleasures of editing and we thank our many dedicated contributors. By sharing your experiences and insights, you have greatly enriched our own.

Anna Berg and Gerald Coleman

A COGNITIVE APPROACH TO TEACHING THE DEVELOPMENTAL STUDENT

There is growing consensus among developmental researchers that a substantial number, perhaps even a majority, of the freshmen admitted into colleges and universities in the United States approach the academic tasks of college-level courses on the concrete operational level of cognitive functioning.[1] Kuhn, et al., report that at least sixty percent of the college age population are unable to operate at the formal level, the highest level of cognitive development.[2] In another study using Piagetian tasks, Schwebel found similar results, reporting a mean score below the level of formal operational thinking for a group of randomly selected university freshmen.[3] Yet nothing less than formal-operational functioning is required to perform college-level work efficiently and effectively.[4]

The undereducated, urban community college student lags far behind the average college or university freshman in the ability to deal with the intellectually complex operations called for in college courses. These students often manage to pass remedial courses through memorization and drilling, strategies which quickly prove inadequate for college level work. Our experience and findings suggest that students do not succeed in regular college courses despite their acquisition of basic reading and writing skills because instruction at the remedial level has been directed at the surface of what our students need to know to succeed and has, by and large, ignored the cognitive structures that would allow them to process, assimilate, and manipulate the content of college programs. The facade of competence quickly crumbles because the basic skills are not supported by underlying cognitive structures. Our research suggests that remedial programs will be more effective if focused more directly on developing these underlying cognitive competencies.

At Passaic County Community College, an inner city school with a large enrollment of educationally disadvantaged students, we are now in the fourth year of developing a remedial curriculum, the "Cognitive Project," that gives educationally underprepared, nontraditional students an

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Anna Berg is currently teaching at Passaic County Community College, Paterson, NJ. Gerald Coleman is now teaching at Union County College, Union, NJ. *Both have made numerous presentations around the country to disseminate their project's theoretical and practical implications. They have coauthored a forthcoming developmental reading and writing text to be published by Holt, Rinehart, and Winston. It is based on the Cognitive Project herein described.*

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opportunity to actively experience ways of acquiring, solidifying, and using knowledge while acquiring the basic reading and writing skills necessary for college work. Its strength is that students use cognitive skills to explore basic skills and basic skills to explore cognitive skills. The project has been facilitated through a substantial, federally funded grant and support from the college administration. It now involves all full-time instructors who teach reading and writing to approximately 300 students per semester.

We used several sources as psychological and practical models for the project. Piaget, Inhelder, the cognitive constructivist movement in general, and recent research in cognitive psychology have contributed to the theoretical foundations. Several principles derived from these sources were incorporated into the project design:

1. Cognitive development is the predecessor of all learning. College students cannot assimilate information nor accommodate new modes and levels of intellectual activity unless appropriate cognitive structures are already developed. Rote memorization is an unacceptable alternative.

2. These structures develop through adaptive interaction with learning situations which are challenging enough to create a state of cognitive disequilibrium, but are not so challenging or distant as to be beyond the student's developmental level of functioning. There must be an "optimal mismatch" between where students are functioning intellectually and the activities in which they are engaging.

3. The content and operations of working intellects are organized according to the nature of knowledge systems; cognitive structures underlie thinking across varying and seemingly disparate domains.

We had several existing programs on which to model our efforts. The ADAPT program (University of Nebraska), the DOORS program (Illinois Central), and the SOAR program (Xavier University) use specifically developed materials, activities, and approaches that prepare students intellectually for college work. These programs, however, deal essentially with students already accepted at the college freshman level and are geared, for the most part, toward success in the sciences. Our nontraditional students have college degree aspirations but fall well below college entry-level standards. Therefore, the major task of our project has been to develop and refine materials and tasks appropriate for our nontraditional student population—activities that emphasize the development of nascent intellectual abilities and the solidifying and application across many contexts of already developed ones. Unlike most remedial programs and texts which deal with cognitive structures only indirectly, we have identified cognitive structures as the major objectives of the remedial effort. The "cognitive strands" that the project decided upon became, not means toward ends in the service of basic skill or content area mastery, but the very core of the curriculum.

Guided by weekly faculty meetings, our individual research and consultations with Dr. Miriam Goldberg of Teachers College, Columbia University, and our analysis of the cognitive aspects of actual college courses over the last two years of the project, we have defined, redefined, and finally identified twelve cognitive processes that underlie basic reading and writing

skills and college level courses. The curricular materials lead students to explore and develop the following twelve cognitive competencies: inferential reasoning, changing frames of reference, generating possibilities, hypothetical reasoning, problem solving, decision making, understanding and making coherent arguments, metaphoric reasoning, classifying, seriating, understanding complex relationships, and reflection upon internal processes.

These twelve "cognitive strands" are interwoven throughout the program so that they reinforce and strengthen each other while providing a process-oriented structure for the basic literacy skills. This approach contrasts with "thinking skills" programs and texts which deal with "classification" as a discrete topic or chapter, move on to "inference" as a discrete topic, and so on. We do not claim that the twelve strands are an exhaustive taxonomy of thinking skills but that they are a sensible list of cognitive competencies needed in writing, reading, and academic functioning, and that they are more useful for remedial English educators than, for example, Guilford's 120-element "structure of intellect"[5] or the reducing of complexities of the human mind into an overly simplistic hierarchy of Bloom's taxonomy.[6] We developed the strands to make the cognitive demands of mastering basic skills and academic content areas more accessible to remedial educators and to provide a structure for the development of "Explorations" for our project.

EXPLORATIONS

"Explorations" are student centered activities that allow students to make connections between reading and writing and the cognitive processes that underlie them, which allow these skills and processes to play off and enrich each other, and which provide what underprepared students need most—new ways of looking at and operating in the academic world.

The following is a brief description of one student exploration, entitled "The Human Being as a Natural Rule Maker." It focuses upon the specific grammatical concern of subject-verb agreement in the present tense. This is a particularly difficult concept for remedial students to master for many reasons, some of which are cultural and some purely cognitive in nature. The cognitive competencies are more than equally focal to this exploration and include class intension (defining) and class extension (recognizing class membership), determining causal relationships, determining analogous structures, re-constructing and applying conventional rules, generating hypotheses and testing them against reality, and reflecting upon internal processes.

The objective of this exploration is, therefore, not merely to teach subject-verb agreement, although this is the content of the exploration, but to do so in such a way as to expose and explore universal intellectual competencies that structure knowledge and purposeful action. To succeed in college, students will need to internalize processes as well as content.

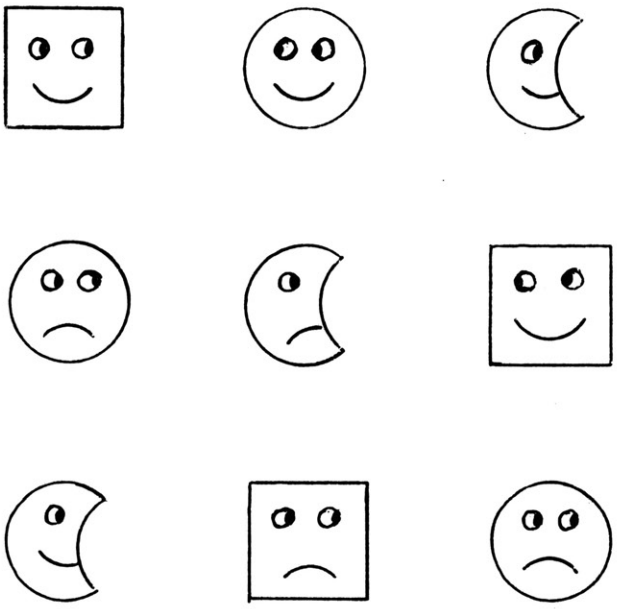
This exploration grew out of our initial work in hypothesis generating and testing. We liberally adapted an experimental paradigm from the cognitive psychology literature.[7]

One of the activities that we invented to make this area of mental life more accessible to our students was the "Introvert-Extrovert" exercise which is shown in condensed form in Figure 1.

The most significant part of this activity is the student analysis section. Students who have already engaged in discovering their own rules for subject-verb agreement still experience great difficulty in applying their rules in actuality. With the introduction of the Introvert-Extrovert activity, we noticed, however, that students were much better able to apply their rule while editing their written responses to this particular exploration. Investigation into this phenomenon disclosed that the two activities, dealing with subject-verb agreement and solving the Introvert-Extrovert problem, shared several structural similarities. The most profound similarity is the "causal" relationship between the elements of each activity: the nature of the subject "causes" the verb to either end in "s" or not; similarly the nature of the eye contact "causes" the mouth to either smile or not. The similarities between these examples of "rule causality" is depicted in Figure 2.

Figure 1

The characters below follow certain rules for smiling and frowning: all □ 's follow their own rule; all ○ 's follow their own rule; and all ☾ 's follow their own rule. Do what you have to do to find these rules and record your methods of solution as you proceed.



The "laws" that students extract from these examples are:

☾ = Introverts: Enjoy lack of eye contact (smile) and dislike eye contact (frown)

○ = Extroverts: Enjoy eye contact (smile) and dislike lack of eye contact (frown)

□ = Extroverts: Enjoy eye contact (smile) and dislike lack of eye contact (frown)

Figure 2

Editing: Normative Behavior--Introversion

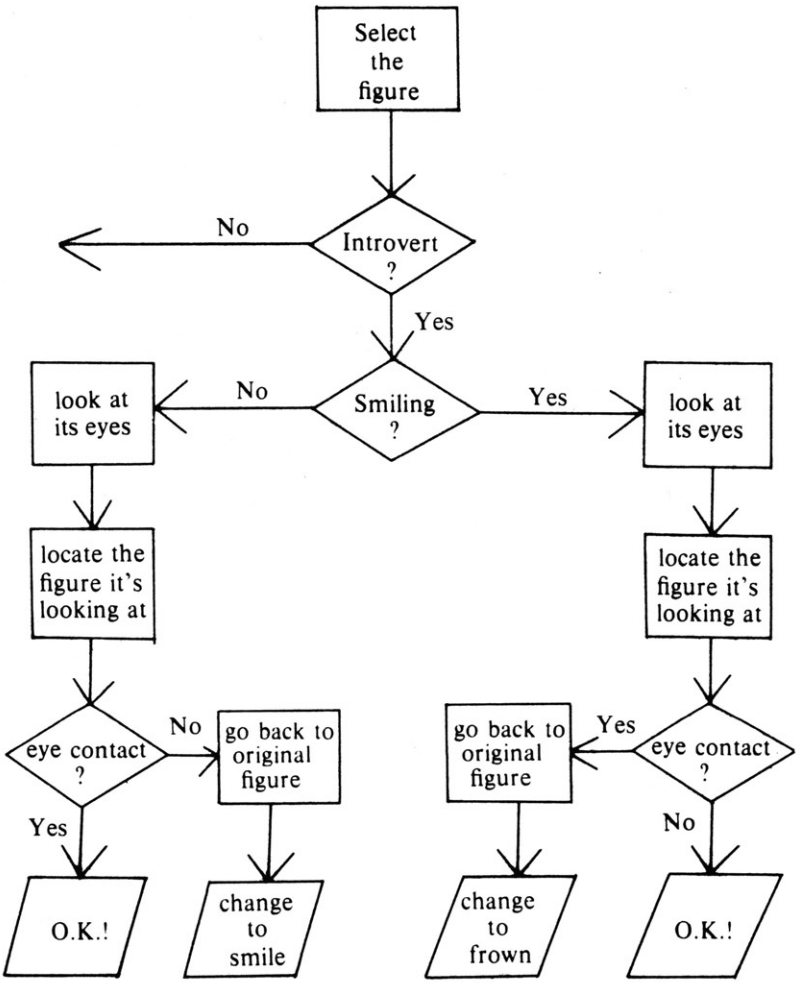
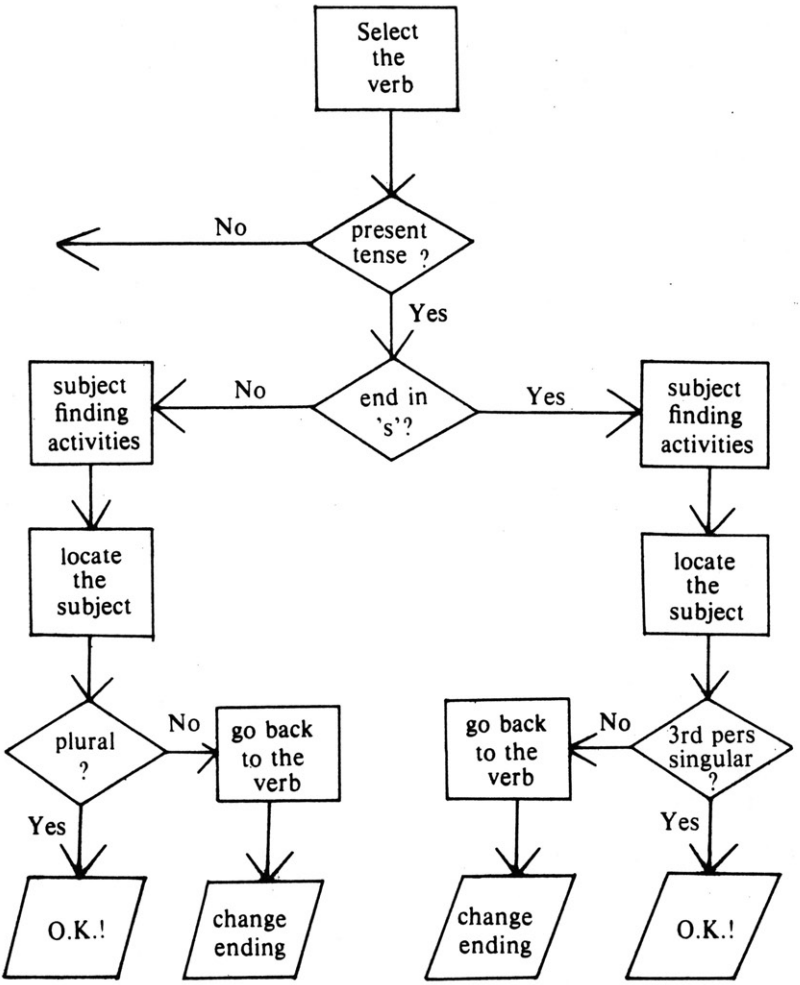


Figure 2 (Cont'd.)

Editing: Subject/Verb Agreement



The algorithmic analysis in Figure 2 shows the structural similarities between the two activities. Both exhibit elements of causal or, more properly, contingent relationship that seem to be at the heart of our students' difficulty. Because students seem to be more able to solve the "extrovert" problem than to deal with similarly structured problems in language usage, this activity provides students an entree into subject-verb agreement.

Entree is, however, different from insight. The question is, whose insight should guide the discovery in light of our students' obvious difficulties—ours or theirs? Because we, the curriculum-makers, have already uncovered the structural relationships, it may seem logical for us to design a lesson revealing our algorithms for these two processes. However, to select one as being *the* structure would be both psychologically and logically unsound. Even if we have the *best* structure, it would be theoretically unsound for us to design activities that would deny students the opportunity to construct (or, rather, reconstruct) the relationship for themselves. First of all, they will understand the rules better if they discover them for themselves, but, even more importantly, students should engage in this mental construction as an end in itself. Rule making, rule verification, correct rule application, and the cognitive skills employed in these activities will be important to students long after they have internalized the vagaries of subject-verb agreement.

The seven activities below constitute the complete exploration of "The Human Being as a Natural Rule Maker." The activities are covered sequentially over a two- to three-week period. This exploration comes midway through the course after sentence completeness and verb identification.

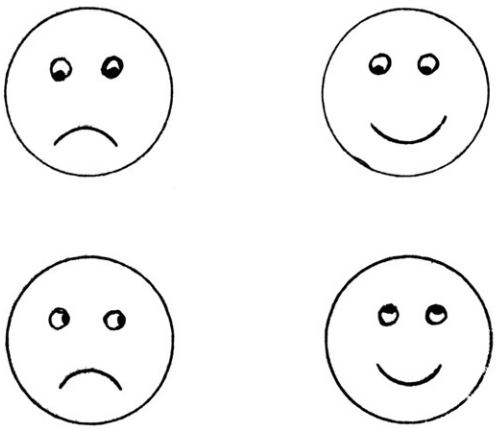
Activity 1. Students are instructed to list the classification activities that they have previously engaged in during the semester in reading and writing. Many instructors deal with this activity as a group discussion or have students work in small groups. Initially, students should try to reconstruct their classification activities. Later, they may scan through their actual work. Time constraints and personal style usually determine the way instructors deal with this question and questions like it. They should not be handled superficially nor summed up by the instructor. These bridging questions deal with the underlying processes that run through the program and connect learning experiences with each other, and they should be actively processed by the learners themselves.

Activity 2. Students are given an unorganized list of twenty-eight sentences and are asked to group them into four categories of equal number and to name each category. Students' classification schemes can be as sophisticated as they can be farfetched, and their generation and testing of hypotheses against the givens is, in a sense, a lesson in itself. When students finally get around to testing "time" as a classification criterion (they have explored the essential role of verbs in conveying time in previous explorations) they notice that such time—"past" and "present"— divides the sentences cleanly but does not conform to the constraints of the problem: four equal categories.

However, a classification of "past not ending in -ed," "past ending in -ed," "present ending in -s," and "present not ending in -s," does conform to the equal category constraint.[8] This portion of the exploration combines students' understanding of the nature of verbs with problem solving through classification and hypothesis generating and testing. It also provides experience in sticking to a task to the end.

Activity 3. Students are informed that they are now going to explore how good they are at creating rules or laws. They are presented several examples like Figure 3 below and are asked to find a rule that accounts for the smiling and frowning behavior of the figures. When their eyes meet, they smile; when they do not, they frown.

Figure 3



An exercise earlier in the semester required students to record on a score sheet each time they heard a word that ended in "s" from a story that was read to them. The actual total is 44, yet students typically hear from as low as 12 to perhaps as high as 30. From this state of "disequilibrium," they explored potential causes for this discrepancy and established the importance of the "s" ending at least in terms of sheer frequency of use. However, subject-verb agreement was not specifically explored at this time.

They are also required to explain in depth, in writing, how they made their rule—what they looked for, what they tried out, how they knew when they had found the rule, etc. This activity can be quite demanding for our students because it concerns processes that they may be only vaguely aware of. Finding a way to talk about these processes can be quite difficult.[9] We believe that one reason that Cognitive Project students have demonstrated more sophistication in dealing with essay exams is that they are consistently communicating concepts that are often difficult to express

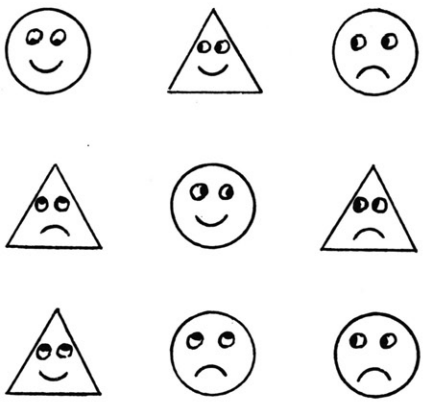
in writing.

Activity 4. Students are now told that they are ultimately going to come up with a rule that explains present tense -s on the end of some verbs and not on the end of others. Before they do, however, they solve another more complex "Introvert-Extrovert" problem involving two different "character-types" (see Figure 4). They are strongly encouraged to think about how they are proceeding and how their strategies here might be useful in helping them to determine their "s-rule."

The way that students encode and solve this problem will be of particular value to them in their subsequent subject-verb agreement work if they engage in it in light of this future activity. It appears that the notion of "anticipatory transfer" has a good deal to be said for it both empirically and from a common sense perspective. It makes sense that transfer of learning is enhanced when the "transfer" activity is connected to the "target" activity *prior* to engaging in *either.* The initial activity is, therefore, embued with appropriate significance and power vis-a-vis the activity of primary interest—in this case, subject-verb agreement.

Figure 4

Two different personality types are depicted below. All △ 's act alike and all ○ 's act alike. They follow two different rules of smiling behavior. Figure out the rules that each personality type follows.



Smiling rule for △ 's: (They smile when they are not making eye contact; frown when they do.)

Smiling rule for ○ 's: (They smile when they make eye contact; frown when they do not.)

Next, students are asked to explain how they found their rules and how they knew that they were correct. The rules generated are less important than the effort expended in reflecting upon the processes of generating and testing hypotheses in rule making and the cogency of their written communication upon this reflection.

Both parts of the question should be dealt with—generation and verification of rules are equally vital processes, different in kind as well as difficulty. Rule making requires students to engage in exploring the nature of language conventions, regularities, and occasional contradictions. These inductive, hypothesis-generating processes are vital intellectual skills. Rule application, on the other hand, is a cognitively demanding, deductive process that is too often overlooked. Many students who can generate hypotheses find it very difficult to test them on the sample sentences. Because these thinking capabilities are important for effective functioning in college and elsewhere, instructors should allow students to engage in this testing activity fully rather than pointing out how student-generated rules do not fit the sample sentences.

Activity 5. Students are given a representative list of present tense sentences and asked to create a rule that explains what makes the "s" appear at the end of present tense verbs. (We include the "I" and "you" exceptions but other instructors often exclude the exceptions during the initial rule making phase.) When students find a rule that *fits* all instances, they write it formally. Using traditional terms such as "1st person," "2nd person," "3rd person," and other half-remembered jargon is discouraged in favor of the students' own, more personally meaningful terms. Also, many students have notions such as "singular subjects have singular verbs," which are, at best, trivial. At worst, they may be confusing and nonsensical. The idea of a *verb* being singular or plural is problematical too, and most of our students have associated "s" with pluralness, which interferes with generating a valid rule—verbs with plural subjects do not end in "s." It is always better that they forget previous notions of subject-verb agreement if, indeed, they have any. After they come up with their own rules, there is considerable "rule trading" whereby students adopt part of other students' rules that they like or they may abandon their own rule entirely in favor of another's. Instructors usually put the rule variations on the board or type them up for distribution to encourage such rule refining activities.[10]

Activity 6. Just as testing previously generated hypotheses is not a simple reversible operation, rule applying is not merely a matter of rule making in reverse. This activity has two parts. The first engages students in finding correct instances of already given rules. We continue along the "introvert-extrovert" line (any number of other rule application activities could be substituted), presenting students with a group of "introvert-extrovert" figures and the behavior rules that each "type" should follow. However, students are informed that several "impostors" may be present. It is their job to find the impostors by proving that they are not "rule followers." This activity isn't as easy as it sounds. We feel that it is important, however, since it increases the likelihood of "anticipatory transfer" to the second part of this activity—subject-verb agreement editing of previously written work,

where the problem is identical— there may be some "impostor" verbs hiding out in their writing as well.

Activity 7. Students have previously explored the usefulness of memorization and mnemonics for learning material that is essentially arbitrary in its structure. Subject-verb agreement is a conventional regularity that is essentially arbitrary in nature. This activity requires students to design their own mnemonic devices as aids for remembering their own rules. After this activity, if a student wishes to forsake his or her mnemonic for another's that is perfectly acceptable. However, each student should engage in the mnemonic-creating process—most college professors will not provide mnemonic aids for them later on.

FINDINGS

Entering students scoring below the 8th grade level (approximately) in reading, writing, and computing were randomly assigned at registration to Comparison and Experimental Groups at the Basic Level and were taught by full-time faculty, meeting in morning sessions. The Comparison Group was taught according to the objectives of the Academic Foundations Division's reading and writing syllabi by instructors with many years of experience in teaching these courses. The Experimental Group was taught by instructors with at least one semester of experience in the project using materials and activities like the "Rule Making" exploration which had been designed by the codirectors during the project's pilot year.

The data which were gathered on these two groups are encouraging. While we expected to find significant differences in favor of the Experimental Group on the Thorndike-Hagen Cognitive Abilities Test, we were surprised by the Experimental Group's strong performance on the standardized reading and holistically scored writing tests and by the pass-fail percentages resulting from these tests. Because we emphasized cognitively based, student-centered activities that took considerable time away from drilling, practice, and traditional reinforcement exercises in the basic skills usually tapped by standardized tests—in fact we did none of it—we expected that the Experimental Group would at best achieve parity with the Comparison Group on these measures. We assumed that the comparatively little time we did devote to basic skill exploration might make up in quality what it lost in quantity. We felt that the traditional skill building approaches aimed at success on standardized exit criteria would not be of lasting value, but we did not expect to find such differences in favor of the Experimental Group on the standardized tests themselves.

COGNITIVE ABILITIES

The development of cognitive skills was measured by the Thorndike-Hagen Cognitive Abilities Test which tests cognitive development in the verbal, quantitative, and nonverbal areas.

The Experimental Group's adjusted posttest means were significantly different from the Comparison Group's posttest means on the Verbal Battery total at the .001 level of significance and the Quantitative Battery total at the .05 level of significance. These two batteries, are designed to

measure analytic reasoning skills, levels of abstract reasoning, short-term and long-term memory for verbal and quantitative concepts and, in problem solving, resistance to distraction. The posttest differences on the Non-Verbal Battery were not significant. However, the relationship of the Verbal and Quantitative scores to the Non-Verbal score is very important. Students who score higher on the Non-Verbal Battery than on the Verbal and Quantitative Batteries may have relatively well-developed reasoning abilities but they process information quite differently from the highly verbal student. These students are effective in perceiving and manipulating spatial relationships and tend to organize and handle data in complex wholes and patterns.[11] Because of the verbal, analytic, and abstract nature of much of college-level work, we were concerned that pretest scores for both groups on the Non-Verbal Battery were as high as or higher than Verbal and Quantitative scores.

The posttest means show that while the Comparison Group continued to maintain this troublesome nonverbal superiority (it actually increased), the Experimental Group made progress in improving the verbal reasoning/nonverbal reasoning balance—verbal reasoning began to take primacy as both improved over the semester.

Table 1 below displays posttest means adjusted for pretest differences and F-scores denoting significances for the Thorndike-Hagen Cognitive Abilities Test

Table 1

Thorndike-Hagen Cognitive Abilities Test
Adjusted, Posttest Means

Variables (raw scores)	Experimental	Comparison	F-Score[1]
Verbal 1 - Vocabulary	7.54	4.12	11.1**
Verbal 2 - Sentence Completion	13.25	10.94	7.8**
Verbal 3 - Verbal Classification	7.55	5.21	4.1*
Verbal 4 - Verbal Analogies	13.50	9.42	7.3**
Verbal Total	42.15	27.36	18.0***
Quant. 1 - Relationships	12.12	9.24	6.1**
Quant. 2 - Number Seriation	9.79	7.71	5.7*
Quant. 3 - Equation Building	7.84	7.89	0.4
Quantitiative Total	29.52	25.31	4.3*
Non-Verbal 1 - Figure Classif.	11.37	10.99	0.1
Non-Verbal 2 - Figure Analysis	13.57	11.03	4.5*
Non-Verbal 3 - Figure Synthesis	18.90	16.90	2.3*
Non-Verbal Total	42.65	39.67	1.5

[1] * Significant at .05 level
** Significant at .01 level
*** Significant at .001 level

READING.

Pretest, posttest, and adjusted posttest means on the Reading Battery of the Test of Adult Basic Education for the Experimental and Comparison Groups are shown in Table 2 below. The vocabulary and comprehension adjusted posttest means for the Experimental and Comparison Groups were significantly different at the .05 and .001 levels respectively. Total posttest score means were also significantly different in favor of the Experimental Group at the .001 level.

Table 2

Test of Adult Basic Education—Reading

Raw Scores

Variables	Experimental	Comparison	F Scores[3]
Vocabulary:			
Pre-test Means	19.89 (7.4)[2]	14.08 (6.3)	
Post-test Means	27.00 (8.2)	19.53 (6.4)	
Adjusted Post-test Means[1]	24.60	21.93	6.13*
Comprehension:			
Pre-test Means	22.96 (7.0)	20.69 (6.5)	
Post-test Means	25.19 (8.1)	18.74 (6.2)	
Adjusted Post-test Means	24.74	19.18	25.14***
Total:			
Pre-test Means	42.85 (6.4)	34.85 (6.4)	
Post-test Means	52.75 (8.1)	38.00 (6.3)	
Adjusted Post-test Means	50.26	40.49	21.00***

[1] Covaried for pre-test means.

[2] Grade equivalents are shown in parentheses.

[3] * Significant at .05 level.

** Significant at .01 level.

*** Significant at .001 level.

WRITING.

The area of most striking improvement for the Experimental Group was writing. Table 3 shows the mean scores of holistically scored pre- and post-semester essays. Each essay was scored by two readers, a combined score of 5 being the criterion for progress to the next level. Essays were numbered and mixed so that readers were unaware of student name or group. Students in the Comparison Group improved, but slightly; students in the Experimental Group improved dramatically.

Table 3

Holistically Scored Essay Data

(Combined Score—Two Readers)

Spring 1981 Cohort	Experimental (n=22)	Comparison (n=19)
Pre-test Mean	4.0	4.3
Post-test Mean	5.9	4.8
Fall 1981 Cohort	**Experimental (n=82)**	
Pre-test Mean	3.6	—
Post-test Mean	6.0	—

Again, the Experimental Group did no grammar drilling or practice and, in fact, wrote few essays that could be seen as even remotely similar to the exit essay. The writing that project students did engage in was typically related to the intellectual explorations and usually entailed written explanations of how they solved problems, how they came to particular conclusions, or what they were experiencing internally. That is, they reflected, in writing, upon the nature of their thinking or reasoning processes in particular situations and wrote about the relationships between explorations, mental processes, the basic skills, and academic matters in general.

The grammatical topics examined by project students—the nature of verbs, the nature of the sentence, and subject-verb agreement—were explored in ways that allow students (1) to generate and test hypotheses regarding standard English usage, (2) to experience "disequilibrium" when their old notions do not match reality, (3) to establish grammatical categories according to student-determined criteria, and (4) to analyze concepts such as the arbitrary yet lawful nature of grammatical rules, contingent relationships in "grammatical rule causality"[11] and the process of applying self-generated or given rules.[12] The data for the Fall 1981 semester was gathered after the experimental design collapsed. We found ourselves unable to maintain a Comparison Group—it simply became impossible to keep instructors out of the project.

It is interesting to note that when the experimental design collapsed as the project expanded for the 1981-1982 academic year, the holistically graded writing scores showed even greater progress from pre- to posttest than the Experimental Group achieved during the previous semester. These findings were achieved with new instructors and with much larger Ns. This pattern of increased improvement can also be seen in Table 4 which shows pass-fail/repeat data based upon the departmental exit criteria for writing, reading, and math for both groups. The mean scores achieved during the experimental semester (Spring 1981) were actually improved

upon in the Fall, and with many more students participating after the Comparison-Group instructors joined the project. This development suggests that it was not the nature of the instructor that leads to the significant between-group differences but the nature of the instruction.

LONGITUDINAL FINDINGS.

The project's primary goal is to achieve results at the college level, and it is there that the success or failure of the approach must be assessed. Because the project is relatively young and because the instructional materials and activities now operate only at the basic level, we have only fragmentary findings.

Table 4

Pass-Fail Data

Spring 1981 Cohort

Variable	Experimental Group			Comparison Group		
Subject:	N	Pass	Repeat-Fail	N	Pass	Repeat-Fail
Reading	32	19 (59%)	13 (41%)	31	10 (32%)	21 (68%)
Writing	32	16 (50%)	16 (50%)	31	8 (36%)	23 (74%)
Math	32	17 (55%)	15 (45%)	31	10 (32%)	21 (68%)

Fall 1981 Cohort

Variable	Experimental Group			Comparison Group		
Subject:	N	Pass	Repeat-Fail	N	Pass	Repeat-Fail
Reading	99	62 (63%)	37 (37%)	—	—	—
Writing	84	59 (70%)	25 (30%)	—	—	—
Math	77	49 (64%)	28 (36%)	—	—	—

Initial longitudinal findings are based upon three cohorts (Fall 1979, Spring 1980, and Fall 1980) that enrolled and were placed at the basic, remedial level at Passaic County College during the project's pilot year and the first semester of the expanded Title III Project.

We do know that Cognitive Project students remain at Passaic County Community College in greater numbers after three semesters than do Comparison Group students—Experimental Group N=50, Comparison Group N=30 (each group began with approximately 150). More importantly, we know that the Cognitive Project delivers more students into the college-level programs and with fewer detours and repeated courses along the way. Of the fifty Experimental Group students from the initial cohorts, 90% were enrolled in college-level programs in their third semester compared to 65% for the Comparison Group. Three semesters are optimal for a basic-level student to reach full college-level work. Further longitudinal research to assess how well these students are doing in their college programs is under way. We have, unfortunately, no data on students transferring to other institutions.

CONCLUSIONS

A cognitive approach to remediation appears to accomplish more than other programs. Approaches which devote full time to practicing the basic skills appear to make learning them more difficult. Like other forms of knowledge, the basic skills cannot be bullied into existence through practice alone. Unless the intellectual foundations are nurtured, practice can only be partially effective. Our results suggest that the quality of time spent on basic skills tasks may be more important than the amount of time spent. Sigmund Tobias of City College, The City University of New York, supported this position in an article on the effect of instructional mode on achievement. He contended that the theory that spending more "time on task" results in higher achievement is only partially correct; what counts is how the student uses that time and what the student is thinking while studying the materials.[13] Our results also imply that direct instruction aimed toward exit criteria on standardized tests is not always particularly helpful. We are not saying that standardized tests are invalid exit criteria for remedial programs. The point is that it is not necessary—and apparently much less effective—to devote the entire remedial effort toward passing standardized tests. This is even truer since so much more will be demanded of our students when they leave remedial programs.

It is important to note that a student may be a concrete operational thinker in many realms of activity, especially cognitive manipulations of unfamiliar subject matters, yet formally operational in others. In large part, Passaic County Community College students come from backgrounds rich in interaction, adversity, and complexity. They have already overcome many emotionally and intellectually trying situations that have demanded survival strategies of enormous mental adaptiveness. Yet these students are typically unable to transfer their nonacademic intellectual skills to academic work, and it is easy for educators to allow academic deficiencies to obscure cognitive efficiencies. It is clear that a carefully designed

curriculum beginning at the level and in the areas where our students are "smart" can make a significant difference in terms of academic success, provided that the structure of this integrated curriculum makes use of every opportunity to enhance the transfer. When intellectual abilities in one area indeed transfer to other areas of cognitive life, students make rapid progress in the basic skills and content-area subjects, think more positively about themselves, and handle the intellectual demands of college life.

While the Cognitive Project is no longer funded by the Federal Government, the curriculum materials and the cognitive approach continue to be used extensively in the Academic Foundations program by both project faculty and new faculty because it has improved the quality of life in the classroom for both students and teachers. The students' enthusiasm seems to stem from the fact that they begin to understand what learning is all about. The faculty are enthusiastic about their ability to meet a basic student need more directly, since the curriculum attempts to respond to the students where they are in their thinking processes rather than to respond only to deficiencies demonstrated on standardized reading and writing tests. Follow-up interviews with basic skills students who participated in the Cognitive Project and the Comparison Groups and who went on to college-level work revealed that students tend not to use most of the specifics of basic skills courses, such recipes for better reading and writing as SQ3-R, proofreading lists, and outlining formulae. Teachers report, however, that students who participate in the Cognitive Project tend to be more open and willing to *hear* what their instructors are saying, to explore new concepts, to think for themselves and, in general, to know when they know and when they don't know, and above all, to ask.

The fact is that basic skills are—properly understood—not basic at all. Nothing is basic for an individual who doesn't already possess the competency. What we term basic is often at the upper reaches of our students' working intellects. Piaget often speaks of a sort of cognitive amnesia, a universal phenomenon whereby human beings are completely insensitive to previous structures of knowledge once they have moved on to higher levels of intellect. It seems to be a quality of human nature to consider all that we personally know and are familiar with to be "basic" knowledge. All of us, remedial student and professor alike, need to understand the nature of what we are in the process of learning. We believe that those who approach learning through understanding can not only acquire content but can gain ways of viewing knowledge and experience that will never leave them.

NOTES

[1] According to Piaget, human intelligence follows roughly four stages of development: (a) Sensorimotor (0-1½ years)—emphasis on coordination of actions; (b) Preoperational (2-6 years)—use of symbols in play,

language, and mental imagery; (c) Concrete-operational (6-11 years)—reversible mental operations and thought connected to the concrete; (d) Formal operations (11 or 12—adolescence)—ability to deal with the potential rather than only the concrete, and understanding of relations between relations. While a particular individual may not necessarily pass through all four stages, the order of progression is invariable because of the very organization of each stage; i.e., one could not skip a stage nor could one proceed through the stages in a different order.

[2] D. Kuhn, J. Langer, L. Kohlberg, and N. Haam, "The Development of Formal Operations in Logical and Moral Judgement," unpublished research paper, sponsored by Columbia University International Scientific Research Pool Grant, 1974.

[3] M. Schwebel, "Formal Operations in First Year College Students," *Journal of Developmental Psychology* 91 (1975): 133-141.

[4] Our analysis of the cognitive demands of four introductory- level college courses at Passaic County College (Psychology I, Management, Accounting I, Physiology) indicates that many of the classroom, assignment, and test demands of these courses could be handled by the dedicated concrete thinker with the skill and the will to memorize definitions, systems, classifications, etc. Much, however, calls for intellectual manipulations that are clearly formal in nature. We conclude that concrete-operational students would have difficulty, to say the least, in weaving their way toward a degree at the college by avoiding formal task demands or through heroic compensations, such as rote memorization of almost all course content.

[5] J.P. Guilford, *The Nature of Human Intelligence* (New York: McGraw-Hill, 1967).

[6] Benjamin S. Bloom, *Taxonomy of Educational Objectives: Cognitive and Affective Domains*, 2 vols. (New York: David McKay, 1956).

[7] M. Levine, *Theories in Cognitive Psychology: The Loyola Symposium.*, Ed. R.L. Solso. Hillside, NJ.: Lawrence Erlbaum Associates, 1974.

[8] An exercise earlier in the semester required students to record on a score sheet each time they heard a word that ended in "s" from a story that was read to them. The actual total is 44, yet students typically hear from as low as 12 to perhaps as high as 30. From this state of "disequilibrium," they explored potential causes for this discrepancy and established the importance of the "s" ending at least in terms of sheer frequency of use. Subject-verb agreement however, was not specifically explored at this time.

[9] For an excellent analysis of this facet of cognitive development see Jean Piaget, *The Grasp of Consciousness* (Cambridge, MA: Harvard University Press, 1976).

Both parts of the question should be dealt with—generation and verification of rules are equally vital processes, different in kind as well as difficulty. Rule making requires students to engage in exploring the nature of language conventions, regularities, and occasional contradictions. These inductive, hypothesis-generating processes are vital intellectual skills. Rule application, on the other hand, is a cognitively demanding, deductive process that is too often overlooked. Many students who can generate

hypotheses find it very difficult to test them on the sample sentences. Because these thinking capabilities are important for effective functioning in college and elsewhere, instructors should allow students to engage in this testing activity fully rather than pointing out how student-generated rules do not fit the sample sentences.

The following "rules" have been taken directly from student papers to give the reader an idea of what to expect with this approach:

a. Verbs in the present tense end with "s" if the subject is singular with the exception of I and you.

b. When the subject is singular the verb ends in "s" when it's in the present, except for I and you.

c. When there is a singular noun or pronoun as the subject in a sentence in the present tense, you put an "s" on the end of the verb, except for I and you.

d. Plural subjects have verbs that don't end in "s" in the present tense. The singular subject I and you also have verbs that don't end in "s."

[10] Cognitive Abilities Test, *Examiner's Manual* (Boston: Houghton Mifflin, 1978) 51.

[11] For example, as was demonstrated in the student exploration section, the endings of present tense verbs are contingent upon ("caused" by) the number of the subject.

[12] Our experience indicates that even when a student constructs a rule, it does not guarantee that the rule will, or even can, be applied by the same student. We speculate that an operation central to Piagetian theory—operational reversibility—may not be completely integrated into many students' cognitive functioning, particularly in situations of an abstract, formal nature. Editing (rule verifying) is not a simple matter of reversing the process of rule making, or more precisely, such reversibility is not a simple matter.

[13] Sigmund Tobias, "When Do Instructional Methods Make a Difference?" *The Educational Researcher* (April 1982):5.

Joan M. Elifson and Katharine R. Stone

INTEGRATING SOCIAL, MORAL, AND COGNITIVE DEVELOPMENTAL THEORY: IMPLICATIONS OF JAMES FOWLER'S EPISTEMOLOGICAL PARADIGM FOR BASIC WRITERS

> Into every act of knowing there enters a passionate contribution of the person knowing what is being known....This coefficient is no mere imperfection but a vital component of his knowledge.
>
> —Michael Polanyi

Too little is known about the psychology of composition, especially as it applies to basic writers. Writing researchers have been concerned with error analysis, syntactic maturity, linguistic and semantic ability, and the nature of the writing process. Few, however, have looked at writing from a cognitive-developmental perspective to assess whether writing ability changes structurally over a lifetime and particularly during a person's educational experience.

The theory that people develop in stages intellectually, morally, and socially is not new. Jean Piaget, the Swiss psychologist, posited the theory that people developing logical abilities move in describable, sequential stages from infancy into early adulthood. Lawrence Kohlberg researched the logic of moral decision-making in an attempt to make educators aware of the implications of moral development for classroom materials and teaching methods. Like Piaget and Kohlberg, William Perry also developed a theory of intellectual growth based on identifiable stages. Working at Harvard, Perry studied the growth of students' understanding of "knowledge" and of themselves as a part of the knowledgeable community.

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Erik Erikson, who posited a stage-based model of adult psychosocial development, concluded that as adults deal with crises, they move from stage to stage.

In the works of all four of these researchers, the stages are seen as universal—applicable everywhere—and sequential: individuals must move through each stage sequentially before they can enter the next stage. Moreover, movement in the early stages is correlated strongly with maturation; in the latter stages, however, development results, not from maturation, but from interaction of individuals with their environment.

While stage theory, particularly as derived from Piaget's research, has had an impact on some areas of American education, its application to composition theory and pedagogy has been limited. Although Piagetian-based programs in science and mathematics are not uncommon, such programs in composition are rare. The composition programs at, for example, the University of Nebraska, Illinois Central College, and Passaic (NJ) Community College are among only a handful of programs with a Piagetian orientation. Joining this group, a recently developed, Piagetian-based, basic writing program has been developed at Georgia State University with support from the Fund for the Improvement of Postsecondary Education (FIPSE). While the theories of Piaget served as an important contribution to the program, and while developmental theory has shed light on the nature of maturation in writing, the findings of the project suggest that focusing on analytic logic alone does not explain fully the pattern of student growth in composition.

It is understandable that the work of developmental theorists has limited applicability for college-level basic writers, for neither the population nor the content of the research by Piaget, Kohlberg, Perry, and Erikson was directed toward this group. Piaget studied primarily children's and adolescents' development of mathematical, analytic logic. The work of Kohlberg and Perry is similarly limited by focus on the development of logic and by population: both included only males in their initial research population, and Perry's subjects were all Harvard students. It is precisely the narrowness of such populations that has limited the findings.

Disquieting anthropological and educational research suggests that differences in growth based on culture, on social background, and on gender have also been inadequately reflected in developmental theory, particularly in those studies assessing logical growth. Rosalie Cohen and Janice Hale indicate that Black children have a different cognitive style from White children. Cohen argues that children operate from two basic cognitive styles: the analytic style and the relational style. She has found that, while White children are generally analytic, Black children are basically relational. That is, Black children tend to attribute significance to objects and events only in relationship to specific contexts. American education tends to foster analytic growth in those children who bring analytic skills to school. However, children who are basically relational in style do not meet the assumptions the school has made; they, therefore, do not fit neatly into the school's curriculum. Likewise, most stage theories have defined development as linear progress in the development of analytic skills; they

have not considered that individuals from varying cultures may progress somewhat differently within the model because their culture values other aspects of growth. Consider the value ancient Greece placed on the ability of its seers to memorize, recite, and contribute to its narrative epics. Such abilities are important in the life of certain African and Native American tribal groups also, but this skill is much less valued in American schools than is analytic logic.

Moreover, Carol Gilligan, a member of Kohlberg's research team, perceived that his theory better described the moral decision-making processes of men than those of women. In conducting extensive research with men and women, she discovered that the processes for resolving dilemmas do indeed differ by gender. The now-classic dilemma of Heinz, posed by Kohlberg to men and boys and subsequently by Gilligan to women and girls, focuses the differences. Heinz must decide whether to steal a drug which his cancer-striken wife requires if she is to recover. The druggist, the sole distributor, demands $2,000 for a small dosage. Heinz has raised $1,000 but neither has nor can raise the additional money. The dilemma: should Heinz steal the drug?

Gilligan cites the responses of two eleven-year-olds as representative of two distinct ways of approaching a solution. Jake responds that Heinz should steal the drug because:

> For one thing, a human life is worth more than money, and if the druggist only makes $1,000 he is still going to live, but if Heinz doesn't steal the drug, his wife is going to die. (Why is life worth more than money?) Because the druggist can get a thousand dollars later from rich people with cancer, but Heinz can't get his wife again. (Why not?) Because people are all different and so you couldn't get Heinz's wife again (1982, 26).

Amy, on the other hand, gives this response to the question, "Should Heinz steal the drug?"

> Well, I don't think so. I think there might be other ways besides stealing it, like if he could borrow the money or make a loan or something, but he really shouldn't steal the drug—but his wife shouldn't die either....If he stole the drug, he might save his wife then, but if he did, he might go to jail, and then his wife might get sicker again, and he couldn't get more of the drug, and it might not be good. So, they should really just talk it out and find some other way to make the money (1982, 28).

Gilligan concludes:

> Thus in Heinz's dilemma these two children see two very different moral problems—Jake a conflict between life and property that can be resolved by logical deduction, Amy a fracture of human relationship that must be mended with its own thread. (1982, 31).

Gilligan's broader research has led her to conclude that, while males structure moral decisions on the basis of fairness and justice, females focus on responsibility and care. The findings of Cohen, Hale, and Gilligan, therefore, which have focused on the discrepant findings from earlier theoretical work, encourage developmental researchers to reexamine

growth by culture, race, and gender.

Just as significantly, the earlier theorists are limited by their exclusion of the notion of "imagination" from their models. They address only the aspects of meaning-making associated with logical development. Obviously imagination and creativity, along with linguistic and semantic ability, must be reckoned with in any theory of composition. Yet, developmental theory is often misused or overused in pedagogical settings. Mike Rose (1983) warned that too many developmentally based writing programs are making unwarranted assumptions about their students based solely on the students' analytical skills as manifested by the writing of these students in academic settings on unfamiliar academic tasks. Specifically, Rose warns that teachers of basic writers may infer that their students are stuck at the concrete operational level, because that is all the teachers see in the classroom, yet these same students clearly demonstrate formal operational skills in their everyday activities. Earlier, Noam Chomsky taught us—when looking at linguistic ability—not to confuse competence with performance; Rose catches us guilty not only of confusing analytic competence with analytic performance but also of substituting a partial and limited view of human development for a more holistic one. Michael Polanyi's comment, which serves as the headnote, is a haunting caveat to developmentalists who would focus too narrowly on analytic skills in constructing a model of writing development, forgetting the passionate contribution of the knower, his vital personal coefficient in knowledge.

Although not written specifically for composition researchers, James Fowler's recent significant work in epistemology focusing on developmental theory promises to help us understand the developing individual. Fowler published the results of a major study which integrates and broadens earlier stage theories. His book, *Stages of Faith Development: The Psychology of Human Development and the Quest for Meaning* (1981), describes the development of epistemological systems. Fowler stresses that the way we structure meaning is a human activity which is not dependent on given cultural or religious presuppositions: we all make meaning of our world, regardless of our belief system. Rather, he says, meaning-making is dependent on developmental stage. "Faith is an orientation of the total person, giving purpose and goal to one's hopes and strivings, thoughts and actions" (14).

Having distinguished faith from belief, Fowler then defines faith as relationship and as imagination. He defines the "others" in meaning-making relationships as "centers of value and power." These centers may rest in transcendent values. Or, they may rest in one central but finite focal point (e.g., causes or jobs), or they may rest in many minor centers of worth (money, travel, clothes). Fowler further defines faith as imagination:

> Faith, then, is an active mode of knowing, of composing a felt sense or image of the condition of our lives taken as a whole...the image unites information and feeling; it holds together orientational and affectional significance. As such, images are prior to and deeper than concepts (25-26).

It is on this point that Fowler is reminiscent of Polanyi.

Fowler traces the development of this "faith"—epistemological meaning-making—using interviews with four hundred individuals (including young children and old people, Whites and Blacks, males and females). Thus, unlike Piaget, Kohlberg, Erikson, and Gilligan, who have isolated one dimension for charting development, Fowler has developed a multidimensional definition for his six stages and has thereby created a paradigmatic conception of human development. Diagrammatically, Fowler's theory can be envisioned as a two-way contingency table with stages being the rows and with various dimensions, or aspects, as Fowler calls them, the columns. The first three columns (logic, social perspective-taking, and moral judgment) represent the work of earlier theoreticians which Fowler has reexamined in the light of the role of imagination or "faith."[1] The four others have been developed from Fowler's own interviews. (See Figure 1.)

Fowler's paradigm, because it includes not only a dimension of logical growth, but also six other dimensions, is more encompassing and may allow a more comprehensive view of human development. Moreover, it provides a way of assessing whether some cultures foster some aspects of development more readily than other aspects, and whether these cultural differences enhance or inhibit overall developmental growth. He describes his stages of human development with respect to these seven aspects.

1. **Form of Logic:** Closely tied to Piagetian theory, this aspect describes one's thinking about the object world. To Piaget's four stages of child and adolescent development (sensorimotor, preoperational, concrete operational, formal operational), Fowler has added two which account for adult cognitive development: a dialectical form of reasoning (in which things/ideas fit into categories) and a dialogical form of reasoning (in which things/ideas can be seen as fitting simultaneously into more than one category).

2. **Social Perspective-taking:** Extending Robert Selman's work, Fowler shows how a person learns to move from an egotistical "me-centered" perspective to a more dispassionate point of view which allows him to see himself, to see others, and to see others seeing him. The more advanced stages allow the self to construct the interiority of the other (to imagine accurately what another person knows and feels and how he perceives the world); intermediately, adolescents discover that they see others seeing themselves (that they see others constructing *their* interiority).

3. **Form of Moral Judgment:** Borrowing heavily from Kohlberg's theory of moral development, Fowler's "form of moral judgment" is characterized by the answers one gives to the question, "What is the nature of the claims that others have on me, and how are these claims to be weighed?" It involves patterns of moral reasoning and grounds of moral justification. It

Figure 1

Fowler's Paradigm[2]

STAGES	ASPECTS						
	Form of Logic	Perspective Taking	Moral Judgment	Social Awareness	Locus Authority	World Coherence	Symbolic Function
I. Intuitive-Projective Stage							
II. Mythic-Literal Stage							
III. Synthetic-Conventional Stage							
IV. Individuative-Reflective Stage							
V. Paradoxical-Conjunctive Stage							
VI. Universalizing Faith Stage							

revolves around the issues/situations which the individual sees as moral problems. Central to development is the manner in which individuals structure moral dilemma situations and the degree of objectivity in deriving solutions. Preschool children, for example, are unable to structure moral judgment in terms of the intentionality of the actors: for them, it is worse to break four glasses accidentally than to break one on purpose in a fit of anger. In addition, young children assume that the basis for acting

morally can be equated to avoiding punishment. That is, a right act is one that does not bring punishment, and a wrong act is one that does. Only at a later stage can they understand "doing right" as a basis for a workable social system. The Golden Rule or Kantian categorical imperatives thus guide only those at a stage sufficiently advanced to understand the universal ramifications of moral behavior.

4. **Bounds of Social Awareness:** This aspect describes the mode of group identity. Of what groups does the person claim membership? How wide and how inclusive is the social world? How does the individual define groups? Fowler explores how people move from valuing only their immediate family to valuing other, like, persons (from the same race, class, religious background) to an awareness of the rightness of viewpoints outside their own immediate familial, racial, social, or religious communities.

5. **Locus of Authority:** Fowler outlines the stages through which people pass as they move away from a dependence on external, unquestioned authority. The relevant issues are how authorities are selected, how they are held in relationship, and whether the responses to them are internal or external. Young children accept unquestioningly the fact that adults have the "truth" which the children have only to "learn." Later, as adolescents, they come to discover conflicting authority, believing that their role is to discern which authority is "correct." Only later do they come to recognize that complex issues cannot be understood in terms of correctness and that authorities on the issue may differ in their perspective. The role of the learner, then, is to weigh the position of authorities against internal criteria: one must come to a position that accounts for as much external evidence as possible while maintaining a consistency with personal experience.

6. **Form of World Coherence:** Fowler identifies a pattern of movement from seeing events as a simplistic and unrelated series of episodes to seeing events as an interrelated part of a continuum of richness, diversity, oppositions, and unity. Important here are how individuals construct the object world, how they make sense of things, how things "fit together" for them. Early stages involve an episodic, then narrative, view of the world. In later stages, the world view is understood in both symbolic and conceptual terms. When we examine reader responses to *The Canterbury Tales*, for example, we see that people at an early stage of forming a world view can appreciate the tales simply as isolated stories. At a later stage of development, the moral of the stories emerges as significant to the reader; when the reader has matured even further, he/she can appreciate the tale is part of the system used to explain human interaction, can understand the psychosocial behaviors of both travelers and tale-characters, and can think of modern parallels for the tales. Thus, the individuals maturing in their "form of world coherence" move from a view of events as random and disconnected to a view in which they perceive (i.e. impose) coherence and meaning in events—to Ulysses' view: "I am a part of all that I have met."

7. **Symbolic Function:** This aspect helps us describe how symbols are understood and used. Significant here is the source of the power of the symbol—whether emotional, conceptual, or both. For young children, the national flag itself is revered. As children experience situations involving the flag, they come to associate it with various ritualistic and emotional responses, and the flag itself begins to evoke these responses. Adolescents come to a position of demythologizing the "thing" itself, but recognize it as representing ideas. Those in a more developmentally advanced stage join the emotional and conceptual meaning of the flag: they accept that the "thing" itself invokes both the affective and cognitive domains, and that the richness of the symbol lies in its interplay between these domains. Only at the later stages can a person recognize the power of other flags for other peoples.

In his scoring manual, "Faith Development: A Manual for Research" (1983), Fowler describes the stages globally, providing a definition of each that touches on the salient tasks individuals face in each stage.

Individuals at Stage I, intuitive-projective, are marked by egocentric thought and make virtually no distinction between fantasy and reality. Self and others are not differentiated, reality is moment-to-moment, and attachments are to caretakers.

At Stage II, mythic-literal, patterns begin to emerge making relationships and classification possible for individuals. They become interested in the physical, concrete properties of the world and are able to abstract time and space. They become interested in narratives and take them literally. They do not, however, differentiate self from the stories. Their values are based on reciprocity and their logic is based on "everyone-would-agree."

At Stage III, synthetic-conventional, individuals learn to synthesize meaning based on the "felt sense" of others. Relationships become extremely important and are valued for their own sake; the person is unable to differentiate self from the relationship. To maintain interpersonal relationships, individuals rely on conventional authority derived from composite views of significant others.

At Stage IV, individuative-reflective, individuals are able both to distance themselves from social relationships and to adopt conventional values. Meaning and values are derived more from within than from external sources. There develops a perspective on relationships and meaning, such that individuals see self as both within and separate: formal operational logic allows a self-consciousness to emerge. The notion of "philosophy of life" becomes important at this stage. Also, symbols take on conceptual meaning, no longer merely standing for concrete objects.

At Stage V, paradoxical-conjunctive, individuals seek understanding more than explanation. Symbols take on multiple conceptual and affective meanings held in a tension, creating about them a sense of richness and depth.

Individuals at Stage VI, universalizing faith, are rare, becoming as Fowler explains, "more a teleological extension of the theory" than an empirically grounded phenomenon. They are characterized by a negation of self in favor of an identification with the "whole of others" and loyalty

to the "principle of being." Fowler suggests Gandhi, Martin Luther King, Jr., and Mother Theresa of Calcutta as three of the rare individuals at this stage.

A number of parallels between stage theory and rhetorical development are immediately obvious. Related to the movement away from "me-centeredness," both in terms of perspective-taking and bounds of social awareness, is the writer's growing sense of the audience and its needs. Related to the individual's growth in perception of the nature of authority is the writer's sense of "sources" of valid information and confidence in self as knower. Related to the individual's attained view of world coherence is the writer's ability to adapt to various modes of discourse (narration, exposition, argumentation, etc.) to express various ideas. A student who has not worked out the bases for moral decision-making, a hierarchy for reconciling competing claims, or a conceptual system that admits of mixed results or paradoxical truths will be seriously hampered in trying to write effective persuasive prose on a complex issue.

While most composition researchers have not applied a comprehensive developmental theory to rhetorical development, a number of researchers have investigated isolated aspects of the development of writing skills and have thereby established a body of research which can be examined in developmental terms. James Moffett, for example, follows students' growing sense of audience as they move away from addressing only themselves-as-readers to considering the additional needs of an unknown audience. James Britton focuses attention not only on audience but also on the writer's purpose, particularly on his evolving ability to handle increasingly complex types of writing, as required by the expressive, transactional, and poetic aims of writing.

Janice Hays, at the University of Colorado, is now looking developmentally at three aspects of writing. She has applied William Perry's developmental stages to writing and is focusing on the development of the aspects of authority, perspective-taking, and moral development as reflected in writing. She is trying to determine whether significant differences exist between the analytic writing of good and poor writers, whether a sequence of stages (and substages) can be established, and whether a correlation exists among age, educational level, disciplinary background, and prior writing experience. To this end, she is analyzing the writing of 150 high school seniors and a range of college undergraduates, examining their kind of argument, multiplicity of perspective, and text discourse patterns. Hays is hypothesizing that her students' development, as measured in writing, can be described by Perry's model of intellectual development, that is, that the arguments these students bring to a persuasive essay will reflect their developmental stage. Those at lower stages will reflect less ability to see multiple perspectives, to see beyond the morality of absolutes, and to appreciate conflicting sources of authority than will their counterparts who are at higher stages.

Hays' progress encourages us to look deeper into Fowler's paradigm. By applying Fowler's model, writing researchers can now draw rhetorical connections from the broader context of epistemological research. In short,

Fowler's analysis of epistemological development provides us with a new way of looking at rhetorical development, allowing us to integrate the work of stage theorists with that of composition researchers. Thus Fowler's theory, so rich in philosophy as well as psychology, is likely to have broad implications for theories of learning and knowing. His paradigm helps us frame better questions as teachers and researchers. Two sets of such questions seem particularly pertinent:

I. **How does a Fowler-like paradigm apply to writing?**

In relating the development of writing to Fowler's paradigm, we must decide whether to consider writing another *aspect*—an eighth aspect—of meaning-making, or as another *dimension* which must serve as an overlay on Fowler's framework. It may be more useful to reconceive Fowler's 2-way contingency table as a 3-way contingency cube with "stage," "aspect," and "rhetorical development" as the dimensions. The manner in which one delivers meaning will likely have to be conceived as a different kind of ability than the way one structures the meaning. It is clear, however, that rhetorical development will be intricately tied to the concepts of stage and aspect.

We need to determine whether writing ability is chiefly a means of "expressing" already-made meaning and therefore a construct that typically lags behind epistemological development or whether, simultaneously, writing can be used to foster discovery and growth. The view of rhetorical development as a dimension of a complex paradigm raises questions about what triggers the growth from stage to stage, and whether movement within the system is more dependent on some "aspects" than on others. It may be that writing provides a unique context for initiating developmental growth both because it requires concentration, attention, and precision, and because it interacts so intimately with the "aspects" of meaning-making that Fowler identifies—the ability to assume a perspective other than one's own, the ability to posit the self as authority and knower, the ability to hold opposite or paradoxical truths in balance—to name a few.

II. **Are there other considerations (aspects or dimensions) that need to be addressed for a model of this kind?**

We need to learn how culture, intelligence, race, and gender affect ways of "knowing" and therefore affect understanding of the development of writing. We need to find out whether some aspects are "dominant" and therefore tend to trigger or obstruct growth in other areas and even to trigger or obstruct stage change; if so, might these dominant aspects differ by culture? Finally, we need to consider whether some cultures enhance full development in all aspects before triggering stage change while other cultures de-emphasize certain aspects and require stage change to occur without development in certain areas.

These questions may best be answered by applying the work of James Fowler to the actual writing of our students. Such an application will help us gain a clearer understanding of the stages through which writers must pass as they develop mastery of the art. We hope it will also contribute to

improving our methods of teaching writing. As teachers attempt to foster the progression from one stage to the next, they need to follow a natural progression, one natural to the ability level, age, gender, and culture of the student. Teachers must not only understand how to help their students write at the level on which they are presently operating, but must also be able to recognize when a student is ready to be challenged and stretched into the next. Piaget's notions of accommodation and assimilation suggest how stage transition occurs. Learners either "assimilate" (or take-in) new information into existing structures of meaning or they "accommodate" (alter) their existing structures based on new information and experience. It is the latter process that moves individuals vertically on the paradigm toward more sophisticated epistemological constructs and triggers stage transition. While many developmental theorists argue that teachers cannot manipulate vertical stage transition, certainly they can provide experiences which enrich students within the aspects of the stage in which the students find themselves. Thus, as all aspects within a stage reach a new level of maturation, vertical transition may occur. If Fowler's paradigm of meaning-construction informs our model of rhetorical development, teachers will be provided a rich and comprehensive schema from which to work. Such a schema will help teachers develop and refine a writing curriculum closely suited to the stages of their students.

Until such time as research findings are available, Fowler's "aspects" of development which impinge on writing ability may serve more or less as an inventory of the sources of both problems which retard progress and of opportunities for growth. That is, they may serve as a basis for determining assignments for students who struggle with a writing task unsuccessfully or superficially. How the student places and relates to authority, the sophistication with which he reacts to symbols, whether he can project himself into someone else's perspective, whether he is deeply (overly) emotionally invested in a particular issue, whether the student is sufficiently knowledgeable in an area to feel authoritative—all are telling developmental indices of a student's maturity.

With an understanding of "aspects of development" or "potentials for growth," the teacher can design a variety of classroom activities that allow a student to draw on and to enrich the strengths of his stage. For example, in SYNAPSE, a FIPSE-supported project at the University of Georgia under the direction of Don Rubin, the students take each of three positions in a situation. In one such exercise, students explore the ramifications of cheating on three students who took a test in the same class. The first is the student who studied hard and made an "A"; next is the student who relied on cheating to achieve his grade of "B"; and finally is the student who studied hard but failed (and whose grade was affected by the curve established by the cheater's "B"). In changing roles, the students experience differing perspectives, thinking and talking through the logic of the problem as it reflects the views of each hypothetical test-taking student.

In another exercise in "aspect enrichment," a student might examine the opinions of differing experts in order to assess the truthfulness of claims,

or the completeness of information, or its consistency with his own experience.

Or, students at similar developmental stages who take a different stand on some issue might be encouraged to engage in small group discussions in which they would be asked to try to reach consensus, or they might be asked to engage in structured debates.

Or, the teacher might decide that students must develop some real depth of knowledge about a subject by sticking with it for several weeks or months, seeking through ongoing discussion to develop in each student legitimate confidence in the self as knower.

A teacher who is able to recognize the logical stage at which a student is thinking, will then be able to provide writing assignments appropriate to that student's particular stage. For example, students at Stage II will find the chronological organization of a narrative fairly easy to manage. On the other hand, students able to handle formal logic can manage the analogic patterns required in comparison-contrast essays or the analytical thought processes required for tautological essays. Thus, Stage II students might be asked to write about "The best Thanksgiving I ever had," but those at a later stage could be expected to manage a contrast of Thanksgiving and Christmas or perhaps even a topic such as, "why Americans value holidays." Teachers who are aware of the students' thinking patterns will notice that some fall into narrative despite the apparent need for a more complex organization. These students may be relying on a strength they have developed in an attempt to manage a task which they find difficult.

In addition, teachers who are aware of the student's developmental stage will understand why basic writers see no need to develop a generalization. When they write "I enjoy going to my grandmother's for Thanksgiving," they feel no requirement to elaborate. Since "everyone-would-agree" logic prevails, there is no need to convince the reader. There is no understanding (without broad ability to take perspectives) that all grandmothers are not alike and all grandmothers' Thanksgivings are not alike: comments about turkey and dressing and warm embraces with seldom-seen cousins are not considered necessary to the Stage II basic writer. Thus, awareness of the logic typical of a particular stage may help an instructor understand why basic writers often overgeneralize and may allow the instructors to assign writing tasks suitable to the writers' logical stage.

Just as understanding the students' logical stage development can help instructors determine which students can handle different modes of writing, so can such an understanding help differentiate those ready for more advanced perspective-taking. Instructors who understand the nature of Stage II teenagers, will expect very few of them to be able to juggle abstractions, such as value systems outside their own: to expect them to adopt the perspective of the middle-aged in topics such as "Should eighteen-year-olds be allowed to purchase liquor?" or the perspective of alien governments in topics such as "Should the British have fought for the Falkland Islands as they did?" One teenager's analysis of the Falkland Islands crisis, for example, reduced itself to recommending that the British

"blow up the whole thing" because the Argentines had no right to invade. He did not clearly see the issue from either the British or Argentine perspective, and certainly did not recognize the human loss which would have resulted from such an overt military act. Even in conference, his sense of retributive justice and egocentric world view limited his ability to anticipate or weigh consequences or to consider the economic and historical precedents which had precipitated the crisis.

Teachers, then, are challenged to provide topics which match the students' maturity, which account for their logical development, which allow them to tap into their experience, which stretch their perspective, and which provide concrete data from which to build generalizations. This stance, far from watering down expectations, requires teachers to challenge students who have mastered chronological (or analogical) structures to attempt more sophisticated forms. Those who are exploring perspectives outside their own community must be encouraged in their exploration and teased to stretch toward an even broader view. Likewise, students need to be exposed to the richness of the culture's heritage in its tales and symbols, even though the students are not able to appreciate them in ways that the teacher might. In this way, the teacher's assignments can provide a substantial foundation for the student's development, rather than an empty, frustrating experience for both teacher and student.

Understanding the stages and aspects of basic writers can help us as instructors to nudge them toward better writing. For building upon Fowler's paradigm and recognizing the "passionate contribution of the person knowing," we can design appropriate curricular models to move students smoothly and confidently from stage to stage, competent in all aspects of each previous stage, and motivated to face new challenges.

NOTES

[1] Jean Piaget, Robert Selman, and Lawrence Kohlberg, respectively.

[2] Fowler's complete paradigm includes careful definitions for each of the categories of the paradigm. *See Stages of Faith,* 243.

REFERENCES

Britton, J. *The Development of Writing Abilities.* London: Macmillan Education LTD, 1978.

Chomsky, N. *Aspects of the Theory of Syntax.* Cambridge, MA: The M.I.T. Press, 1965.

Cohen, R. "Conceptual Styles, Culture Conflict and Nonverbal Tests of Intelligence." *American Anthropologist.* 71 (1979): 828-56.

Erikson, E. *Childhood and Society.* New York: W.W. Norton, 1958.

Fowler, J. *Stages of Faith: The Psychology of Human Development and the Quest for Meaning.* San Francisco: Harper & Row, 1981.

_____. "Faith Development: A Manual For Research." Unpublished document of the Faith Development Center, Emory University (Atlanta, GA), 1983.

Gilligan, C. *In a Different Voice.* Boston: Harvard University Press, 1982.

Hale, J. *Black Children; Their Roots, Culture, and Learning Styles.* Provo, UT: Brigham Young University Press, 1982.

Hays, J. "The Development of Analytic Writing Abilities: A Preliminary Report." Unpublished paper presented at the College Composition and Communication Conference, Detroit, MI: March 1983.

Kohlberg, L. "Stage and Sequence: The Cognitive Developmental Approach to Socialization." *Handbook of Socialization Theory and Research.* Ed. D.A. Goslin. Chicago: Rand McNally, 1969. 347-480.

Moffett, J. *Teaching the Universe of Discourse.* Boston: Houghton Mifflin Company, 1968.

Perry, W. *Forms of Intellectual and Ethical Development in the College Years: A Schema.* New York: Holt, Rinehart & Winston, 1970.

Piaget, J. *The Growth of Logical Thinking from Childhood to Adolescence.* New York: Basic Books, 1958.

Polanyi, M. *Personal Knowledge: Toward a Post-critical Philosophy.* Chicago: University of Chicago Press, 1958.

Rose, M. "Remedial Writing Courses: A Critique and a Proposal." *College English* 45 (1983): 109-128.

Selman, R. "Social Cognitive Understanding." *Moral Development and Behavior: Theory, Research and Social Issues.* Ed. Thomas Lickona. New York: Holt, Rinehart and Winston, 1976.

Annette Bradford

APPLICATIONS OF SELF-REGULATING SPEECH IN THE BASIC WRITING PROGRAM

When, in January 1969, Robert Zoellner's full-issue *College English* treatise advocated the application of his behaviorist pedagogy "Talk-Write" to the teaching of composition, cries went up throughout the nation's English departments.[1] The responses which *College English* published in May of that same year ranged from qualified approval of parts of Zoellner's argument to angry denial and outright attack.[2] But much has happened in composition research in the last fourteen years. No one any longer believes, as Zoellner took for granted, that the average composition teacher defines the written work as "thought on paper." And while admitting the effectiveness of operant conditioning with rats and monkeys, most psychologists now agree that the behaviorist paradigm is too simple to explain complex human behaviors. But composition researchers like Richard Young and Frank D'Angelo continue to call for a new paradigm in writing pedagogy—and one of writing theory's main sources of new insight and material is the field of psychology.

The psychological study of self-regulating speech covers much broader territory than Zoellner's argument; it involves the use of both covert and externalized inner speech to impose an additional level of control on cognitive and motor activities. That self-regulating speech is helpful to the writer is indicated from experience, both from my personal experience in writing and from accounts of the writing behavior of professional writers. I unselfconsciously talk out loud when I write, especially when struggling to compose structurally difficult or semantically tricky passages—indeed (to the amusement or annoyance of my friends) whenever I must rise to unusual physical or mental exertion. And southern novelist Madison Jones told an interviewer once that he achieved the naturalness of his dialogue by mumbling lines aloud to himself continually while writing, to test the sound of sentences on the ear.[3] These are examples of self-regulating speech to oneself, a monologue intended for the speaker alone.

Another form of self-regulating speech approximates that discussed in Zoellner's "Talk-Write" methodology which proposes the use of overt speech utterances to improve writing ability by applying the principles of

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operant conditioning. This is the kind of self-regulation which psychologist Donald Meichenbaum has used to deal with such diverse populations as hyperactive children, neurotics, smokers, and alcoholics, and to enhance creativity in college students.[4] This is self-regulating speech uttered in the presence of others so that ideas can be elicited, clarified, and shaped by a sympathetic listener. But various clinical populations are not the only persons who can benefit from this kind of self-regulation, nor must the speech be directed nor responded to by others. Children often engage in self-regulating speech—think of the toddler telling himself "no"—and adults resort to it when certain stimuli produce the need. Meichenbaum explains:

> For instance, you are more prone to talk to yourself (either aloud or covertly) when driving when you see a police car or an accident, indicating that some environmental stimulus may be the occasion for you to engage in inner speech.[5]

He also noted that he used self-regulating speech as he learned to ski, so that a new form of physical coordination may also elicit a temporary need for additional verbal controls.

In his call for more research into the application of self- regulating speech in academic fields, Meichenbaum makes an important point— that we show our students the finished product, the end result of the mastery of a process, without showing them the process itself:

> Teachers very infrequently, if at all, model how they cope with frustrations and failures while doing a particular task....They rarely show their students the thinking processes and other events which are included in how they performed the task. The student is told to perform a task, but rarely is shown (a) how to break the task down into manageable units, (b) how to determine the hierarchy of skills required to do the task, or (c) how to translate those skills into self-statements which can be rehearsed.[6]

Zoellner made almost the same statement in 1969 about composition teachers:

> Overwhelmingly, our textbooks—and the theory which produces them—are product-oriented, taking for the most part an artificial and textual approach to the written (past tense) word and to the logical and intellectual imperatives which we assume can account entirely and completely for its genesis.[7]

Recent research on composing has emphasized process, especially the work of such empirical researchers as Britton, Scardamalia, Flower and Hayes, Odell, and Perl, and it has revealed the key role which vocalization and regulation play in the composing process.

Just as experienced writers use overt speech to help in their composing processes, students, especially basic writers, can benefit from the extra level of control imposed by the conscious use of self-regulating speech. Self-regulating speech can provide basic writers with a workable method for externalizing and organizing thought and for testing the sound of sentences and the "rightness" of words. Knowledge of the way in which self-regulating speech operates, of its sources and development, gives the

writing teacher necessary background to understand and use speech's capacity for self-regulation. In this paper, therefore, I will first define self-regulating speech and survey its process of development. Next I will mention relevant research supporting the use of self-regulating speech to improve writing. Finally, I will suggest ways in which self-regulating speech can be incorporated into the basic writing program.

SELF-REGULATING SPEECH: ITS ORIGINS AND DEVELOPMENT

Self-regulating speech in the adult begins as inner speech. Inner speech (Lev Vygotsky's terms for covert self-regulating speech) is developed by a process of internalizing overt speech. A.R. Luria, Vygotsky's student, sees this development in a child as a three-stage process: first the speech of others, usually adults, controls and directs the child's behavior; then the child's own overt speech becomes the effective regulator of behavior; finally the child's own covert or inner speech comes to assume a self-governing role.[8] It is the transition to the critical third stage (which Vygotsky, Luria, and Jean Piaget place around ages seven to eight) that demands closest attention in this context. During this period, egocentric speech (speech by the child to himself) "does not long remain a mere accompaniment to the child's activity...it soon becomes an instrument of thought in the proper sense—in seeking and planning the solution to a problem.[9] Luria noted that when children ages five to seven were given a task with problems, the task "evoked an outburst of active speech, addressed in part to the adult present, but chiefly to anyone." He further explained:

> A thorough analysis showed...that this violent outburst of speech was by no means merely "egocentric babbling"; it performed a practical function and was of great help to the child in finding a way out of the difficulty. It was a kind of verbal orientation to surroundings, as it were, reflecting the surrounding objects and checking the possibilities of using them to find a way out.[10]

In its next stage, inner speech helps the child begin to develop patterns of primitive logic as he begins to converse with himself as he has been doing with others. Vygotsky explains:

> When circumstances force him (the child) to stop he is likely to think aloud. Egocentric speech, splintered off from general social speech, in time leads to inner speech, which serves both autistic and logical thinking.[11]

The structures of inner speech, once mastered by the child, become the basic structures of his thinking.[12] In the final stages of this development, Luria explains:

> The external developed form of speech becomes reduced, and the decisive influence is now exerted by the higher forms of internal speech which constitute an essential component of thought and volitional action.[13]

Simultaneous with this reduction of developed overt speech is the evolution of inner speech's self-regulatory function:

> The regulatory function is steadily transferred from the impulse side

> of speech to the analytic system of effective significative connections which are produced by speech. Moreover, and this is more interesting, it simultaneously shifts from the external to the internal speech of the child.[14]

But these two theorists emphasize, the vocalization of inner/self-regulating speech does not disappear from the child's—or from the adult's—repertoire of behavior. It becomes instead "abbreviated internal speech" which Luria considers "an invariable part of the thought process." He notes:

> As electromyographic investigations carried out in Moscow by Sokolov, Monikova, and Bassin have shown, it (inner speech) is latent in all thought, becomes activated when any difficulties arise, and is vital for orientation to difficult situations.[15]

In examining adult speech, Gal'perin hypothesizes that speech fragments, which may appear strange to an observer, are nothing more than "particles" of external speech to oneself in the process of becoming internal speech. He explains:

> These fragments characteristically appear when it is necessary to arrest the automatic flow of thought once again to discern some part of the objective content of the action in order to adapt it to some individual condition or task.[16]

To be sure, this is a highly personal form of speech—"speech for oneself," Vygotsky calls it, "condensed, abbreviated...almost entirely predicative because the situation, the subject of the thought, is always known to the thinker."[17]

MODERN RESEARCH WITH SELF-REGULATION

Building on the early research of Piaget, Vygotsky, and Luria, researchers studying self-regulating speech have grown in number. But with few exceptions, the study of self-regulating speech has been the province of researchers exploring the ontogeny of language and thought in children. Self-regulating speech has been studied as a function of age level, in the context of role-taking, and as an instrument of successful learners. But the study, whether in a clinical or naturalistic setting, has concentrated on children ages four to seven.

Even though this abundant research exists on self-regulating speech and elementary-school-age subjects, its continued progress and its role in concept formation in late adolescence have been virtually ignored. Yet Vygotsky writes:

> The new significative use of the word, its use as a means of concept formation is the immediate cause of the radical change in the intellectual process that occurs on the threshhold of adolescence.[18]

Donald Meichenbaum discusses in numerous books and journals the use of self-regulating speech as a behavior modification technique with a number of clinical populations—hyperactive and impulsive children, adult schizophrenics, neurotics, compulsive eaters and smokers, and alcoholics—where he used self-regulating speech as a control mechanism because "self-regulation interrupts the automatic quality of the behavior

chain that constitutes an act and thus mediates behavior change."[19] More relevant to use with basic writers is his work with creativity training. His subjects in this study were undergraduate college students who successfully used self-instructional training developed in a three-stage discussion/modeling/rehearsal procedure to enhance creativity and "spontaneously applied the creativity training to a variety of personal and academic problems."[20]

Still more evidence for the role of verbalization in control of behavior is found in speech communication research. Studies by Horowitz and Newman and by Horowitz and Berkowitz discuss the advantages of speech communication over written communication: Speech communication, they found, produces more words, more phrases and sentences, more ideas, more elaboration of ideas, more relevant ideas, and more total words per unit of time than does written communication and at the same time is less inhibited, less abstract, and more readable and interesting than writing.[21] Another group of speech communication studies reinforces the effectiveness of thinking aloud as a problem-solving strategy. Terry Radcliffe's detailed survey of this research found that speech communication behavior during problem-solving tasks helped subjects (1) see the problem more clearly, (2) develop greater problem-solving accuracy, (3) produce clearer ideas, (4) pay more attention to the goal, (5) be more conscious of the steps they took, (6) make sudden reorganizations to solve the problem, and (7) see the basic puzzle relationship.[22] In building his theoretical model based on Zoellner's "Talk-Write" technique, Radcliffe cites one more important group of studies, those which assert the benefits of social setting to problem solving. The most applicable and useful finding of this group of studies reinforces the idea that a listener who provides the speaker with "socially regarding and information seeking cues...will elicit and maintain a subject's speech communication behavior,"[23] a situation which must serve as prerequisite to any benefit that can be derived from the social type of self-regulating speech.

A final compelling piece of evidence for the role of speech in self-regulation is found in neurophysiological research on the frontal lobes, the frontmost portion of the brain associated with human volition and goal-directed behavior. The frontal lobes play a major role "in the execution of complex programs of activity, the formation of the orienting basis of action, and the organization of strategy"; they are thereby associated with all goal-directed activity, particularly modification of an action through the process of matching effect or consequence with initial intention.[24] Ach and Vygotsky, among others, emphasize the role of goal-directed behavior in concept formation when they contend that concept formation is a creative, not a mechanical, passive process; that a concept emerges and takes shape in the course of a complex operation aimed at the solution to a problem; and that the mere presence of external conditions favoring the mechanical linking of a work and object does not suffice to produce a concept. It is an aim-directed process, a series of operations that serve as steps toward a final goal.[25]

Lesions—injury or insult to the brain tissue—in the frontal lobes result in problems with speech articulation, in that verbal warnings will not elicit change in cortical tone.[26] Since the frontal lobes are responsible for forming stable plans and establishing motives dependent upon speech, a subject with such a lesion is easily diverted and displays enhanced involuntary attention.[27] Front lobe lesions do not interfere with phonetic, lexical, or logicogrammatical functions of speech, but do affect speech's regulatory function, the ability to create stable motives necessary for the active effort of voluntary recall.[28] But, Luria emphasizes, lesions in the front lobes may be compensated for by the incorporation of high intact structural levels or by the introduction of verbal instruction.[29]

These three sets of evidence provide support for the use of self-regulating speech techniques with basic writers. First, the gradual internalization of self-regulating speech explains why it surfaces, then the speaker must deal with a difficult or novel problem, as when the basic writer confronts a writing task. Second, speech communication research indicates the benefits derived from overt vocalizations in the generation and elaboration of ideas, and from thinking aloud as a problem-solving strategy and from social settings as a reinforcement in problem solving. Finally, neurophysiological research indicates that a goal-directed motor activity such as writing can benefit from the introduction of verbal instruction. Might not a basic writer benefit from his own verbal instruction in the form of overt self-regulating speech? For all the other categories into which writing may be placed, it is also a motor activity.

SELF-REGULATING SPEECH AND THE BASIC WRITING PROGRAM

To control the complex mental and physical activity of writing, the basic writer, I believe, can benefit from the conscious use of self-regulating speech. In her December 1979 article analyzing the composing process of unskilled college writers, Sondra Perl developed a system for coding composing behavior along a continuum. Having her students vocalize their writing processes and analyzing their writing protocols, she coded sixteen types of behavior. Those which represent some form of vocalization of thought or intention were:

1. General Planning—organizing one's thoughts for writing; discussing how one will proceed
2. Local Planning—talking out what idea will come next
3. Global Planning—discussing changes in drafts
4. Commenting—sighing; making a comment or judgment about the topic
5. Interpreting—rephrasing the topic to get a "handle" on it
6. Assessing—making a positive or negative judgment about one's writing
7. Talking Leading to Writing—voicing ideas on the topic, tentatively finding one's way, but not actually being written at the same time
8. Repeating—repeating written or unwritten phrases a number of times
9. Writing Aloud—voicing, then writing.[30]

These behaviors represent inner speech, either internalized, as is usually the case during writing activity (especially in the classroom), or

externalized, in the manner which some professional writers describe.

Since these behaviors occur naturally in the composing process of the unskilled writer, might not they be augmented and manipulated by the teacher and used to improve the composing process? The teacher of composition can use inner speech in a variety of ways.

First, when basic writing classes are as small as they should be, the teacher can spend in-class writing sessions observing the composing processes of individual students, using Perl's coding of behavior as a guide. An inventory of the ways students do and do not direct themselves can help the teacher decide what basic writing strategies might suit a particular student's needs; building upon established strengths or, perhaps, developing new behaviors, I often pair students for editing each other's writing. Student A is given Student B's short essay and vice versa. Students write their comments overnight and, when they return to class, the pairs then explain their comments to each other and revise on that basis. I collect both the marked-up draft and the final paper. I particularly like to pair methodical thinkers without much to say, with innovative but unstructured thinkers; this pairing seems to produce the best revised essays.

Secondly, as teachers we need to be alert to the types of statements a student makes to and about himself as a writer. We can elicit these positive or, more often, negative comments by discussing writing with the student in individual conference. Or we can make the first paper of the semester a diagnostic letter or essay about the student as a member of the writing class, specifying information like (1) what the student expects to cover in the course, (2) his background with English—including drama, journalism, creative writing, etc., (3) his assessment of his strengths and weaknesses (whether accurate or not, this point is always revealing).

If students barrage themselves with negative statements about their writing abilities, the teacher should work to change the students' attitude. Negative self-statements, Meichenbaum writes, contribute to high task anxiety and failure.[31] For example, the speaker who tells himself, "I must be boring. How much longer do I have to speak? I know I could never give a speech," will view his or her performance in this light—and all too often, the dread becomes a self-fulfilling prophecy. In dealing with this problem, Meichenbaum explains:

> There is an important interplay between the client's behavioral repertoire and what he says to himself. Self-instructional therapy procedures are designed to modify both the cognitive and behavioral components of the problem. Self-instructional therapy is designed to make clients more aware of their thoughts and to train them to produce incompatible self-instruction to incompatible behaviors.[32]

The behavior modification technique is detailed in *Helping People Change* (1975).

Thirdly, students have been imbued with the idea that the proper atmosphere for a classroom is silence. On the contrary, a basic writing classroom should buzz with activity—students reading and criticizing their own and each other's papers, classroom discussion and participation, and even

the hum of students muttering to themselves as they compose or revise in class. Overt self-regulating speech serves a vital function in my composing process and could benefit the basic writer—if the negative associations about talking to oneself and the social disdain of breaking the silence of the classroom could be dispelled.

To carry a step further this license to speak while writing, the teacher can suggest that students work with a tape recorder, talking along to themselves as they begin work on an assignment and reviewing these thoughts before they begin the rewriting process. Thoughts and good ideas are fragile creations; such a process might retrieve ideas which would otherwise be lost.

A fourth useful technique is to teach students the value of a rough draft. Students generally have too much respect for the appearance of a rough draft. I have, at times, duplicated a rough draft of one of my own pieces of writing (which is rough-looking indeed) or brought in the various drafts produced, along with the finished product, to show students that even experienced writers view good writing as an arduous process. Comparing draft and final versions of poems such as Frost's *Stopping by the Woods on a Snowy Evening* is also useful. This I do partly in response to Meichenbaum's and Zoellner's indictments that teachers show students only the finished project, not the laborious process involved in its production. Looking at drafts helps to compensate for one of the major weaknesses of the models approach to teaching basic writing, which otherwise implies, "Here is how it looks; go and sin no more." I too am intimidated at the prospect of having to measure up to Virginia Woolf and George Orwell, as this approach asks our students to do.

Finally, we need to remember other teaching strategies which are or could be used orally; for example, oral sentence-combining can be used to explore all the grammatical possibilities of one set of sentences, an in-class modeling activity which the student himself might imitate while composing. These are but a few applications of self-regulating speech to the teaching of writing.

The point to remember is that each basic writer is a different individual; the strategy which is effective in dealing with one basic writer's problems may be less effective in helping another. But an awareness of the concept and basic applications of self- regulating speech gives writing teachers one more tool to use in teaching our students to write.

NOTES

[1] Robert Zoellner, "Talk-Write: A Behavioral Pedagogy for Composition" *College English* 30 (1969): 267-320.

[2] "On Zoellnerism," *College English* 30 (May 1969): 645-668.

[3] Penny Lynn Pool, "Professor Madison Jones, University Alumni, Writer in Residence," *The Auburn Alumnews* (September 1980): 10.

[4] Donald Meichenbaum and Sheryl Goodman, "Clinical Use of Private Speech and Critical Questions about Its Study in Natural Settings," *The Development of Self-Regulation through Private Speech*, ed. Gail Zivin (New York: John Wiley & Sons, 1979) 349.

[5] Meichenbaum and Goodman, 349.

[6] Donald Meichenbaum, "Self-Instructional Methods," *Helping People Change*, eds. Frederich H. Kanfer and Arnold P. Goldstein (New York: Pergamon Press, 1975) 386.

[7] Zoellner, 270.

[8] A.R. Luria in Meichenbaum and Goodman, 348.

[9] Lev Vygotsky, *Thought and Language*, ed. and trans. Eugenia Hanfmann and Gertrude Vakav (New York, London, and Cambridge, MA: The M.I.T. Press and John Wiley & Sons, 1962) 16-17.

[10] A.R. Luria, *The Role of Speech in the Regulation of Normal and Abnormal Behavior*, ed. J. Hazard (New York: Pergamon Press, 1961) 11.

[11] Vygotksy, 19.

[12] Vygotsky, 50-51.

[13] Luria, 61.

[14] Luria, 59.

[15] Luria, 15.

[16] Gal'perin as quoted in Meichenbaum and Goodman, 348-49.

[17] Vygotsky, 59.

[18] Vygotsky, 59.

[19] Meichenbaum, 359.

[20] Donald Meichenbaum, "Enhancing Creativity by Modifying What Subjects Say to Themselves," *American Educational Research Journal* (Spring 1975): 142.

[21] This review of research is from Terry Radcliffe's "Talk-Write Composition: A Theoretical Model Proposing the Use of Speech to Improve Writing," *Research in the Teaching of Writing* 6 (Fall 1972): 187-199.

[22] Radcliffe, 181.

[23] Radcliffe, 192.

[24] A.R. Luria, "The Frontal Lobes and the Regulation of Behavior," *Psychophysiology of the Frontal Lobes*, eds. K.H. Pribram and A.R. Luria (New York and London: Academic Press, 1973) 22.

[25] Vygotsky, 54-55.

[26] A.R. Luria, *The Working Brain: An Introduction to Neuropsychology*, trans. Basil Haigh (New York: Basic Books, 1973) ch. 4.

[27] Luria, 1973, ch. 7.

[28] Luria, 1973, ch. 7.

[29] Luria, 1973, ch. 10.

[30] Sondra Perl, "The Composing Processes of Unskilled College Writers," *Research in the Teaching of English* 13 (December 1979): 320.

[31] Meichenbaum, *Helping People Change*, 358.

[32] Meichenbaum, *Helping People Change*, 358.

BIBLIOGRAPHY

Kanfer, Frederich H. and Arnold P. Goldstein, eds. *Helping People Change.* New York: Pergamon Press, 1975.

Luria, A.R. *The Role of Speech in the Regulation of Normal and Abnormal Behavior.* Ed. J. Hazard. New York: Pergamon Press, 1961.

---. *The Working Brain: An Introduction to Neuropsychology.* Trans. Basil Haigh. New York: Basic Books, 1973.

Meichenbaum, Donald. "Enhancing Creativity by Modifying What Subjects Say to Themselves." *American Educational Research Journal* 12 Spring 1975: 129-145.

"On Zoellnerism." *College English* 30 May 1969: 345-368.

Perl, Sondra. "The Composing Process of Unskilled College Writers." *Research in the Teaching of English* 13 Dec. 1979: 317-336.

Pool, Penny Lynn. "Professor Madison Jones, University Alumni, Writer in Residence." *The Auburn Alumnews* Sept. 1980: 10.

Pribram, K.H. and A.R. Luria. *Psychophysiology of the Frontal Lobes.* New York and London: Academic Press, 1973.

Radcliffe, Terry. "Talk-Write Composition: A Theoretical Model Proposing the Use of Speech to Improve Writing." *Research in the Teaching of English* Fall 1972: 187-199.

Vygotsky, Lev S. *Thought and Language.* Eds. Eugenia Hanfmann and Gertrude Vakav. New York, London and Cambridge, MA: The M.I.T. Press and John Wiley & Sons, 1962.

Zivin, Gail, ed. *The Development of Self-Regulation Through Private Speech.* New York: John Wiley & Sons, 1979.

Zoellner, Robert. "Talk-Write: A Behavioral Pedagogy for Composition." *College English* 30 Jan 1969: 267-320.

David Rankin

READING, LISTENING, WRITING: AN INTEGRATED APPROACH TO TEACHING EXPOSITION

In this essay, I propose a set of teaching devices which rest on principles derived from a number of disciplines, and, more directly, from personal experience. The purpose of these devices is to help students learn to write exposition in the standard dialect. To define problems and to establish a theoretical framework, I first discuss speech-writing distinctions that, while probably familiar to the reader, are so crucial to my proposal as to bear restatement.

At the outset, I must report that my proposal will not be supported by evidence from the kind of controlled experiments that humanist scholars are learning to appreciate if not to perform for themselves. Hence I am reluctant to make claims that might be made for the results of a more systematic study. Even results of this kind, we know, are often accompanied by caveats that caution the reader against uncritical acceptance of what the research appears to demonstrate. I offer the method and its rationale because it has helped many of my students.

The student who has just solved a batch of subject-verb agreement problems in an exercise may then proceed to write *He don't* in the first sentence of the next composition. By now, composition instructors may be dismayed but not surprised by this tendency of students to make the same errors in compositions that they are able to correct in exercises. The psychologists will tell us that the student is "overloaded." Too many tasks must be performed simultaneously. In the exercise, the student can deal with the problem of agreement in isolation from all the other demands of writing. Closure is neatly and quickly achieved. In the composition, on the other hand, the student must invent, predicate and assemble ideas, control syntax, observe conventions of usage and mechanics, and select proper words, all in the context of developing a topic. (Francis Christensen once observed that the first composition precipitates all the problems of writing.) Under the stress of cognitive overload, the student goes home to the oral dialect. Writing *He don't* or *Me and John like Mary* (to use crude examples of surface structure errors) may be the only natural act among several unfamiliar ones including, for many students, the motor act of

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stringing words together on paper. Most young people are exposed far more often to speech than to writing; they talk and listen, as we all do, more than they write; and, as a result, they find it easier to put down what the ear has assimilated than to recall what has been learned in a formal academic setting, especially in drills and exercises.[1]

The problem illustrates the difference between language acquisition and language learning. Most literate people *acquire* the standard written dialect from reading. When they write, they shift automatically to the forms they have internalized from reading, sometimes too self-consciously, with the result that the prose is wooden and needs to be nudged back gently in the direction of colloquial ease. Moreover, no matter how unbuttoned their conversation may be, it will contain signs that the essential features of written English are among the speaker's resources. For these people, formal training in composition serves to activate, reinforce, expand, and refine knowledge that has been acquired unconsciously for the most part. What they *learn* when they learn to write is what we can teach them about rhetorical and stylistic refinements.

On the other hand, many of our students can manage only the rudiments of the written dialect, even though they have acquired at least one oral dialect more or less perfectly. Furthermore, the oral dialect was formed in response to the necessities of immediate communication, in which the interlocutors shared enough information and verbal habits to make sense out of what might remain unintelligible to an outsider. Oral dialects serve nicely for general communication, especially when the subject is personal and the mode anecdotal; and many students express themselves with considerable force and vivacity, however informal and elliptical their speech. Indeed, in playful (and not so playful) exchanges, effectiveness often depends upon the compressed and allusive retort, sometimes in diction and structure that are richly connotative only to insiders. However, these speakers remain largely unpracticed in the more exacting task of communicating sustained thought to an unknown and unseen audience. They lack a dialect in which they can express ideas with order and precision. In other words, they lack automatic access to standard grammar, ease in using the stylistic options more characteristic of the written dialect, and the expository habit of mind and expression in which ideas are formally patterned for an unfamiliar, not necessarily sympathetic, audience. For these students, learning to write is similar to learning a second language; and when they shift from talking to writing, the many features of talking are likely to interfere with learning the somewhat different features of writing.[2]

The differences between speech and the grapholect, as E. D. Hirsch refers to writing, reach beyond matters of etiquette.[3] The disorganized syntax and faulty predications that appear so frequently in student writing may at times be the result of conceptual laziness; but often they suggest the character of loose conversation, in which the speaker counts upon the listener, assisted by context, gestures, and intonation, to unscramble the mess and supply the proper syntactic relations. The surface structure of talk often misrepresents or imperfectly formalizes the intended deep

structure.

We all botch oral syntax to one degree or another, but our students, whose speech is filled with gaps and *you knows*, seem habitually to overlook in writing the need for clearer signals of meaning. What is more, just as a learner of a second language is likely to continue to think in the first language, the poorly read among our students are likely to display in their writing the cognitive and structural features of most oral discourse, no matter who speaks it, whether nonstandard or entirely standard in its grammar. For instance, punctuation for oral pauses will appear where writing conventionally omits it, as in "What the fuss was all about, was my late hours." Connectives that writers use to integrate separate chunks of meaning appear rarely in the prose of students who have almost never seen or heard these locutions. And since casual conversation, unlike writing, does not require extended development of ideas, student prose often lacks those structural devices that experienced writers employ because they are aware of the need to remind readers of where they have been in relation to where they are being taken, and that are for the writer, not incidentally, important markers and creators of the thought structure.[4]

For a long time in the schools there has been a pedagogic fancy for personal writing, so that many students are more comfortable with the prose of experience than with the prose of ideas. They carry over into discursive writing the hallmarks of narrative-descriptive prose: syntax held together more by spatial and temporal associations that inhere in the subject matter than by explicit connectors that signal the imposition of pattern and hierarchy by a reasoning mind; and the use of *and* (or *then*) as a factotum conjunction. At another level, it is more difficult for many students to imagine an audience (apart from the teacher) for their ideas than for their experiences. In particular, then, the expository mode is two modes removed from how these students have been accustomed to expressing themselves. Interference to writing good expository prose comes both from oral dialects and from habits developed to meet only or mainly the requirements of expressive writing.

If my assessment of the situation is correct in its essentials, writing instruction, especially instruction for basic writers, should proceed by methods that take into account several factors: (1) unfamiliarity with the grapholect, except as adapted to represent experience; (2) continuing interference from the oral culture, with the likelihood that features of the oral dialect will surface when the student is under pressure to compose; (3) the inadequacy by themselves of drills and exercises that anatomize the structure of prose into isolated units for study; (4) the oral-aural alertness of contemporary students (requiring methods that take advantage of an oral orientation while frankly intending to suppress oral practices that are unsuitable to writing); (5) the organic relationship of the decoding and encoding processes; (6) the need to simulate as nearly as possible the developmental conditions under which the initial oral dialect was acquired; (7) the need for procedures that systematically involve eye, ear, hand, and brain in order to emphasize how these organs cooperate not only to process and retain information but also to internalize the forms in which the

information is presented; and (8) the general principles of human learning.

Before giving the operational details of a procedure that meets these eight requirements, I want to amplify the eighth point with particular reference to what I shall propose. Although the field of learning theory has produced many useful insights, we still do not know exactly how humans learn. In some situations, input and output can be described with fair precision, but we cannot accurately describe what happens in the nervous system to process the input and produce the output. For instance, a golfer can study a pro's swing, even watch it in slow motion on film, and then adjust his own swing to produce better shots. No one, however, has been able to explain how this visual experience is translated into motor instructions that control the muscles involved in a golf shot. The act of learning to write is immeasurably more complex. Regardless of the nature or complexity of the task, however, our intuition suggests that the constant in human learning is a neural matrix where analysis and synthesis occur almost simultaneously, where perception and conception overlap, and where comprehension gives way to action, probably with an assist from the imagination, which projects the observer into the role of performer and generates imitation of the model. Indeed it may be true that no one can do something without first wanting to imagine himself doing it. For the person obsessed with cutting five strokes off his golf game, motivation is hardly a problem. For the student who comes to us with little experience in writing, and that not notably successful, motivation arises less often from internal sources. He lacks an image of himself as a writer. The golfer I have been speaking of wants desperately to envision himself in the role of competent performer. For him, motivation is tied directly to a situation, say, Saturday morning with his friends or business associates, out on the course, with at least the need to attain a standard of performance that will not embarrass him. Improving his game is not merely an instrumental objective but rather is integrated into a social context with implications for his sense of personal worth. Thus he attends to his lessons, live or graphic, with heightened receptivity.

We may say, then, that an effective learning process is situational, integrative, and holistic, in the sense that absorption and reproduction of the principles of the model depend upon an understanding of it as a gestalt. What the golfer may learn from drawings of the grip and swing remains abstract until he "feels" the unbroken movement of the swing itself. He must live the syntax of the activity. Similarly, the student learning to write must come to develop a feel for how the elements of prose are synthesized. For this reason, the reinforcement that comes from repeating a discrete task in grammar and usage drills must be supplemented not only by the writing act itself but also by learning activities that define writing as a total system of behavior. Although we may not be able to motivate many of our students to want to write with the same fervor that fuels our Saturday golfer, we can still aim for learning conditions that call into play the natural acquisitive powers that humans possess as language-learning organisms, and trust that as students improve they will come to regard writing as worth the effort if not a whit easier.[5]

Against this background of suppositions and assumptions, I propose a method that consists of several interlocking phases:

1. The student is asked to select a relatively self-contained passage of exposition, 300-400 words long. The content must be something the student wants to read, preferably wants to learn, or at least is being required to learn, perhaps in another course. The function of this passage in the student's life provides the *situation.* The instructor must, of course, approve the passage; but, especially the first few times this method is used, the student should be allowed considerable freedom of choice. Otherwise, the procedure will lack the realistic foundation it depends on so heavily.

2. The instructor then reads the passage carefully onto a cassette tape, using intonation to stress the structural joints in the passage and, perhaps, to emphasize formal features that are different from those of the student's natural dialect. For instance, the instructor's reading might emphasize tense and person markers that are habitually omitted from the student's writing.

3. Next, while reading the passage, the student listens to the instructor's recording of it. The instructor may want to direct the student to listen for particular features but, if directions are given, they should not divert attention from the formal integrity of the passage or from what is being communicated. The acquisition of language forms, we believe, is incidental to the main business of communication, and is thus largely unconscious. Moreover, grammatical analysis is not the objective of this activity, certainly not grammatical analysis that requires the student to learn terminology. We want the acquisitive faculty to operate with as little hindrance as possible, and we want to avoid overload: the student must not be made to think of too many things while listening.

4. Now comes the student's turn to record the passage, after which the instructor listens to the tape to be certain that the passage has been read correctly. If errors in reading occur, the student records the passage until they have been corrected. The reading need not account for all the rhetorical effects, but it should be true to the basic semantic intent of the passage, respect junctures both within and between sentences, and clearly enunciate morphemes that signal tense and person.

5. The student, while reading the text, listens to a playback of his own accurate recording.

6. Using a recorder with a pause control, the student, without visual access to the passage, transcribes *his* recording of it. This step can be a powerful aid to diagnosis since some students, even after having seen and heard the passage several times, may (and do) ignore correct English uttered in *their own voice* and introduce errors that surface stubbornly from the repertoire of their "native grammar." Without the written text to consult, students have no visual clues to guide the transcription and to help them suppress features of their native grammar that might compete in their inner voices with the correct features being spoken by their actual voices. Errors made at this stage are probably strong indicators of deeply ingrained dialectal, or even idiolectal, habits that can subsequently be

addressed in focused instruction.

7. The next step is to have the student return to the printed text and copy it verbatim, in longhand. I am persuaded that it is useful for students to see good prose in their own handwriting, even if the prose is not their own. Although the student does not invent the message, it must still be sent from the brain to the hand for transcribing.

After the student has copied the passage, the instructor can talk to the student about how it was written. For some students, the basic writers, it will be enough to point out functional suffixes, indicators of sentence and clause boundaries, and conventions of usage. For others, attention might be directed to transitions, to features of syntax they fail to employ, or even to structural idioms like "The more he tried to excel, the more he felt the pressure." For still others, those a little further along, the instructor can identify stylistic devices of compression and emphasis. The instructor will be the best judge of what needs to be highlighted at a particular point in the student's development as a writer. During the discussion, students should be encouraged to articulate their own discoveries, even, one would hope, to be the first to say what the passage has shown them about this "new dialect" in contrast to their own writing habits.

If this exercise is to offset the atavistic influences that work against the student's gaining control of written English, it must be repeated frequently, at least two or three times a week. Instructors who cannot invest this much time may want to enlist the help of staff in the learning center or writing lab, if these adjunct services are available on campus. Parents, friends, fellow students, if competent, might also be brought into the process to record passages and to check the correctness of student recordings and transcriptions.

As a corollary to what I have proposed, students can be advised to warm up before they begin to write their own compositions. I once heard a professional writer say he overcame fear of the naked page by typing out word-for-word several paragraphs of the work of a writer he admired. While he was thus warming up for the dreaded task of "pushing words around," as Philip Roth's character in *The Ghost Writer* puts it, he also picked up a feel for the good prose he was not so mindlessly copying; and in some way not fully understood, he began to incorporate into his own writing some of the felicities of the other person's work. Much current research has contributed to our understanding of writing anxiety. Few have put the matter as succinctly as Dr. Johnson: "Anyone who tells you that the act of composition is a pleasure is either a liar or a blockhead." Most of our students are neither. They make no secret of their anxiety. We can be certain that if we and the professionals are intimidated by the blank page, our students are virtually paralyzed, all the more so because for sizable numbers of them writing is indeed an unnatural act. Approaching it stiff of mind and hand intensifies the difficulty. Instead of sitting and staring at the paper, students can perform the calisthenic of copying out someone else's work. The effect will be to loosen them up, to remind them of how written English works, and, perhaps, to stimulate invention.

Another extention of the procedure is to have students record their own compositions on tape and listen to the playback.[6] While reading their own work aloud, students who have been taught to respect terminal juncture marks in other people's writing have a chance to hear where they should have used full stops instead of commas. They might also see opportunities to combine short sentences that sound immature or create staccato rhythms for no good reason. Vague or ambiguous pronoun references might reveal themselves. Other errors that the proofreading eye has failed to detect might show up simply because they do not sound right. This procedure reinforces the cooperation between eye, ear, and brain that eases acquisition of the grapholect. It has the added advantage of elevating the student's own work to something like equal status with the professional work that is being recorded, listened to, and copied. And it may gradually produce the image of the self as writer that animates all good writing.

The saturation technique I am recommending, while designed to counteract the oral culture, is not meant to separate students from their own dialect, if that were possible. Neither is it meant to inhibit creative thinking. In prewriting activities, even in first drafts, students may need to sort out their ideas in what James Britton has called "expressive" language, as opposed to "transactional" language.[7] Written communication is normally the result of a process that moves from conception through incubation to production. For the communication to be successful, at some point in the production stage the expressive use of language, in which the writer discourses for his own benefit, must give way to the transactional use of language in which the writer discourses for the benefit of others. The effectiveness of the transaction will depend in part upon how well the writer understands the needs of his readers. He will be as aware of his audience as of himself. In these terms, I have defined the problem as one in which the inexperienced writer ignores audience needs and continues to employ expressive language and conventions in the production stage. To interdict this tendency is not to stifle a necessary rehearsal for writing but rather to emphasize the fact that expository writing as the representation of what Benjamin De Mott has called "consecutive intellection," fully realized, is different from what engenders it. At least by the time the student is revising the composition, he should have become fully aware of what is required both structurally and semantically to facilitate the transmission of ideas.[8] Recently, there has been a shift in emphasis away from product to process in writing instruction. To the extent that such a pedagogy reflects the way that writing actually comes into being, it will assist the student in the conception and incubation stages. But, as teachers of second languages know, immersion in the language, even pressure to use it at the risk of making mistakes, is the best way to achieve breakthrough into spontaneous production of its features.

The method I have described, along with its extensions, seeks to bring reading and writing together to serve multiple interpenetrating objectives: (1) learning to read with a heightened sense of how meaning is signalled, and to speak the written language accurately; (2) learning the content of

the recorded passages, which together, for example, might constitute a chapter in a college textbook or in a book on the student's hobby; (3) learning to discuss the features of what one has read; (4) and, of course, learning to write expository prose.

Before closing, I want to anticipate some possible objections, which were put well by a friend who read an earlier draft of this essay: "The procedure for addressing the problem is interesting but not wholly convincing—not because it doesn't make sense but because...one is simply suspicious that it sounds too pat. For one thing, I wonder whether students can be put in contact with a wide enough variety of syntactic and grammatical forms *often enough* to internalize and acquire them for personal use."

My method is intended to illustrate certain pedagogic and linguistic ideas and to describe one procedure that embodies them. All models of this kind tend to sound too pat on paper, especially when they are presented as a series of steps. In practice, I include or exclude or modify components to fit the situation, including such practical considerations as the availability of time, resources, and assistants, and such instructional considerations as the level and temperament of students. Because the program does possess a sequential coherence, however, I try to keep it intact whenever possible. I would hope that it also suggests the kinds of things that might be done, with or without variation, separately or in combination, by teachers who consistently encounter in student writing the difficulties mentioned in the first part of the essay.

In response to my friend's question about grammatical and syntactical variety, I emphasize that the procedure is designed primarily as an *introduction* to the written dialect for students who require developmental instruction. Restrictions of space prevent a full account of what has happened in the cases of individual students, but, in general, the two major improvements I notice both occur at the sentence level: sentence boundaries are recognized and properly indicated; phrasing becomes more direct and accurate. My first goal is to help students eliminate disorganized syntax. Complexity of design for emphasis and for other effects will come in time, or with further instruction, if students are first taught to keep related words close together, to eliminate deadwood, to concentrate on clarity and firmness of predication, and to indicate relationships between ideas. As a result, their own prose is less likely to resemble oral discourse in which chunks of meaning float more or less free of one another.

The final point to be made about the method I am recommending is that is carries no threat: there is really nothing to get wrong, as in exercises and compositions. It calls for teamwork between instructor and student. Above all, it puts students constantly in touch with the dialect of English that sooner or later they must use reasonably well to take full advantage of their education.

NOTES

[1] For a study of how particular oral practices affect student writing, see Gary Sloan, "The Subversive Effects of an Oral Culture on Student Writing," *CCC* 30 (May 1979): 156-160.

[2] For support of this viewpoint, see Patricia Silber, "Teaching Written English as a Second Language," *CCC* 30 (October 1979): 296-300. This concept of writing instruction is developed fully by Helmut Esau and Michael L. Keene, in "A TESOL Model for Native-Language Writing Instruction: In Search of a Model for the Teaching of Writing," *College English* 43 (November 1981): 694-710. For a different, though not necessarily conflicting viewpoint, one should consult Patrick Hartwell, "Dialect Interference in Writing: A Critical View," *Research in the Teaching of English* 14 (May 1980): 101-118. Hartwell, citing impressive research, challenges the notion of dialect interference as it is sometimes applied to features of *specific* oral dialects that appear in student writing. Like Silber, Esau, and Keene, I apply the notion to *all* oral dialects without reference to race or class or ethnic background, or even to any particular canon of "correct usage." It is my simple contention that people who live in a predominantly oral culture, who communicate mainly in speech, and who neither read nor write constantly will carry over into their writing some habits of expression formed to satisfy the less demanding requirements of oral communication. I agree with Hartwell that a command of "correct spoken English" (if it were possible to define such a dialect) is not a necessary intermediate stage in the ultimate mastery of the standard written dialect. Indeed, no spoken dialect, no matter what claim of "correctness" can be made for its pronunciation, tense forms, and grammatical structures, is fully adequate to the demands of good expository prose, as much recent research makes clear. Finally, I agree with Hartwell that control of the standard written dialect is likely to precede and not to follow correctness in oral expression.

[3] My argument in this essay is predicated on the assumption that the grapholect is, as Hirsch contends, a mode of expression with norms that are different from the norms of both casual and formal speech. Hirsch argues, correctly, that all language instruction is, by definition, normative; and that teaching the norms of the grapholect is not elitist but democratic in objective. See Chapter Two of *The Philosophy of Composition* (Chicago: University of Chicago Press, 1977). For an application of Hirsch's ideas to "prescriptive" writing instruction, see Leo Daugherty, "The English Grapholect and the Introductory Composition Course," *CCC* 30 (May 1979): 134-140. See also Robert J. Connors, "The Differences Between Speech and Writing: Ethos, Pathos, Logos," *CCC* 30 (October 1979): 285-290.

[4] Janet Emig draws upon important basic research to demonstrate how the form of written discourse acts as both generator and vehicle of thought

and, in the process, functions as a powerful instrument of cognitive learning ; in "Writing as a Mode of Learning," *CCC* 28 (May 1977): 122-128.

[5] For a full amplification of this point, see Julia S. Falk, "Language Acquisition and the Teaching and Learning of Writing," *College English* 41 (December 1979): 436-447.

[6] See Helen Houser Popovich, "From Tape to Type," *CCC* 27 (October 1976): 283-285. She reports heartening results with a method similar to mine.

[7] For an extended treatment of this subject, see Randall R. Freisinger, "Cross-Disciplinary Writing Workshops: Theory and Practice," *College English* 42 (October 1980): 154-156.

[8] In her important essay, "Writer-Based Prose: A Cognitive Basis for Problems in Writing," *College English* 41 (September 1979): 19-37, Linda Flower asserts that "good writing...is often the cognitively demanding transformation of the natural but private expressions of Writer-Based thought into a structure and style adapted to a reader." She makes a good case for regarding a first draft that displays the verbal, cognitive, and structural characteristics of egocentric speech "not [as] a composite of errors or a mistake that should be scrapped. Instead, it is a halfway place for many writers and often represents the results of an extensive search and selection process." In a later essay, she summarizes her distinction between writer-based and reader-based prose and offers useful techniques for transforming one into the other. See "Revising Writer-Based Prose," *Journal of Basic Writing* 3 (Fall/Winter 1981): 62-74.

In the same issue of that journal, David Hoddeson, in "The Reviser's Voice,": 91-108, explains the relations among inner speech, outer speech, and written text, and asserts that the first two "must always be recast—revised—to create coherent texts." In his view, "error's endless train in part stems from a universal semiotic conflict: the writer's inability to switch off the inner voice that originally dictated, and that upon rereading revoices, written texts." In other words, the authority of the inner voice continues to assert itself even during revision and thus causes the writer to fail to supply the cues and conventions that distinguish writing from speech. The similarity of his ideas to mine, at least in pedagogy, can be seen in his remark that "an ability to read aloud with fluency must surely narrow the gap between voice and page, if only because the audible passage of written English through the oral/aural self eventually provides a repertory of such structures for future writing."

Frank Parker

DYSLEXIA: AN OVERVIEW

Dyslexia describes a condition first mentioned in English around the turn of the century (Morgan, 1896; Hinshelwood, 1900). Since then the characteristics, causes, and nature of the disability have been discussed by scores of investigators. However, a great deal of disagreement persists among educators, psychologists, clinicians, and physicians, as well as the general public (Reid, 1968). The purpose of this paper, therefore, is to present a short overview of what is known and not known about dyslexia. The discussion will cover four topics: an operational definition of dyslexia, some attendant characteristics, four competing accounts of the nature of the disorder,[1] and some brief suggestions for remediation.

Definition

Dyslexia, sometimes defined as reading at least two years below grade level (Eisenberg, 1966), is often referred to as a *specific* reading disability. "Specific" here means "occurring in the absence of other deficiencies." That is, dyslexia can be diagnosed confidently only in those of average or better intelligence, who have no sensory deficits (e.g., with normal hearing and vision), no gross brain damage, no severe emotional disorders, and no instructional or socioeconomic disadvantages. In other words, the term "dyslexia" applies only to poor readers who have no other organic, psychological, or environmental handicaps.[2]

Moreover, *dyslexia* should not be confused with *alexia*, which is an *acquired* disorder of language affecting reading in particular. Alexia is due to specific cortical damage caused by lesion, tumor, or trauma. Typically, this damage is localized in the angular gyrus of the dominant hemisphere.[3] Alexia, then, is the result of acquired damage to the cerebal cortex, whereas dyslexia occurs in the absence of identifiable neurological damage.

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Attendant Characteristics

It has been noted that several characteristics occur sporadically with dyslexia and may or may not be significant. First, dyslexia occurs four times as often in males as in females (Benton, 1975). Second, it occurs more often in families of dyslexics (Finucci et al., 1976). Third, dyslexics may have trouble with other forms of representational learning, such as telling time, or naming the months and seasons of the year or days of the week; they may have trouble identifying right and left or up and down. Fourth, dyslexics sometimes exhibit what are called neurological "soft signs," such as abnormal reflexes, minor coordination difficulties, or deviant EEG's. Finally, they may exhibit faulty, nearly illegible penmanship; slow, labored writing; and misspellings, more often omitting letters than including extra letters (Critchley, 1975). It should be emphasized, however, that none of these characteristics is sufficient or necessary to diagnose dyslexia. That is, the inability to tell time, for example, should not be taken as evidence of dyslexia, any more than the ability to tell time is evidence of the absence of the disorder.

Theories of Dyslexia

The oldest and most popular hypothesis concerning the nature of dyslexia is the *visual deficit theory*, first proposed by Orton (1925). According to this theory, dyslexics actually "see" letters and words in reverse (e.g., *p* for *q*, *d* for *b*, *was* for *saw*, *ton* for *not*). Orton, particularly impressed with such letter and word reversals, reasoned that images of letters are stored in both halves of the brain, but those in the nondominant hemisphere (usually the right) are mirror images of those in the opposite hemisphere. He thought that letter and word reversals in reading and writing were due to delayed lateral dominance,[4] which resulted in the failure to suppress the "reversed" letter images in the nondominant hemisphere. The net result was that the dyslexic would actually "see" letters and words in reverse. Even though this theory has persisted for the last fifty-five years, there is reason to doubt its accuracy. First, if dyslexia were due to a general dysfunction in visual analysis, the deficiency should extend into other areas of behavior besides reading and writing. Researchers have found, however, that this is not the case. That is, dyslexics do not seem to be generally disoriented in space (Benton, 1962). Second, contrary to what the visual deficit theory would predict, investigators have found that standard optometric exams do not discriminate poor and normal readers (Fox et al., 1975). Third, others have found that letter and word reversals account for only about 25% of all reading errors among dyslexics, even though the tests they used were constructed to maximize such mistakes (Liberman et al., 1971). Fourth, other research indicates that dyslexics reverse letters when writing from dictation but not when copying (Lovell et al., 1964). If the problem were primarily visual, it should affect copying as well. Finally, cases of mirror writing are often cited in support of the visual deficit theory. This phenomenon, however, is probably best

explained as a function of learning a new orthography. For example, I have noticed that students learning phonetic transcription often reverse unfamiliar symbols (e.g., ɤ̆ for ɣ̆ , ɕ for ɔ , and ʅ for ʃ). Similarly, one learning to write might be expected to make the same kind of mistake (e.g., *d* for *b*, *p* for *q*, ƨ for *S*, and И for *N*). In short, the evidence suggests that dyslexics probably are not deficient in their visual perception of letters, but rather have simply not learned them completely.

The second most popular view of dyslexia is the *intersensory deficit theory*, originally proposed by Birch (1962). According to this theory, the dyslexic's reading handicap stems from an inability to integrate information received through different senses. That is, for example, dyslexics have unusual difficulty in matching what they see with what they hear. Birch first tested his theory in an experiment where he required poor and normal readers to match auditory patterns (knocks tapped out by the experimenter) with visual patterns (different arrays of dots). As predicted, the poor readers performed worse than the normal readers. There are, however, a number of problems with this theory. First, in the original experiment, the subjects *watched* the experimenter tap out the knocks. Thus, they were receiving visual as well as auditory information. In this case, the experiment simply did not test intersensory integration. Second, the more recent studies that claim to support this theory are marred by confounding memory and perception factors. That is, the experiments were designed in such a way that the subjects may simply have forgotten the stimulus before they were able to integrate it. Moreover, the results of these studies are further confounded by inadequate sampling techniques (Vellutino, 1979, 207). Finally, more recent research indicates that poor and normal readers differ only in intersensory integration tasks involving *linguistic* stimuli (Vellutino et al., 1975). In sum, the intersensory deficit theory, although meriting further investigation, is probably too general. That is, dyslexics do not appear to have a global intersensory transfer deficit, but rather a specific deficiency in relating visual linguistic symbols to the sounds of the words in their vocabularies.

The third view of dyslexia is that poor readers are deficient in *serial order perception.* Originally proposed by Bakker (1972), this theory states that dyslexics have unusual difficulty in perceiving the order of incoming stimuli. Thus, for example, when presented with the letters *w-a-s*, they actually perceive *s-a-w.* The fundamental assumption underlying this theory is that words are identified in both reading and listening by left-to-right processing of letters and sounds. There are a number of facts, however, that suggest that this assumption is incorrect. First, recent research has shown that neither reading nor listening involves simple left-to-right processing. For example, the findings of Mason (1975) suggest that good readers do *not* engage in left-to-right processing of printed words, whereas poor readers do. She states that "good readers process all six letters of any display type [i.e. word] simultaneously, whereas poor readers do not" (146). Mason bases her conclusion on the fact that the good readers in her study were faster than the poor readers in picking out target letters in six-letter words. The difference between the performance of the two groups

was enhanced when the target letter was the sixth letter. Findings such as these, of course, are exactly the opposite of what the serial order theory would predict. Second, Shankweiler and Liberman (1972) have found that sequencing errors on word lists containing reversible words (e.g., *tap, was, not, pit,* etc.) accounted for only about 15% of the errors, while mispronunciation of individual consonants and vowels accounted for approximately 75%. They further state that "although optical reversibility [of individual letters and words] contributes to the error rate for the children we have studied, it is of secondary importance to linguistic factors" (313). Finally, in almost all of the studies which are cited in support of the serial order deficit theory, poor readers performed worse than normal readers on both gross recall (general memory) and serial recall (sequential memory) experiments; however, it is important to keep in mind that such studies typically confound both types of task (Vellutino, 1979, 225). In short, the available evidence suggests that dyslexia is not the result of a simple specific deficiency in serial order perception.

The fourth and final view of dyslexia is that it is a deficiency in *linguistic processing.* This theory suggests that dyslexics may have a subtle linguistic deficit, which inhibits them from matching their knowledge of the language to the printed word. The implication is not necessarily that dyslexics are deficient in their internalized linguistic system; it may be that they are simply inefficient in utilizing that system.[5] In either case, however, the problem is seen as primarily a linguistic deficit rather than one of a more general nature. There seems to be ample support for this view. First, it has been noticed since the turn of the century that poor readers show a history of delayed language development (McCready, 1910; Bronner, 1917; Rabinovitch, 1959, 1968). Second, poor and normal readers typically differ only in tasks involving linguistic stimuli (Vellutino, 1979, 236-37). Third, in studies of oral language samples, poor second-grade readers have been shown to have more restricted vocabularies, to use less modification in predicate position, fewer subject-verb-object constructions, more contractions, more existential sentences, (i.e., sentences containing main verb *be*), and fewer transformations, and to make more subject-verb agreement errors (Fry et al., 1970). Fourth, other research indicates that poor fourth-grade readers are not able to recall syntactically well-formed nonsense sentences (e.g., *when they sivolved the veg, they hanashed zalfly*) any better than syntactically anomalous sentences (e.g., *zalfly they when, veg they hanashed, sivoled they*). Good readers, however, were able to recall the syntactically well-formed sentences much better than the syntactically anomalous ones (Weinstein and Rabinovitch, 1971). This indicates that normal readers are better able to tap their internalized syntactic knowledge. Fifth, other investigators have found that poor readers make significantly less use of the suprasegmental features of pitch, stress, and juncture in oral reading than normal readers do (Clay and Imlach, 1971). Since suprasegmental features apply to specific syntactic domains (e.g. sentence and phrase), the absence of these features in oral reading may suggest that poor readers have diminished access to syntactic structure. Finally, further research indicates that poor readers are less able

to segment words phonemically (i.e., divide words into their constituent sounds) than normal readers (Liberman et al., 1974). All of this suggests that dyslexics are deficient in their ability to use their internalized linguistic knowledge.

One factor that may exacerbate the effect of linguistic deficiencies among dyslexics is the match between the sound system of their language and the orthography used. For example, the incidence of dyslexia in Japan has been observed to be less than 1%, whereas that in the U.S. has been estimated to be around 10% (Makita, 1968). One explanation for this discrepancy may be the fact that there is no one-to-one correspondence between English phonemes and the Roman alphabet (e.g., /i/ = h*e*, s*ee*, p*ea*, k*ey*, mach*i*ne, rec*ei*ve, bel*ie*ve, etc.); whereas in the Japanese *kana* scripts, a one-to-one relationship does hold between sound and symbol (e.g., /i/ = い).

In brief, it is not clear if the dyslexic's problem is linguistic, orthorgaphic, or both; more research is needed. However, existing evidence does suggest that dyslexia is probably *not* the result of a general sensory deficit involving vision, intersensory integration, or serial order perception.

Remediation

The linguistic deficit theory of dyslexia has a number of implications for remediation. For one thing, it is probably a waste of time to engage in what is called "basic process training," which encompasses exercises designed to improve motor coordination, visual and auditory discrimination, intersensory integration, and sequential memory. The reason is obvious: if dyslexia is caused by a linguistic deficit, such exercises should effect little or no improvement.

There are, however, positive steps that can be taken. Assessment should be restricted to specific deficiencies: word analysis (i.e., the ability to segment words into their constituent phonemes and letters), word synthesis (i.e., the ability to combine individual letters and phonemes into words), and word comprehension. More importantly, the poor reader should be provided with explicit information about the structure of the language and the effect of that structure on the correspondence between letters and sounds.[6]

There are a number of types of useful linguistic information. First, placing stress on a vowel has the effect of giving that vowel its full phonemic character. Consider the following pairs of words:

leg*a*l	/ə/	leg*a*lity	/ae/
an*a*lytic		an*a*lysis	/ae/
reb*e*l (N)		reb*e*llion	/ɛ/
tel*e*graph		tel*e*graphy	/ɛ/
pal*a*ce		pal*a*tial	/e/
civ*i*l		civ*i*lian	/I/

mal*i*ce	/ə/	mal*i*cious	/I/
avar*i*ce		avar*i*cious	/I/
symb*o*l		symb*o*lic	/a/
Mong*o*l		Mong*o*lian	/o/
ph*o*netics		ph*o*ne	/o/
cher*u*b		cher*u*ic	/u/

The italicized vowels in the words in the first column are all unstressed and pronounced / ə /. When stressed, however, as in the second column, these vowels take on their full phonemic value. If words like these were presented in pairs, it would provide a clue to the spelling of the member of the pair containing the unstressed vowel.

Second, the morphological structure[7] of a word affects its pronunciation and thus may have an effect on spelling. Note the following pairs:

bi*sh*op	/š/	mi*sh*ap	/s+h/
di*sh*rag	/š/	di*sh*armony	/s+h/
di*sh*eveled	/š/	di*sh*onor	/s+h/
fa*th*om	/ð/	kno*th*ead	/t+h/
apo*th*ecary	/θ/	po*th*ole	/t+h/
ano*th*er	/ð/	ou*th*ouse	/t+h/

In the first column, the italicized letters (*sh* and *th*) are part of the same morpheme, and are therefore pronounced as a single sound /s/; on the other hand, in the words in the second column, the *s*/*t* and *h* are part of different morphemes, and are thus pronounced as separate sounds. Explicit knowledge of the morphological structure of words would help the dyslexic to resolve the problem of one spelling which represents two different pronunciations.

Third, the syntactic category of a word (e.g., noun, verb, etc.) affects its pronunciation. Consider the following pairs:

cónvict	(N)	/a/	convíct	(V)	/ə/
cómbat	(N)		combát	(V)	
óbject	(N)		objéct	(V)	

The words in column one above are nouns and have stress on the first syllable, so the *o* is given its full phonemic value /a/. Those in column two, however, are the corresponding verbs and have unstressed first syllables, so the *o* is pronounced /ə/. Again, presenting such words in pairs provides a clue to the spelling of the member of the pair containing the unstressed vowel.[8]

Finally, the etymology of a word affects its pronunciation. Consider the following pairs:

cell	/s/		cell	/č/	
*ch*eek	/č/		*ch*ic	/š/	
*g*eld	/g/		*g*el	/ ǰ/	
be*g*in	/g/	(Ger.)	*g*in	/ ǰ/	(Rom.)
*h*ome	/h/		*h*onest	∅	
*h*elp	/h/		*h*erb	∅	
*h*op	/h/		*h*onor	∅	

The words in the first column are Germanic, while those in the second are of Romance origin. The italicized letters in each row are identical, yet their pronunciation differs as a function of the origin of the word. As in the cases above, etymological information helps clarify the relationship between spelling and sound.

In conclusion, let me reiterate the main points: First, dyslexia is not simply the inability to read; instead it is a specific reading disability that occurs in the absence of other organic, psychological, and social handicaps. Second, a number of characteristics occur sporadically with dyslexia, such as the high incidence among males; however, none of these characteristics is diagnostic. Third, all available evidence suggests that dyslexia is primarily a linguistic deficit, rather than a deficiency in vision, intersensory integration, or serial order perception. Finally, remediation will require, at the very least, providing the disabled reader with explicit information about the structure of the language and its relationship to the orthography.

NOTES

[1] Except for the section on remediation, my discussion closely follows Vellutino (1979), a highly technical and thoroughly detailed survey of the research on dyslexia. However, my primary goal in writing this piece is not to add to the research literature on the subject, but rather to disseminate among teachers of composition what information is known that they may otherwise probably not be exposed to.

[2] This understanding of dyslexia is common in the medical field. Educators, on the other hand, generally regard dyslexia as the inability to read, regardless of cause. I have adopted the medical definition because it seems to me absolutely essential to factor out all confounding variables (e.g., poor instruction), if the specific nature of dyslexia is ever to be understood.

[3] The left hemisphere is dominant in approximately 98% of the population (Eccles, 1977, 205). The dominant hemisphere is the one that stores the language faculty.

[4] Until recently it was generally felt that neither hemisphere is dominant in humans at birth, but that one becomes dominant before the age of ten (Lenneberg, 1967). However, Geschwind and Levitsky (1968) reported that the planum temporal, an area in the temporal lobes of humans, was larger in the left hemisphere in 65% of the brains they studied. Later, Wada et al. (1975) found the same to be true of human fetal brains. This suggests that the left hemisphere in humans may be programmed for language dominance even before birth.

[5] This distinction between an internalized grammatical system and the implementation of that system to produce and understand sentences is essentially that between competence and performance, as outlined by Chomsky (1965).

[6] Reed and Sawyer (1970) follow this approach and some of the examples that follow are theirs.

[7] Morphology is the analysis of words into their smallest meaningful elements, each of which has a (relatively) constant phonological shape. For example, the words *photo*, *photograph*, and *photographer* contain the morpheme photo , even though the phonemic representation of this morpheme is slightly different in each of the three words: /fōtō/, /fōtə/, and /fətā/, respectively. In other words, a morpheme is a word or a part of a word that has a (relatively) constant sound-meaning correspondence. For a brief but revealing introduction to English morphology, see Falk (25-31).

[8] A similar alternation occurs in verb-adjective pairs. For example, the verbs *learned* and *aged* are monosyllabic and are pronounced /lɝ rnd/ and /ejd/, respectively. The corresponding adjectives, however, are bisyllabic: /lɝrnəd/ and /ejəd/.

REFERENCES

Bakker, D. J. *Temporal Order in Disturbed Reading-Developmental and Neuropsychological Aspects in Normal and Reading-Retarded Children.* Rotterdam: Rotterdam University Press, 1972.

Benton, A. L. "Dyslexia in Relation to Form Perception and Directional Sense." *Reading Disability: Progress and Research Needs in Dyslexia.* Ed. J. Money. Baltimore: Johns Hopkins Press, 1962.

---."Developmental Dyslexia: Neurological Aspects." *Advances in Neurology*, Vol. 7. Ed. W. J. Friedlander. New York: Raven Press, 1975.

Birch, H. "Dyslexia and Maturation of Visual Function." *Reading Disability: Progress and Research Needs in Dyslexia.* Ed. J. Money. Baltimore: Johns Hopkins Press, 1962.

Bronner, A. F. *The Psychology of Social Abilities and Disabilities.* Boston: Little, Brown, 1917.

Chomsky, N. *Aspects of the Theory of Syntax.* Cambridge, MA: The M.I.T. Press, 1965.

Clay, M. and R. H. Imlach. "Juncture, Pitch and Stress and Reading Behavior Variables." *Journal of Verbal Learning and Verbal Behavior* 10 (1971): 133-39.

Critchley, M. "Specific Developmental Dyslexia." *Foundations of Language Development,* Vol. 2. Eds. E. H. and E. Lenneberg. New York: Academic Press, 1975.

Eccles, J. *The Understanding of the Brain.* New York: McGraw-Hill, 1977.

Eisenberg, L. "Reading Retardation: I. Psychiatric and Sociologic Aspects." *Pediatrics* 37 (1966): 352-65.

Falk. J. S. *Linguistics and Language,* 2nd ed. New York: John Wiley & Sons, 1978.

Finucci, J. M., et al. "The Genetics of Specific Reading Disability." *Annals of Human Genetics* 40 (1976): 1-23.

Fox, F. J., et al. "Short-comings of the Standard Optometric Visual Analysis for the Diagnosis of Reading Problems." *Canadian Journal of Optometry* 37 (1975): 57-61.

Fry, M. A., et al. "Oral Language Production in Relation to Reading Achievement among Select Second Graders." *Specific Reading Disability: Advances in Theory and Method.* Eds. D. J. Bakker and P. Satz. Rotterdam: Rotterdam University Press, 1970.

Geschwind, N. and W. Levitsky. "Human Brain: Left-Right Asymmetries in Temporal Speech Region." *Science,* 161 (1968): 186-87.

Hinshelwood, J. "Congenital Word Blindness.": *Lancet* 1(1900): 1506-08.

Lenneberg, E. H. "The Biological Foundations of Language." *Hospital Practice* (Dec. 1967): 59-67.

Liberman, I. Y., et al. "Letter Confusion and Reversals of Sequence in the Beginning Reader: Implications for Orton's Theory of Developmental Dyslexia." *Cortex* 7 (1971): 127-42.

---."Explicit Syllable and Phoneme Segmentation in the Young Child." *Journal of Experimental Child Psychology* 18 (1974): 201-12.

Lovell, K., et al. "A Further Study of Some Cognitive and Other Disabilities in Backward Readers of Average Non-Verbal Reasoning Scores." *British Journal of Educational Psychology* 34 (1964): 275-79.

Makita, K. "The Rarity of Reading Disability in Japanese Children." *American Journal of Orthopsychiatry* 38 (1968): 599-614.

Mason, M. "Reading Ability and Letter Search Time: Effects of Orthographic Structures Defined by Single-Letter Positional Frequency." *Journal of Experimental Psychology: General* 104 (1975): 146-66.

McCready, E. B. "Biological Variations in the Higher Cerebral Centers Causing Retardation." *Archives of Pediatrics* 27 (1910): 506-13.

Morgan, W.P. "A Case of Congenital Word-Blindness." *British Medical Journal* 11 (1896): 378.

Orton, S. T. "'Word-Blindness' in School Children." *Archives of Neurology and Psychiatry* 14 (1925): 581-615.

Rabinovitch, R. D. "Reading Problems in Children: Definitions and Classification." *Dyslexia: Diagnosis and Treatment of Reading Disorders.* Eds. A. and V. Keeney. St. Louis: Mosby, 1968.

Reed, D. W. and J. O. Sawyer. "Linguistic Considerations in Reading Disability." *Language and Reading.* Ed. D. V. Gunderson. Washington, D.C.: Center for Applied Linguistics, 1970.

Reid, J. F. "Dyslexia: A Problem of Communication." *Educational Research* 10 (Feb. 1968): 126-33.

Shankweiler, D. and A. M. Liberman. "Misreading: A Search for Causes." *Language by Ear and Eye.* Eds. J. F. Kavanagh and I. G. Mattingly. Cambridge, MA: The M.I.T. Press, 1972.

Vellutino, F. R. *Dyslexia: Theory and Research.* Cambridge, MA: The M.I.T. Press, 1979.

Vellutino, F. R., et al. "Differential Transfer in Poor and Normal Readers." *Journal of Genetic Psychology* 126 (1975): 3-18.

Wada, J., et al. "Cerebral Hemispheric Asymmetry in Humans." *Archives of Neurology* 32 (1975): 239-46.

Weinstein, R. and M. S. Rabinovitch. "Sentence Structure and Retention in Good and Poor Readers." *Journal of Educational Psychology* 62 (1971): 25-30.

Amy Richards

COLLEGE COMPOSITION: RECOGNIZING THE LEARNING DISABLED WRITER

Writing disabled students often struggle in the college classroom, the nature of their dysfunction unrecognized by themselves or their teachers. Some, more fortunate, carry a diagnosis with them from high school and enter a college program sympathetic to their needs, but many more remain misunderstood. Generally, the strategy of college composition instructors who receive a student paper similar to the excerpt that follows is to redouble the usual remedial measures:

> The storie billy, is a tragie asapic of the problems, of the rasening a retard Child. the mother does'en the problem that th boy has,

When the remediative techniques for spelling, punctuation, and sentence structure have little or no effect, instructor and student share confusion and failure. The baffled student often drops and enrolls in freshman English repeatedly, hoping to overcome the problem under each new teacher. In consequence, each succeeding teacher mutters about the failure of secondary schools, low standards of community colleges, college admission standards, and, even more darkly, about mental retardation or emotional disturbance. This scenario of frustration becomes most complex in large urban universities where students from a variety of cultures, educational preparations, and age groups enter, leave, return, and leave again.

The chief hope for the writing disabled student in the college classroom is that English composition instructors learn how to make tentative identification of writing dysfunction. Students thus singled out can be referred for testing and diagnosis that may result in appropriate educational intervention; or, if facilities for special testing and teaching are not available, they at least can be recognized—not as mentally retarded, emotionally impaired, or grossly illiterate but as students having a disability that prevents them from processing language adequately, a disability that does not yield to usual remediative techniques.

Identifying the kinds of writing errors which result from learning disability proves difficult for college teachers. Very few have had educational preparation that includes a review of language disorders. In fact, although colleges regularly accommodate physically and sensorially handicapped

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people, they often do not anticipate the enrollment of the learning disabled. Thus, unknown and unannounced, these arrive and remain unrecognized. In addition, teachers aware of writing dysfunction have difficulty diagnosing it, often reserving diagnosis because uncertain whether the errors reveal writing dysfunction or only gross inexperience with writing. Moreover, in remedial classes where genuinely atypical errors in spelling, punctuation, and sentence structure join a welter of typical grammatical, mechanical, and syntactical problems in the disabled student's essay, the task of distinguishing between these two kinds of errors is formidable. The guidelines spelled out in this paper contrast writing errors characteristic of inexperienced writers with errors characteristic of writing disabled students, offering a touchstone for the teacher insecure or confused about the nature of a student's error.

Some general comments about the nature of learning disabilities, of which writing disability or dysfunction is only one facet, may be helpful to the teacher about to attempt a tentative diagnosis. The study of learning disability has given rise to several theories about its cause (see Vellutino, 1981); but since the etiology of the problem bears little relevance to the practical function of the checklist herein outlined, only one widely accepted theory will be noted in order to picture more clearly for the teacher the learning disabled handicap. Johnson and Myklebust claim that the learning disabled person reveals behavioral or neurological evidence of a dysfunction of the brain. These persons, although not mentally retarded, emotionally disturbed, cerebral palsied, or sensorially impaired, do not learn normally. Learning disability manifests itself in the academic area as reading disability, writing disability, and mathematical disability. In the college composition classroom, learning disability emerges as writing dysfunction. Occasionally these writing disabled students also have a reading disability but problems with reading do not consistently present themselves with these students at the college level.

Although teachers of these students will identify them almost entirely through the peculiarities of writing behaviors, they also may notice that some lack of sense of time, read haltingly, stutter, have directional disorientation, or poor handwriting, all possible attendant behaviors of the basic neurological problems. Christopher Johnson gives a useful overview of the educational and psychological characteristics of learning disabled young adults in a *Journal of Learning Disabilities* (1984). In addition to the disability based problems, these students can bring to college the emotional damage done by twelve years of failing to satisfy their language arts teachers. Years of failure may affect their actions in many ways; but the one most frequently encountered, especially in freshmen, is evasiveness: the evasion of diagnostic essays, in-class writing, final exams, and even private conferences as they attempt to escape another defeat. Despite their difficulties, many writing disabled students in college manifest considerable intellectual integrity; among the students who provided data for this checklist, one had finished his group requirements as a physics major, another was a registered nurse, a third was active in union management, and others performed successfully in pre-law, history, and art curricula. Each one

demonstrated sufficient skill in some field to permit entrance to the university.

Cognitive dysfunction is a concern far removed from the competency of composition teachers; consequently, English teachers are ill equipped to treat the symptoms of writing dysfunction. If, however, they can identify the symptomatic errors as different from errors characteristic of inexperienced writing, they will at least be able to evaluate student writing from a more helpful perspective. The guidelines that follow have grown from the analysis of the papers of thirty students who have presented atypical writing behavior in English composition classes at Wayne State University over the last eight years. Identification of the writers as learning disabled has come first from the behaviors observed on student essays, but in addition almost all have been identified as learning disabled either by public school testing, a state agency, or qualified personnel within the university. The testing results have given a simple verification of learning disability but no identifications of specific abnormalities in language processing.

The characterizations of typical errors of inexperienced writers used in this study come from *Errors and Expectations* (Shaughnessy, 1977) and *Black English* (Dillard, 1972). The categories of comparison for typical and atypical errors are those within which the errors of writing disability most often appear on student papers. These categories are *spelling, punctuation*, and *sentence clarity.*

SPELLING

Errors of Inexperience

The misspellings of inexperienced writers follow easily discernible patterns, the accountable malformation of words setting these misspellings apart from the unpredictable errors of the writing disabled. Inexperienced writers, in general, make the following kinds of errors:

Letters Added. Students often add letters that occur in their pronunciation of a word but do not exist in its correct written form: *integration* becomes *intergration* and *future* becomes *furture.*

Letters Dropped. Students often drop letters that they do not pronounce: *pregnant* becomes *pregant*, *constitution* becomes *consitution*, *laboratory* becomes *labratory*, *interest* becomes *intrest.*

Spelling Rules not Followed. Students may be unclear about spelling rules for dropping and doubling letters: *studying* thus becomes *studing*, *writing* becomes *writting*, *coming* becomes *comeing*, *misspelling* becomes *mispelling*, and *dropped, droped.*

Words Confused. They may confuse homonyms: *site* or *sight* may replace *cite*, *decent* or *descent* may replace *dissent.* In addition, inexperienced writers may distort an unfamiliar word, confusing it with another unfamiliar word which is visually or aurally similar: *differentiate* thus becomes *differinitiate.*

Spelling Demons. Students may forget or fail to memorize the words that appear on the lists of words most commonly misspelled, words like

occasion, *separate*, *comprehensible*, or *receive*. (See a list of words often misspelled in *Harbrace College Handbook*.)

Dialect Transferred. Black dialect speakers sometimes transfer their grammatical formulas into their writing. Common features of dialect transference are the absence of *-s* in the plural and possessive of nouns and in the third person singular present tense of verbs and the absence of *-ed* with the past tense or past participle. In the excerpt reported in the first paragraph of this paper, for example, the absence of the *-ed* at the end of *retard* is probably the result of dialect transference. In the examples that follow, the rules of Black English have been employed:

Bill go (es) *home.*
He has twenty dollar (s).
Mary ('s) *coat is red.*
Last year he support (-ed) *his mother.*
The expect (-ed) *check never came.*

Errors of Writing Disability

Writing disabled students may make the same errors as inexperienced spellers, but they will also misspell words in other unusual, unpredictable ways. Although these unpredictably distorted spellings can be "characterized," they cannot be associated with causes such as transference of pronunciation or dialect variants, ignorance of English spelling rules, or some factor that causes a widespread tendency to misspell them. The characteristics of the misspellings of writing dysfunction are seemingly random distortions, letter reversals, and the dropping of end letters. Following are samples from these categories taken from the papers of writing disabled students:

Random Distortions. The context of the essays established the meanings of these distorted words: *enscaced* meant *enacted*, *hem* meant *him*, *beinging* meant *beginning*, *faracy* meant *fantasy*, *maxinguinize* meant *maximize*, *sarger* meant *surgery*, and *cerreary* meant *career*. In the excerpt quoted in the first paragraph *asapic* means *aspect*, and *rasening* means *raising*.

Letters Reversed. Spellings that at first glance appear to be random distortions may actually be letter reversals: *ferinds* should be *friends*, *parnets* should be *parents*, *onec* should be *once*, *adveci* should be *advice*, *direffently* should be *differently*, *porvoke* should be *provoke*, and *form* should be *from*.

Final Letters Dropped. A dropping of final letters that does not reflect pronunciation appears in such spellings as *cam* instead of *came*, *th* instead of *the*, *nobl* instead of *noble*, *stuf* instead of *stuff*, *of* instead of *off*, and *befor* instead of *before*.

No predictive factor seems to exist for these misspellings although extensive testing might reveal the reasons for a particular student's writing behavior. The words listed above do not constitute a list of words most frequently misspelled by disabled writers, nor is any one the consistent

idiosyncracy of a writer. In fact, even within one person's paper a word may undergo changes. In one paper the spelling of *convince* was *convines*, *convise*, and *convince*; in another, *check* became *chach* and *chech*, and *decide* became *decied* and *dicede*. Sometimes homonyms will be confused and again spelled correctly within the space of a page; occasionally a student will misspell a dozen words in two pages on one day and only one on the next day.

Frequency of Misspellings

Arbitrarily establishing a frequency rate for misspelled words that will distinguish the learning disabled from the typical remedial student is impossible. But if compared to classmates, a student has twice as many misspellings, there is a need to examine the nature of the misspellings for signs of distorted words, reversals, or dropped letters. Students labelled by themselves or teachers as "terrible spellers" are likely candidates for learning disability testing or special help; this remark usually implies not only a high frequency of errors but errors of an unusual sort. Simply put, an exceptionally high number of errors in spelling often signals the possibility of writing disability.

On the other hand, there are students who, because they have mastered spelling rules, have eliminated errors due to pronunciation or other causes, or because they only intermittently fall prey to their dysfunction, have only two or three misspellings per one hundred words. These words draw attention not because of their numbers but because of their strange appearance. How then does a teacher know whether a student who leaves the *d* off *and* and confuses *there* and *their* is a candidate for special help or is just careless? Common sense dictates that these two misspellings alone do not indicate a problem. Even if these two errors exist in the company of *opsessed*, the latter is probably a phonetic attempt at the unfamiliar word *obsessed*. But if the preceding are found (as in the case of one paper) in the company of *seans* (scenes), *fsce* (wish), *sinde* (single), *assaicaisse* (accident), and *patasy* (patsy), making a total of only eight misspelled words in a 500-word theme, the evidence for writing disability exists.

PUNCTUATION

Errors of Inexperience

The lack of training that accounts for typical errors in punctuation reveals itself in consistent errors of certain types. Commonly, for example, if a student does not capitalize the first word of a sentence, he or she continues to make the same error until corrected. If a student fails to use a comma where needed or includes one where not needed, the error falls into a general pattern of student confusion over punctuation of subordinate clauses, series, or compound sentences.

Capitalization. Characteristic errors of inexperience in capitalization may result from students not knowing or forgetting to capitalize the first letter

of a dialogue, a word derived from a proper name, a pronoun referring to God or the name of a country or the like. Out of confusion or ignorance they may capitalize words such as *freshman*, *summer*, or *spring* unnecessarily. They may not know to capitalize titles of books or articles nor which words in a title to capitalize. In other words, the inexperienced student will find difficulty with conventions of capitalization but will not erratically dispense capitals within or at the beginning of sentences.

Apostrophe. Characteristic error in the use of the apostrophe usually falls into three limited categories: failing to place an apostrophe before or after the *s* in the possessive case or positioning it incorrectly to indicate the number intended (the boy*'s* books when the boy*s'* books was meant), failing to use the apostrophe of contraction, and substituting the contraction *it's* for the possessive pronoun *its.*

Marks of Closure and Enclosure. The incorrect use of periods by inexperienced writers usually results from their weak sense of sentence closure: Periods separate clauses or phrases from main clauses or lengthy subjects from predicates, resulting in sentence fragments; periods fail to materialize between independent clauses, resulting in run-on sentences. In addition, student writers may leave out periods after abbreviations and in documentations either through neglect or ignorance.

Inexperienced writers ordinarily place commas where they sense separation. As a result, they inappropriately enclose long prepositional phrases or relative clauses in commas, separate sentences with a comma instead of a period, and place a comma before an adverb clause that ends a sentence. The absence of needed commas often happens at the end of a subordinate clause introducing a sentence, before the conjunction in a compound sentence, on either or both sides of an appositive, or in a series.

Colons and semicolons become problems for student writers because, if used at all, their function is often reversed, the sentence of anticipation completed with a semicolon, or two independent clauses separated by a colon.

This same group of writers may fail to include direct quotations within quotation marks, leaving out one or both sets, or include indirect quotations in quotation marks. They may also use quotation marks too liberally as a rhetorical device for emphasis.

Errors of Writing Disability

The punctuation errors of the writing disabled occur erratically with no comprehensible rationale for error.

Capitalization. A characteristically irrational or random use of capitals occurs in the excerpt in the first paragraph of this paper. There the student sometimes capitalizes the first word of a sentence, and sometimes not. In addition he fails to capitalize *Billy* which is not only a child's name but is also the title of the story he discusses. He capitalizes the word child which appears in the middle of the sentence, and he continues to capitalize randomly. throughout the paper from which the excerpt is taken.

Apostrophe. Students with writing disability frequently misuse the apostrophes of possession and contraction. Apostrophes sometimes show up before the plural nonpossessive *-s* or before a final *-s* as in the *The bu's came.* In the excerpt the apostrophe of contraction is misplaced in the word *doesn't* which becomes *does'en.*

Marks of Closure and Enclosure. Students with writing disability may dispense periods, colons, and other marks indiscriminately throughout a paper. They may also devise strange constructions by using arrows, hyphens, underlinings, ellipses, and asterisks. For example, *enjoy* appeared on one paper as *in-joy* and *understand* as *under...stand.*

Frequency of Punctuation Error. Common sense again dictates that a careless or preoccupied student may produce two or three peculiar punctuation errors, in addition to others, in a 500-word theme. The student with writing dysfunction will make typical as well as atypical punctuation errors, but the latter will generally occur in the company of atypical spelling or syntax errors. In only one case among those papers examined for this study was atypical punctuation the only evidence for writing dysfunction. The surface of this paper had the odd look of a wild scatter of punctuating signals.

SENTENCE CLARITY

Errors of Inexperience

The sentence errors made by inexperienced writers, that are most easily confused with those of learning disabled writers, fall into the category that Shaughnessy labels *faulty consolidation.* In sentences integrated inappropriately the reader must untangle connections of unequal syntactical units, insecure comparisons, inefficient management of adverbial clauses, and faulty predication. These sentence problems all make demands on the readers' understanding and require that they supply missing parts that equalize units, justify comparisons, or modify logic.

Connecting Unequal Syntactical Units. The connections of unequal syntactical units by *and, but, not only,* and *but also* lead to such sentences as: *For weeks she had been searching for explanations and not to find one.* Or, *Not only did a vein swell in his temple but also a twitching cheek.*

Sometimes the writer's failure to find a secure point of comparison results in unbalanced and unclear sentences such as: *I love to go downtown like rock concerts.* Or, *The weather here is as good as Michigan.*

Dependent clauses improperly handled also can produce garbled writing. The following unit of ineffectively related clauses was intended as a sentence: *Although students have to hold down jobs which is hard in college while taking classes.* The use of *because* in place of the inappropriate *which* in the following two sentences would clarify them: *I was considered an outsider which I was treated like dirt.* Also, *Before a storm the cat will groom itself which the storm makes it apprehensive.*

The composition teacher normally recognizes problems of consolidation as arising from inexperienced students' attempts to manage written

constructs they are unfamiliar with.

Dropped Copula. Some sentences seem to demand completion not because of faulty consolidation but because the verb *to be* is lacking. Such sentences often have their source in Black dialect, the Black dialect speaker incorporating an element of Black English grammar into college prose. The sentences, *She beautiful.*, and *He coming along fine.*, result from such a transference of Black dialect.

Errors of Writing Disability

The faulty consolidation of inexperience produces garbled sentences with syntactical disjunctions that can be recognized by the teacher. The dropped copula likewise is easily identified. The students with writing dysfunction may have these same problems but in addition they may produce garbles that result from a random loss of words and, occasionally, from reversals of words or in word sequencing.

Word Loss. The dropping of words in the sentences of the student with writing dysfunction is erratic, occurring as an aphasic function rather than as an inability to consolidate sentences or as a feature of Black dialect. For example, the writer of the following sentences left spaces for words, apparently hoping to fill them in during revision: *With the constancy bad habit of being late to things, like to class, appointments or events, I will in the longrun re..... this trait in the near future. Every since I was kid, I had the habit of being late to school. Even up to this day....., this problem.*

Most students, however, remain unaware of an aphasic tendency. They write sentences such as the following without attempts at revision: *He was so he drink and drink that h couldn't get the job car wash.* And: *James was that his son in a plane accident.* In most cases, seemingly hopeless sentences can be understood if the instructor can supply the absent words. In the following sentences lost words and suffixes are supplied in the brackets: *Hopeful*[ly] *you pass the test you were require* [to take for entrance to] Wayne* [.] *it also tell* you what subject that you are stronge* [in] *plus the subject that need* some improve*[ment]. (Asterisks appear above in features resulting from Black dialect interference.) In the excerpt at the beginning of this article there is a loss of *of* after *rasening* and *understand* after *does'en.* Unlike the consolidation errors of inexperience, these corrections seem impossible to group by their origin in specific syntactic structures.

Sequencing of Words. Only one student in my experience presented word reversal along with other writing disabled behaviors. Her sentence follows: *I am a Fresh*[man] *at Wayne State. Am I* [I am] *nice person to get along with. I like more do* [to do more] *kinds of sports.* The fact that only one example of writing which includes word reversal occurs in this study may mean that it appears less frequently at the college level.

EDUCATIONAL INTERVENTION

The number of students with writing dysfunctions in universities appears small. According to Weinstein (1984), the United States Department of Education statistics claim 5% of the school-age population have learning disabilities. If the elementary and high schools have 5% learning disabled of all types, it stands to reason that colleges and universities have a much smaller number and an even smaller number that are writing disabled. At Wayne State University, we identify through instructor referral, initially each fall, about twelve out of the 1,700 students in the basic writing courses. No doubt we miss some students, and no doubt open-admission colleges have a higher number. But all in all, the number of students with writing dysfunction remains low. Despite their small numbers, these students are a major concern for those of us who work with them. In seeking techniques to advance their writing skills, we have found several helpful strategies.

Self-monitoring of Error

The effectiveness of teaching error monitoring is suggested by the research of the Institute for Research in Learning Disabilities at the University of Kansas, which has published reports describing strategies for teaching error monitoring. Our experience confirms that writing disabled students can learn to recognize and correct error. For one student this meant a concentrated application of spelling rules and the use of a dictionary in her freshman and sophomore years with the result that as an upper classwoman her essays were relatively free of error without the use of the dictionary; for another it meant checking the dictionary eight out of every ten words written and returning to his essay to apply the rules for the use of periods and commas in sentence after sentence, his vigilance continuing over six years of college (and probably for the rest of his life). The strategy for error correction described in the research report of the Institute for Research in Learning Disabilities (Schumaker) offers a concrete method for improving monitoring skills. It is a highly structured approach which directs students in the correction of sentence structure, spelling, punctuation, capitalization, and the paper's appearance.

Although it is expected that even the most severely disabled will to some extent monitor and correct their errors through determined application, not all will succeed equally. Some students we have worked with cannot see their errors in spelling, others cannot find a misspelled word in the dictionary, and others cannot copy it correctly after they find it, all these deficiencies limiting their degree of success.

Free Writing

The inability to write at length is often characteristic of learning disabled writers, but it is not necessarily a symptom of language dysfunction. Students who through high school have had papers heavily corrected for

intractable mechanical errors are afraid to write at length because they feel that the more words written, the more errors generated. The focus of their experience in written expression has been on spelling, punctuation, or word loss and not on the pleasure of committing observations and ideas to prose. The teacher who, ignoring all errors for a time, encourages the writing disabled student to write freely in a journal and at periods set aside for free writing, will discover many disabled students increasing their fluency from a 75-word paragraph to a 700-word theme.

Techniques of Organization and Development

Once fluency increases, problems characteristic of inexperienced writers emerge in the areas of paragraphing and organization. These typical problems often yield to the techniques ordinarily prescribed for teaching students how to group ideas, imitate models, and correct sentence confusion. The research reports of the Institute for Research in Learning Disabilities (Morah) at the University of Kansas recommend a highly structured approach to teaching paragraphing, sentence structure, and theme development for learning disabled students. Their research results show significant success for their students when using these techniques, some improving beyond their nondisabled classmates.

Resources

The amount of published literature on the strategies that help adults overcome or compensate for the atypical errors in spelling, punctuation, and sentence structure characteristic of writing dysfunction remains small. The Institute for Research in Learning Disabilities at Kansas is now producing printed materials for teachers in the areas covered by their research reports. Instructive pamphlets for teaching learning disabled college students on a wide range of subjects, which include logic, grammar, composition, and spelling, can be obtained from Project HELDS at Central Washington University at Ellensburg (WA 98926). In addition, the latest in a series of workbooks for the learning disabled by Susan Brubaker (1984) now available at the Wayne State University Press, contains exercises for written expression, spelling, sentence completion, and sentence construction.

Persons working with learning disabled writers in college tutorial labs also have developed many techniques as yet unpublished, and much literature has been published on the teaching of writing skills to children with learning disabilities. Once the remedial laboratory achievements see publication and the techniques described for use with children are explored for their applicability to adults, these will become resources for the college composition teacher.

Individuals and groups in many universities and colleges are planning for or running learning disability testing, referral, and tutoring programs. I have, for example, talked with staff members at Western Carolina University (Cullowheen, NC) who have developed a plan for improving services

to the learning disabled within the administrative context of their institution; with staff at Piedmont Community College (Charlotte, NC) who have a program in place for identifying, monitoring, and tutoring the learning disabled; with members of the Special Education Department at Southern Illinois University which has had a well-known successful program underway for several years; and with a member of the California Association for Post-secondary Education of the Disabled (CAPED) that supports, among other programs, over one hundred programs for the learning disabled within the extensive California community college system.

A description of specific programs appears in an article by Vogel and Adelman (1981). In 1984, Mangrum and Strichart produced a comprehensive text which discusses the characteristics of learning disabled college students, how to develop and implement programs for them, and how to help them in the classroom. The text also contains appendices listing resource materials, college programs, and other information.

These publications reflect and certainly contribute to the movement toward helping the learning disabled succeed in college. Other members of the movement are those persons who institute or support programs for the students and who conduct research into their learning problems and develop materials that help them learn. That this movement exists may alone hearten many English teachers, but until college programs which include screening for writing disability and supply substantial aids for teaching are in place, it will be the English composition teacher and the remedial tutor who must identify the learning disabled writers through the kinds of spelling, punctuation, and composing errors displayed in their papers and who must seek the means to help them become efficient writers.

BIBLIOGRAPHY

Brubaker, Susan. *Workbook For Language Skills.* Detroit: Wayne State University Press, 1984.

Dillard, J. L. *Black English.* New York: Random House, 1972.

Hodges, J. and M. Whiteen. *Harbrace College Handbook.* 9th ed. New York: Harcourt Brace Jovanovich, 1982.

Johnson, Christopher. "The Learning Disabled Adolescent and Young Adult: An Overview and Critique of Current Practices." *Journal of Learning Disabilities*, 17.7 (1984): 386-390.

Johnson, Doris J. and Helmer R. Myklebust. *Learning Disabilities: Educational Principles and Practices.* 2nd ed.. New York: Grune & Stratton, 1964.

Mangrum, Charles T. and Stephen S. Strichart. *College and the Disabled Student.* Orlando, FL: Grune & Stratton, 1984.

Moran, M. R., J. B. Schumaker and A. F. Vetter. *Teaching a Paragraph Organization Strategy to Learning Disabled Adults.* Research Report No. 54. Lawrence, KS: University of Kansas Institute for Research in Learning Disabilities, 1981.

Schumaker, J. B., et al. *Error Monitoring: A Learning Strategy for Improving Academic Performance of LD Adolescents.* Research Report No. 32. Lawrence, KS: University of Kansas Institute for Research in Learning Disabilities, 1981.

Shaughnessy, Mina. *Errors and Expectations.* New York: Oxford University Press, 1977.

Vellutino, Frank R. *Dyslexia: Theory and Research.* Cambridge, MA: The M.I.T. Press, 1981.

Vogel, Susan A. and Pamela Adelman. "College and University Programs Designed for Learning Disabled Adults." *Illinois Council for Exceptional Children Quarterly* 30.1 (1981): 12-18.

Weinstein, Bob. "Many Colleges Now Offer L. D. Programs." *New York Times* 11 Nov. 1984, sec. 12: 56+.

Chopeta Lyons

SPELLING INVENTORY

Most English instructors consider the developmental students' misspelling to be the least of their problems. However, measurable improvement in that surface feature of writing frequently serves as a catalyst for success in other areas of the composition process. The student who learns to attend to the comparatively easy-to-spot spelling error can learn to do systematic, critical proofreading for grammatical errors such as verb forms. The method below helps students spot orthographic errors quickly and successfully, by limiting the error hunt to a manageable task. This method also acquaints developmental students with the editing process, for it incorporates close attention to detail, identification of the error, analysis of the problem, and correction.

Mere identification of countless spelling errors rarely helps developmental students improve the quality of their work. William Irmscher and Mina Shaughnessy tell us that even the worst spellers have trouble with only five to seven of the numerous orthographic patterns that comprise the formal written code. Thus, English instructors can avoid burdening students with reams of rules to memorize in order to identify misspellings, concentrating instead on students' individual needs. Those students who, for example, have no trouble with certain vowel combinations or consonantal clusters can skip needless exercises and tests. Naturally, however, early diagnosis of the students' individual patterns is critical in time-poor developmental English courses. A system for helping students quickly discover their misspelling patterns is crucial.

Shaughnessy's diagnostic form in *Errors and Expectations* works well in the hands of professional tutors who have regular contact with self-motivated students such as in Muriel Harris's writing lab at Purdue University. However, for teachers in colleges with inadequate, understaffed, or underfunded learning assistance centers, or in colleges with students unable or unlikely to commit themselves to regular sessions with tutors, Shaughnessy's forms need adapting.

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For the instructor, who alone faces a morass of language errors, and who lacks the time to inventory the individual spelling patterns of every student, the simplified inventory form (Figure 1) that I use in my course and lab hours at Greater Hartford Community College might be some help. Basic to this form's simplicity is the observation that all spelling errors are one (or more) of four graphic irregularities: added letters, dropped letters, shuffled letters, or substituted letters (by an extension of definition this last category includes homonyms). This easy breakdown does not overwhelm students with a barrage of complex phonetic rules as they do the initial recording of their own errors and as they categorize errors previously circled or marked by their instructor. Not only, then, do the students handle the paperwork of recording; but they also, in confronting their errors, become actively involved in identifying and categorizing their misspelling patterns.

And, I have discovered, the more the students are involved in the analysis of their own misspelling patterns, the stronger their commitment to correction becomes. Analysis can be simplified for the student, with the result of the analysis as, or more, productive.

Below (Fig. 1) is the diagnostic form I use:

Although each instructor will handle the inventorying in a manner consistent with his or her relationship with the class, student involvement in the process is critical to their success. Once the students are involved, they participate in their own learning; they are not recipients of chastisement.

After the first three weeks of the term, I hand the students their folders and ask them to copy each marked misspelling—as it is—under the appropriate category on the inventory that I hand out. Of course, at this time I do not expect them to spot misspellings that I have not marked, so I have several written assignments meticulously corrected. They check with sources—including other classmates, me, and the dictionary—for the correct spelling of the word. As they fill in the chart, I ask them to date their errors according to the original assignment. At the end of the term they invariably witness the decrease in the number of their misspellings.

Individual conferences are an important aspect of the analysis task. I schedule the first student/instructor conferences for shortly after the classroom inventorying assignment. Students commonly arrive at the first conferences and announce that all of their problems have to do with *e's* or with double consonants, or *y* substitutions.

HIGHLIGHTS **JBW** SPRING 1986

Bartholomae-Inventing the University; Kogen-The Conventions of Expository Writing; Brookes-A Dean's Dilemmas; Jensen-The Reificiation of the Basic Writer; Sternglass-Commitment to Writing & Complexity of Thinking; Purves-Rhetorical Communities, the International Student and Basic Writing; Lunsford-Assignments for Basic Writers: Unresolved Issues and Needed Research.

Figure 1

Sample Data Sheet for Student Inventory of Personal Spelling Errors

SPELLING INVENTORY

Directions: First, look at the words circled on your papers; then, ask a classmate or consult a dictionary for standard spellings. Now try to decide what caused the error. Are there added, dropped, shuffled, or substituted letters? Record the words in the appropriate space, giving the date the mistake was made. Words about which you are unsure, put in space below category V. We will analyze them together in conference.

I. **ADDS** (Misspelling caused by added letters) 9/30 tol*e*d (told) 10/12 sol*e*d (sold)
II. **DROPS** (Misspelling caused by dropped letters) 9/30 totaly (total*l*y) 10/12 an (an*d*) 10/12 agan (aga*i*n)
III. **SHUFFLES** (Misspelling caused by transposed letters) 9/30 rec*ie*ve (receive) 10/12 tr*ia*n (train)
IV. **SUBS** (Misspelling caused by substitutions,* including homonyms) 9/30 stud*ys* (studies) 9/30 there (their*)
V. **UNIDENTIFIES** (Cause of misspelling uncertain)

In one-on-one conferences, the students analyze their own work more freely. Without peers around, there is no threat of ridicule and embarrassment. At this time, I take the students' inventories, have them write out the correct spellings of any words as yet uncorrected, help them sense patterns they might not have the expertise to discover (particularly for English-as-a-second language speakers in the regular developmental classes). After recognizing the patterns, the students are acclimated to doing specialized exercises that pertain to their immediate problems. (The back sections of Mary Whitten's *Creative Pattern Practice*, [Harcourt, 1966] and certain parts of Allen Meyer's *Writing with Confidence*, [Scott Foresman 1983] are good starts.) With one student, for example, I discovered that a serious pattern was his tendency to insert an *e* between final consonant clusters (the same result occurred sometimes by transposition) as in tol*e*d, sol*e*d , beat*e*ls, and tab*e*l—told, sold, beatles, and table.

Having the students do specialized exercises personalizes (perhaps thus makes significant) the therapy. Having the students make up individual spelling cue-cards extends this process and introduces a useful technique for other proofreading problems. After these conferences, in later writing assignments, I ask the students to proofread for spelling errors. They take out their inventories or special index cards with their "cues" written on them, and check over their paragraphs or papers for any misspelled words. Because they have become sensitized to "types" of problems—limited in number—their task is simpler. It's no longer a matter of "looking up every word in the dictionary." Instead, they look for their problem patterns and apply their personalized remedies. Eventually, they begin spotting the errors without the prompt of the inventories.

The improvement in spelling is often astonishing. I have watched students go from misspelling every third or fourth word to only three or four misspellings in two pages of writing. I have overheard adult learners telling classmates to reread their papers for "subs," "adds," and "shuffles." Also, as students increase their written vocabularies, they can troubleshoot those patterns that previously gave them difficulty. They don't as often avoid using longer words through fear of misspelling.

Instructors should be prepared to find, however, that the students' process of translating the pattern recognition to their own writing follows the usual two steps: initial hypercorrection (changing all words that incorporate the pattern) followed by eventual discrimination between words that need to be changed and those that do not.

This identification, analysis, and correction process needs to occur early in the term. Although to effect it requires extra planning and time at the term's inception, the payoff is in the students' awareness of and attention to detail in their work. The four deliberate steps of marking a number of writing assignments for all spelling errors, taking classroom time for inventorying assignments, scheduling conferences with each student, and analyzing and suggesting correctives reinforce the instructor's diagnostic role and the students' responsibility for their own writing.

NEWS AND ANNOUNCEMENTS

The Writing Center Journal. This official publication of the National Writing Centers Association, issued semiannually in fall and spring, will be edited by Joyce Kinkead and Jeanette Harris beginning with the Fall 1985 issue. Articles on all phases of writing center instruction and administration are welcome, especially theoretical articles and reports of research related to or conducted in writing centers. Typewritten, double-spaced manuscripts (approximately 10 to 20 pages) using the new MLA style should be submitted in duplicate with identifying information on the cover page only. Manuscripts will be returned if an SASE is enclosed. Articles and editorial correspondence to: Jeanette Harris, Department of English, Texas Tech University, Lubbock, TX 79409. Subscriptions are $5.00 per year; single issues $2.50. Checks payable to ***WCJ*** and correspondence regarding subscriptions to: Joyce Kinkead, Department of English, Utah State University, Logan, UT 84322.

Syntax in the Schools. Short articles are being sought for a newsletter on the theory and use of syntax in teaching writing and thinking (K-college). Inquiries or articles with SASE to: Edward Vavra, Editor, Shenandoah College, Winchester, VA 22601. Subscriptions (4 issues) are $2.00.

The 1984 Writing Lab Directory. A compilation of two-page questionnaires completed by writing lab directors whose answers describe each lab's instructional staff, student population, types of instruction and materials, special programs, use of computers, and facilities, is available for $13.50 each, including postage. Prepaid orders only. Checks payable to Purdue University to: Muriel Harris, Department of English, Purdue University, West Lafayette, IN 47907.

Rhetoric Review. This member-supported, semiannual journal emphasizing the centrality of rhetoric to composition instruction, invites essays that explore the theory, practice, and strategy of current movements in rhetoric and composition. ***RR***, a member of the Conference of Editors of Learned Journals, also asks for subscriptions ($8.00 annually). MSS (two copies) and subscriptions to: Rhetoric Review, Department of English, Southern Methodist University, Dallas, TX 75275.

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