That writing is a process sounds pretty obvious. We know that texts don't appear magically on pages as whole products. There is a process in getting from mind to page. As obvious as that might be, however, teachers of writing have until relatively recently been trained to behave as literary critics—looking at texts so as to analyze what happens within those texts. Students in composition classes were enjoined to look at texts, analyze and discuss what happens in those texts, and then produce something of their own that followed the patterns they found in those texts. Ideas were to be provided by the text, the form provided by the text, with evaluation based on how well the student paper emulated the ideal text. The process was rather like having students watch and discuss a videotape of a prima ballerina and having the students attempt the same dance, with the students then being evaluated based on how well they approximated the ballerina's performance—without knowing how the ballerina came to master those steps. No attention was given to the process of arriving at the product.

In 1959 the National Academy of Sciences sponsored the Woods Hole Conference. Its director was a cognitive psychologist with a keen interest in education and language—Jerome Bruner. The result of the conference was a shift in emphasis for all schooling to the process of cognitive development. Process became the new catchword. In 1966, about fifty teachers of English from England and from the United States met to discuss common problems. What the Americans discovered was that the British did not teach writing as discipline specific. The British, rather than teach writing to serve some external purpose or genre, taught writing as a process of individual development, a matter of self-discovery. This was the Dartmouth Conference. Its discoveries fit well with the Woods Hole discoveries.
Woods Hole and Dartmouth made for a new attention to the whole concept of process. Writers and teachers like Donald Murray, Ken Macrorie, and Peter Elbow turned to what they knew as writers and as teachers to shed light on what writers do when they write. At about the same time, researchers in composition were heeding the call provided by Richard Braddock, Richard Lloyd-Jones, and Lowell Schoer's *Research in Written Composition*, a collection of research on composing to 1963. Their call? More research on writing itself (as opposed to products or pedagogy). Janet Emig's *The Composing Processes of Twelfth Graders* was the first significant answer to the call. Others presented here looked to what professional writers do when they revise that students in writing classes don’t do, and what Basic Writers—students not quite ready for the tasks of college literacy—do when they write.

So writing is a process. But that doesn’t mean that at the end of the process there won’t be a product. The idea is to place greater emphasis on the process than on the product. Rhetorician Walter Ong reminds us in a classic article that combines matters of literary criticism with rhetoric and the teaching of writing, that there are consequences to the writing produced, that what is written affects and is affected by audiences, by readers. Lisa Ede and Andrea Lunsford broaden the picture on audience. Then comes the question as to whether “process” has overshadowed other concerns with writing. This comes to be called “post-process theory,” a reconsideration of the givens of our conversation. Lee-Ann M. Kastman Breuch tells us about post-process.
Most of us are trained as English teachers by studying a product: writing. Our critical skills are honed by examining literature, which is finished writing; language as it has been used by authors. And then, fully trained in the autopsy, we go out and are assigned to teach our students to write, to make language live.

Naturally we try to use our training. It's an investment and so we teach writing as a product, focusing our critical attentions on what our students have done, as if they had passed literature in to us. It isn't literature, of course, and we use our skills, with which we can dissect and sometimes almost destroy Shakespeare or Robert Lowell to prove it.

Our students knew it wasn't literature when they passed it in, and our attack usually does little more than confirm their lack of self-respect for their work and for themselves; we are as frustrated as our students, for conscientious, doggedly responsible, repetitive autopsying doesn't give birth to live writing. The product doesn't improve, and so, blaming the student—who else?—we pass him along to the next teacher, who is trained, too often, the same way we were. Year after year the student shudders under a barrage of criticism, much of it brilliant, some of it stupid, and all of it irrelevant. No matter how careful our criticisms, they do not help the student since when we teach composition we are not teaching a product, we are teaching a process.

And once you can look at your composition program with the realization you are teaching a process, you may be able to design a curriculum which works. Not overnight, for writing is a demanding, intellectual process;

Pulitzer Prize-winning journalist Donald M. Murray presented this paper at the 1972 convention of the New England Association of Teachers of English; it appeared in their journal, The Leaflet, in November 1972. Reprinted with permission.
but sooner than you think, for the process can be put to work to produce a product which may be worth your reading.

What is the process we should teach? It is the process of discovery through language. It is the process of exploration of what we know and what we feel about what we know through language. It is the process of using language to learn about our world, to evaluate what we learn about our world, to communicate what we learn about our world.

Instead of teaching finished writing, we should teach unfinished writing, and glory in its unfinishedness. We work with language in action. We share with our students the continual excitement of choosing one word instead of another, of searching for the one true word.

This is not a question of correct or incorrect, of etiquette or custom. This is a matter of far higher importance. The writer, as he writes, is making ethical decisions. He doesn't test his words by a rule book, but by life. He uses language to reveal the truth to himself so that he can tell it to others. It is an exciting, eventful, evolving process.

This process of discovery through language we call writing can be introduced to your classroom as soon as you have a very simple understanding of that process, and as soon as you accept the full implications of teaching process, not product.

The writing process itself can be divided into three stages: prewriting, writing, and rewriting. The amount of time a writer spends in each stage depends on his personality, his work habits, his maturity as a craftsman, and the challenge of what he is trying to say. It is not a rigid lock-step process, but most writers most of the time pass through these three stages.

Prewriting is everything that takes place before the first draft. Prewriting usually takes about 85% of the writer's time. It includes the awareness of his world from which his subject is born. In prewriting, the writer focuses on that subject, spots an audience, chooses a form which may carry his subject to his audience. Prewriting may include research and daydreaming, note-making and outlining, title-writing and lead-writing.

Writing is the act of producing a first draft. It is the fastest part of the process, and the most frightening, for it is a commitment. When you complete a draft you know how much, and how little, you know. And the writing of this first draft—rough, searching, unfinished—may take as little as one percent of the writer's time.

Rewriting is reconsideration of subject, form, and audience. It is researching, rethinking, redesigning, rewriting—and finally, line-by-line editing, the demanding, satisfying process of making each word right. It may take many times the hours required for a first draft, perhaps the remaining fourteen percent of the time the writer spends on the project.
How do you motivate your student to pass through this process, perhaps even pass through it again and again on the same piece of writing?

First by shutting up. When you are talking he isn’t writing. And you don’t learn a process by talking about it, but by doing it. Next by placing the opportunity for discovery in your student’s hands. When you give him an assignment you tell him what to say and how to say it, and thereby cheat your student of the opportunity to learn the process of discovery we call writing.

To be a teacher of a process such as this takes qualities too few of us have, but which most of us can develop. We have to be quiet, to listen, to respond. We are not the initiator or the motivator; we are the reader, the recipient. We have to be patient and wait, and wait, and wait. The suspense in the beginning of a writing course is agonizing for the teacher, but if we break first, if we do the prewriting for our students they will not learn the largest part of the writing process.

We have to respect the student, not for his product, not for the paper we call literature by giving it a grade, but for the search for truth in which he is engaged. We must listen carefully for those words that may reveal a truth, that may reveal a voice. We must respect our student for his potential truth and for his potential voice. We are coaches, encouragers, developers, creators of environments in which our students can experience the writing process for themselves.

Let us see what some of the implications of teaching process, not product, are for the composition curriculum.

Implication No. 1. The text of the writing course is the student’s own writing. Students examine their own evolving writing and that of their classmates, so that they study writing while it is still a matter of choice, word by word.

Implication No. 2. The student finds his own subject. It is not the job of the teacher to legislate the student’s truth. It is the responsibility of the student to explore his own world with his own language, to discover his own meaning. The teacher supports but does not direct this expedition to the student’s own truth.

Implication No. 3. The student uses his own language. Too often, as writer and teacher Thomas Williams points out, we teach English to our students as if it were a foreign language. Actually, most of our students have learned a great deal of language before they come to us, and they are quite willing to exploit that language if they are allowed to embark on a serious search for their own truth.

Implication No. 4. The student should have the opportunity to write all the drafts necessary for him to discover what he has to say on this particular
subject. Each new draft, of course, is counted as equal to a new paper. You are not teaching a product, you are teaching a process.

Implication No. 5. The student is encouraged to attempt any form of writing which may help him discover and communicate what he has to say. The process which produces "creative" and "functional" writing is the same. You are not teaching products such as business letters and poetry, narrative and exposition. You are teaching a product your students can use—now and in the future—to produce whatever product his subject and his audience demand.

Implication No. 6. Mechanics come last. It is important to the writer, once he has discovered what he has to say, that nothing get between him and his reader. He must break only those traditions of written communication which would obscure his meaning.

Implication No. 7. There must be time for the writing process to take place and time for it to end. The writer must work within the stimulating tension of unpressed time to think and dream and stare out windows, and pressured time—the deadline—to which the writer must deliver.

Implication No. 8. Papers are examined to see what other choices the writer might make. The primary responsibility for seeing the choices is the student. He is learning a process. His papers are always unfinished, evolving, until the end of the marking period. A grade finishes a paper, the way publication usually does. The student writer is not graded on drafts any more than a concert pianist is judged on his practice sessions rather than on his performance. The student writer is graded on what he has produced at the end of the writing process.

Implication No. 9. The students are individuals who must explore the writing process in their own way, some fast, some slow, whatever it takes for them, within the limits of the course deadlines, to find their own way to their own truth.

Implication No. 10. There are no rules, no absolutes, just alternatives. What works one time may not another. All writing is experimental.

None of these implications require a special schedule, exotic training, extensive new materials or gadgetry, new classrooms, or an increase in federal, state, or local funds. They do not even require a reduced teaching load. What they do require is a teacher who will respect and respond to his students, not for what they have done, but for what they may do; not for what they have produced, but for what they may produce, if they are given an opportunity to see writing as a process, not a product.
Writing represents a unique mode of learning—not merely valuable, not merely special, but unique. That will be my contention in this paper. The thesis is straightforward. Writing serves learning uniquely because writing as process-and-product possesses a cluster of attributes that correspond uniquely to certain powerful learning strategies.

Although the notion is clearly debatable, it is scarcely a private belief. Some of the most distinguished contemporary psychologists have at least implied such a role for writing as heuristic. Lev Vygotsky, A. R. Luria, and Jerome Bruner, for example, have all pointed out that higher cognitive functions, such as analysis and synthesis, seem to develop most fully only with the support system of verbal language—particularly, it seems, of written language. Some of their arguments and evidence will be incorporated here.

Here I have a prior purpose: to describe as tellingly as possible how writing uniquely corresponds to certain powerful learning strategies. Making such a case for the uniqueness of writing should logically and theoretically involve establishing many contrasts, distinctions between (1) writing and all other verbal languaging processes—listening, reading, and especially talking; (2) writing and all other forms of composing, such as composing a painting, a symphony, a dance, a film, a building; and (3) composing in words and composing in the two other major graphic symbol systems of mathematical equations and scientific formulae. For the purposes of this paper, the task is simpler, since most students are not permitted by most curricula to discover the values of composing, say, in dance, or even in film; and most students are not sophisticated enough to create, to originate formulations, using the highly abstruse symbol system of equations and formulae. Verbal language
represents the most available medium for composing; in fact, the significance of sheer availability in its selection as a mode for learning can probably not be overstressed. But the uniqueness of writing among the verbal languaging processes does need to be established and supported if only because so many curricula and courses in English still consist almost exclusively of reading and listening.

WRITING AS A UNIQUE LANGUAGING PROCESS

Traditionally, the four languaging processes of listening, talking, reading, and writing are paired in either of two ways. The more informative seems to be the division many linguists make between first-order and second-order processes, with talking and listening characterized as first-order processes; reading and writing, as second-order. First-order processes are acquired without formal or systematic instruction; the second-order processes of reading and writing tend to be learned initially only with the aid of formal and systematic instruction.

The less useful distinction is that between listening and reading as receptive functions and talking and writing as productive functions. Critics of these terms like Louise Rosenblatt rightfully point out that the connotation of passivity too often accompanies the notion of receptivity when reading, like listening, is a vital, construing act.

An additional distinction, so simple it may have been previously overlooked, resides in two criteria: the matters of origination and of graphic recording. Writing is originating and creating a unique verbal construct that is graphically recorded. Reading is creating or re-creating but not originating a verbal construct that is graphically recorded. Listening is creating or re-creating but not originating a verbal construct that is not graphically recorded. Talking is creating and originating a verbal construct that is not graphically recorded (except for the circuitous routing of a transcribed tape). Note that a distinction is being made between creating and originating, separable processes.

For talking, the nearest languaging process, additional distinctions should probably be made. (What follows is not a denigration of talk as a valuable mode of learning.) A silent classroom or one filled only with the teacher’s voice is anathema to learning. For evidence of the cognitive value of talk, one can look to some of the persuasive monographs coming from the London Schools Council project on writing: *From Information to Understanding* by Nancy Martin or *From Talking to Writing* by Peter Medway. We also know that for some of us, talking is a valuable, even necessary, form of pre-writing. In his curriculum, James Moffett makes the value of such talk quite explicit.
But to say that talking is a valuable form of pre-writing is not to say that writing is talk recorded, an inaccuracy appearing in far too many composition texts. Rather, a number of contemporary trans-disciplinary sources suggest that talking and writing may emanate from different organic sources and represent quite different, possibly distinct, language functions. In *Thought and Language*, Vygotsky notes that “written speech is a separate linguistic function, differing from oral speech in both structure and mode of functioning.” The sociolinguist Dell Hymes, in a valuable issue of *Daedalus*, “Language as a Human Problem,” makes a comparable point: “That speech and writing are not simply interchangeable, and have developed historically in ways at least partly autonomous, is obvious.” At the first session of the Buffalo Conference on Researching Composition (4–5 October 1975), the first point of unanimity among the participant-speakers with interests in developmental psychology, media, dreams and aphasia was that talking and writing were markedly different functions. Some of us who work rather steadily with writing research agree. We also believe that there are hazards, conceptually and pedagogically, in creating too complete an analogy between talking and writing, in blurring the very real differences between the two.

**What Are These Differences?**

1. Writing is learned behavior; talking is natural, even irrepressible, behavior.
2. Writing then is an artificial process; talking is not.
3. Writing is a technological device—not the wheel, but early enough to qualify as primary technology; talking is organic, natural, earlier.
4. Most writing is slower than most talking.
5. Writing is stark, barren, even naked as a medium; talking is rich, luxuriant, inherently redundant.
6. Talk leans on the environment; writing must provide its own context.
7. With writing, the audience is usually absent; with talking, the listener is usually present.
8. Writing usually results in a visible graphic product; talking usually does not.
9. Perhaps because there is a product involved, writing tends to be a more responsible and committed act than talking.
10. It can even be said that throughout history, an aura, an ambience, a mystique has usually encircled the written word; the spoken word
Cross-Talk in Comp Theory

has for the most part proved ephemeral and treated mundanely (ignore, please, our recent national history).

11. Because writing is often our representation of the world made visible, embodying both process and product, writing is more readily a form and source of learning than talking.

UNIQUE CORRESPONDENCES BETWEEN LEARNING AND WRITING

What then are some unique correspondences between learning and writing? To begin with some definitions: Learning can be defined in many ways, according to one's predilections and training, with all statements about learning of course hypothetical. Definitions range from the chemo-physiological ("Learning is changed patterns of protein synthesis in relevant portions of the cortex") to transactive views drawn from both philosophy and psychology (John Dewey, Jean Piaget) that learning is the re-organization or confirmation of a cognitive scheme in light of an experience. What the speculations seem to share is consensus about certain features and strategies that characterize successful learning. These include the importance of the classic attributes of re-inforcement and feedback. In most hypotheses, successful learning is also connective and selective. Additionally, it makes use of propositions, hypotheses, and other elegant summarizers. Finally, it is active, engaged, personal—more specifically, self-rhythmed—in nature.

Jerome Bruner, like Jean Piaget, through a comparable set of categories, posits three major ways in which we represent and deal with actuality: (1) enactive—we learn "by doing"; (2) iconic—we learn "by depiction in an image"; and (3) representational or symbolic—we learn "by restatement in words." To overstate the matter, in enactive learning, the hand predominates; in iconic, the eye; and in symbolic, the brain.

What is striking about writing as a process is that, by its very nature, all three ways of dealing with actuality are simultaneously or almost simultaneously deployed. That is, the symbolic transformation of experience through the specific symbol system of verbal language is shaped into an icon (the graphic product) by the enactive hand. If the most efficacious learning occurs when learning is re-inforced, then writing through its inherent re-inforcing cycle involving hand, eye, and brain makes a uniquely powerful multi-representational mode for learning.

Writing is also integrative in perhaps the most basic possible sense: the organic, the functional. Writing involves the fullest possible functioning of
the brain, which entails the active participation in the process of both the left and the right hemispheres. Writing is markedly bispheral, although in some popular accounts, writing is inaccurately presented as a chiefly left-hemisphere activity, perhaps because the linear written product is somehow regarded as analogue for the process that created it; and the left hemisphere seems to process material linearly.

The right hemisphere, however, seems to make at least three, perhaps four, major contributions to the writing process—probably, to the creative process generically. First, several researchers, such as Geschwind and Snyder of Harvard and Zaidal of Cal Tech, through markedly different experiments, have very tentatively suggested that the right hemisphere is the sphere, even the seat, of emotions. Second—or perhaps as an illustration of the first—Howard Gardner, in his important study of the brain-damaged, notes that our sense of emotional appropriateness in discourse may reside in the right sphere:

Emotional appropriateness, in sum—being related not only to what is said, but to how it is said and to what is not said, as well—is crucially dependent on right hemisphere intactness.

Third, the right hemisphere seems to be the source of intuition, of sudden gestalts, of flashes of images, of abstractions occurring as visual or spatial wholes, as the initiating metaphors in the creative process. A familiar example: William Faulkner noted in his Paris Review interview that The Sound and the Fury began as the image of a little girl's muddy drawers as she sat in a tree watching her grandmother's funeral.

Also, a unique form of feedback, as well as reinforcement, exists with writing, because information from the process is immediately and visibly available as that portion of the product already written. The importance for learning of a product in a familiar and available medium for immediate, literal (that is, visual) re-scanning and review cannot perhaps be overstated. In his remarkable study of purportedly blind sculptors, Géza Révész found that without sight, persons cannot move beyond a literal transcription of elements into any manner of symbolic transformation—by definition, the central requirement for reformulation and re-interpretation, i.e., revision, that most aptly named process.

As noted in the second paragraph, Vygotsky and Luria, like Bruner, have written importantly about the connections between learning and writing. In his essay "The Psychobiology of Psychology," Bruner lists as one of six axioms regarding learning: "We are connective." Another correspondence then between learning and writing: in Thought and Language, Vygotsky notes that
writing makes a unique demand in that the writer must engage in "deliberate semantics"—in Vygotsky's elegant phrase, "deliberate structuring of the web of meaning." Such structuring is required because, for Vygotsky, writing centrally represents an expansion of inner speech, that mode whereby we talk to ourselves, which is "maximally compact" and "almost entirely predictive"; written speech is a mode which is "maximally detailed" and which requires explicitly supplied subjects and topics. The medium then of written verbal language requires the establishment of systematic connections and relationships. Clear writing by definition is that writing which signals without ambiguity the nature of conceptual relationships, whether they be coordinate, subordinate, superordinate, causal, or something other.

Successful learning is also engaged, committed, personal learning. Indeed, impersonal learning may be an anomalous concept, like the very notion of objectivism itself. As Michael Polanyi states simply at the beginning of *Personal Knowledge*: "the ideal of strict objectivism is absurd." (How many courses and curricula in English, science, and all else does that one sentence reduce to rubble?) Indeed, the theme of *Personal Knowledge* is that 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.

In *Zen and the Art of Motorcycle Maintenance*, Robert Pirsig states a comparable theme:

The Quality which creates the world emerges as a relationship between man and his experience. He is a participant in the creation of all things.

Finally, the psychologist George Kelly has as the central notion in his subtle and compelling theory of personal constructs man as a scientist steadily and actively engaged in making and re-making his hypotheses about the nature of the universe.

We are acquiring as well some empirical confirmation about the importance of engagement in, as well as self-selection of, a subject for the student learning to write and writing to learn. The recent Sanders and Littlefield study, reported in *Research in the Teaching of English*, is persuasive evidence on this point, as well as being a model for a certain type of research.

As Luria implies in the quotation above, writing is self-rhythmed. One writes best as one learns best, at one's own pace. Or to connect the two processes, writing can sponsor learning because it can match its pace. Support
for the importance of self-pacing to learning can be found in Benjamin Bloom’s important study “Time and Learning.”\(^{19}\) Evidence for the significance of self-pacing to writing can be found in the reason Jean-Paul Sartre gave last summer for not using the tape-recorder when he announced that blindness in his second eye had forced him to give up writing:

I think there is an enormous difference between speaking and writing. One rereads what one rewrites. But one can read slowly or quickly: in other words, you do not know how long you will have to take deliberating over a sentence. . . . If I listen to a tape recorder, the listening speed is determined by the speed at which the tape turns and not by my own needs. Therefore I will always be either lagging behind or running ahead of the machine.\(^{20}\)

Writing is connective as a process in a more subtle and perhaps more significant way, as Luria points out in what may be the most powerful paragraph of rationale ever supplied for writing as heuristic:

Written speech is bound up with the inhibition of immediate synpractical connections. It assumes a much slower, repeated mediating process of analysis and synthesis, which makes it possible not only to develop the required thought, but even to revert to its earlier stages, thus transforming the sequential chain of connections in a simultaneous, self-reviewing structure. Written speech thus represents a new and powerful instrument of thought.\(^{21}\)

But first to explicate: writing inhibits “immediate synpractical connections.” Luria defines synpraxis as “concrete-active” situations in which language does not exist independently but as a “fragment” of an ongoing action “outside of which it is incomprehensible.”\(^{22}\) In Language and Learning, James Britton defines it succinctly as “speech-cum-action.”\(^{23}\) Writing, unlike talking, restrains dependence upon the actual situation. Writing as a mode is inherently more self-reliant than speaking. Moreover, as Bruner states in explicating Vygotsky, “Writing virtually forces a remoteness of reference on the language user.”\(^{24}\)

Luria notes what has already been noted above: that writing, typically, is a “much slower” process than talking. But then he points out the relation of this slower pace to learning: this slower pace allows for—indeed, encourages—the shuttling among past, present, and future. Writing, in other words, connects the three major tenses of our experience to make meaning. And the two major modes by which these three aspects are united are the processes of analysis and synthesis: analysis, the breaking of entities into their constituent parts; and synthesis, combining or fusing these, often into fresh arrangements or amalgams.
Finally, writing is epigenetic, with the complex evolutionary development of thought steadily and graphically visible and available throughout as a record of the journey, from jottings and notes to full discursive formulations.

For a summary of the correspondences stressed here between certain learning strategies and certain attributes of writing see Figure 1. This essay represents a first effort to make a certain kind of case for writing—specifically, to show its unique value for learning. It is at once over-elaborate and under specific. Too much of the formulation is in the off-putting jargon of the learning theorist, when my own predilection would have been to emulate George Kelly and to avoid terms like reinforcement and feedback since their use implies that I live inside a certain paradigm about learning I don't truly inhabit. Yet I hope that the essay will start a crucial line of inquiry; for unless the losses to learners of not writing are compellingly described and substantiated by experimental and speculative research, writing itself as a central academic process may not long endure.

**Figure 1** Unique cluster of correspondences between certain learning strategies and certain attributes of writing.

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<thead>
<tr>
<th>Selected Characteristics of Successful Learning Strategies</th>
<th>Selected Attributes of Writing Process and Product</th>
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<tbody>
<tr>
<td>1. Profits from multi-representational and integrative re-inforcement</td>
<td>1. Represents process uniquely multi-representational and integrative</td>
</tr>
<tr>
<td>2. Seeks self-provided feedback:</td>
<td>2. Represents powerful instance of self-provided feedback:</td>
</tr>
<tr>
<td>a. immediate</td>
<td>a. provides product uniquely available for immediate feedback (review and re-evaluation)</td>
</tr>
<tr>
<td>b. long-term</td>
<td>b. provides record of evolution of thought since writing is epigenetic as process-and-product</td>
</tr>
<tr>
<td>3. Is connective:</td>
<td>3. Provides connections:</td>
</tr>
<tr>
<td>a. makes generative conceptual groupings, synthetic and analytic</td>
<td>a. establishes explicit and systematic conceptual groupings through lexical, syntactic, and rhetorical devices</td>
</tr>
<tr>
<td>b. proceeds from propositions, hypotheses, and other elegant summarizers</td>
<td>b. represents most available means (verbal language) for economic recording of abstract formulations</td>
</tr>
<tr>
<td>4. Is active, engaged, personal—notably, self-rhythmed</td>
<td>4. Is active, engaged, personal—notably, self-rhythmed</td>
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NOTES


3. Vygotsky, p. 98.


5. Participant-speakers were Loren Barrett, University of Michigan; Gerald O'Grady, SUNY/Buffalo; Hollis Frampton, SUNY/Buffalo; and Janet Erniig, Rutgers.


22. Luria, p. 50.
