

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 threshold 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. Frederick 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 Vygotsky, 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, Frederick 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.