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INFERENCE: PERSPECTIVES ON LITERACY FOR BASIC SKILLS STUDENTS[1]

ABSTRACT: *Teachers of basic skills too often perceive their students as victims of an intellectual disease. To recast this educational vision, the author suggests new philosophic premises for viewing nontraditional learners, asserting that basic skills students, like everyone else, have innate knowledge that teachers can help them discover and enhance. Of major significance is the universal skill of* inference *that many identify as a key activity in critical thinking. The author describes how* inference *contributes to both visual (also labeled "sentient") and verbal literacy and suggests strategies for mining students' inferential powers. These strategies are designed to help basic skills students bridge the divide between recognizing their own inherent ability to infer meaning when reading, and using this knowledge of* inference *when writing for other readers.*

Teachers of basic college reading and writing often perceive their instructional audience as damaged. The language that teachers use to describe students suggests the degree to which this notion of damage permeates both the imagery and the theoretical underpinnings of our efforts. We are physicians and nurses: we see our workplaces as reading *laboratories* or *clinics;* we talk of *diagnosing* skills, of teaching *prescriptions,* of *remedial* courses. From the Latin *remedium,* this last word is an especially pervasive artifact of the hospital ward. *Remedial* means intended for a remedy or for the removal of a disease or an evil. Using *remedial* to identify students casts them as victims of some intellectual malignancy.

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This is not a new complaint: Enlightened educational critics and researchers frequently have criticized deficit models for students and the curricula designed to teach them. Gerald Coles in his attack on the neurological foundations for learning disabilities insists that failure is anchored in economic, social, and cultural conditions of the society at large; the core of current learning theory rooted in dysfunction wrongly says "that the individual is at fault for his or her failure" (211). Similarly, Mike Rose posits the social, interactive context of literacy; and in highlighting the abandoned underclass, he calls for acknowledging strengths more than weaknesses in "a philosophy of language and literacy that affirms the diverse sources of linquistic competence" (*Lives* 237). Elsewhere he speaks of problems in our views of remediation as medical deficiency and in the stigma of illiteracy for student and teacher alike ("Language"). Steven Judy reminds us to build on existing language rather than focus on deficits, "the skills not yet mastered" (16). Perhaps most direct and passionate among postsecondary speakers for literacy, Mina Shaughnessy exhorts us to avoid the medical terminology that infects our educational philosophy and turns it into a deficit-oriented program (137).

Despite a history of complaints the view of many beginning students as disabled persists today. Exhortations against such a view have failed because educators often erroneously assume that learning is an orderly accretion of skills through time and that this accretion is predictable, definable, and norm-based. Teachers arbitrarily will designate what skills students must learn by when and then assume that the designations are immutable. Acknowledging deviations from such an unyielding scheme, we identify learners as anemic and needing treatment.

In order to recast this educational vision of the diseased and handicapped, I would like to draw new philosophical premises into the view of nontraditional learners. I want to adapt the mathematician-philosopher Michael Polanyi's concept of *tacit knowing* to the college classroom of students whose reading and writing skills have not yet reached a level high enough for sustained academic work, students typically placed into basic reading and (or) basic writing courses in their first semester.

Tacit Thought and Knowing

At the core of Polanyi's reconsideration of human knowledge in his book, *The Tacit Dimension,* is this essential point: "We can know more than we can tell" (4). For Polanyi, certain kinds of knowledge inhere in us without our being able to say how we reach

them or what their parts are. "We recognize the moods of the human face," he points out as but one example of this inherent knowledge, "without being able to tell, except quite vaguely, by what signs we know it" (7). Polanyi suggests that "tacit thought"—the quality by which we know more than we can say—"forms an indispensable part of all knowledge" (20). He says that "we keep expanding our body into the world, by assimilating to it sets of particulars which we integrate into reasonable entities" (29). He considers science itself "a variant of sensory perception" (ix) and he rejects as "patent nonsense" any explanations of life that derive solely from "the laws governing inanimate matter" (37). His conclusions about the paradigmatic nature of modern scientific progress have profound implications for learning: "Discoveries," he says, "are made by pursuing possibilities suggested by existing knowledge." In *Personal Knowledge* he talks of "the inarticulate manifestations of intelligence by which we know things in a purely personal manner" (67).

Using some of these premises and observations from Polanyi, we can recast into practical teaching terms some of our current epistemology for basic reading and writing students. Knowledge exists in our students' minds; and we can move our students to make discoveries by pursuing inherent possibilities in their existing knowledge.

With this point at hand, I want to examine the skill of *inference,* which many teachers identify as one of the key activities that underlie critical thinking. What is *inference?* When we infer, we derive information by a complex process of reasoning that balances assumptions, induction and deduction, instinct, prior experience, perception, hunches—even, some believe, extrasensory perception. A familiar metaphor used to define inference is "reading between the lines." The figure says that being able to determine information in this way is the same as unpuzzling meanings beyond the overt ideas expressed by printed words and sentences. More information resides on a page of text than what the lines of print say, and we figure out much of that information through inference. Considerable meaning comes to us as embedded cues and clues in the writer's discourse.

A problem, however, with the well-known metaphor—reading between the lines—is that it may compel us to see inference only as a function of the print decoding process. In other words, we usually conceive of the act of inference as print-bound. But it is incorrect, I believe, to see the skill as allied exclusively to print. Countless inferential moments fill our students' lives. By acknowledging how adept most learners are in applying inference in nonprint, that is,

nonverbal or visual situations, we see how Polanyi's idea can influence teaching strategies. Like his example of the apprehension of physiognomy, many nonverbal scenes our students confront are layered with detail that any sentient observer uses to infer implied meanings. What I'm saying here is that our students, no matter how poor their reading and writing skills, know intimately, perhaps even viscerally, and practice regularly, the inferential faculty.

It is worth noting here that some philosophers see inference at the core of perception itself. Allying himself with Charles Sanders Peirce, George Santayana, and Wilfred Sellers (and against Roderick Chisholm and Alfred North Whitehead), William E. Hoffman, for example, argues that all "perceiving involves making an inference or taking something as a sign; thus seeing is essentially linguistic" (286). As a mediated entity perception is "an unconscious, acritical abductive inference" (296). Hoffman asserts that we learn to perceive even though perception may not appear to be learned (301). In effect, when we perceive we make "a hypothesis to explain why we are having a particular type of cognition" (303).

Inference is basic to everyday cognitive processes. In the realm of visual literacy, beginning students are experienced interpreters. They know how to unpuzzle the covert meanings of a moment, to use whatever combination of logic, emotion, instinct, and sentience that lie at the heart of making inferences. Like anyone else, students read the signs of danger or safety as they cross a deserted city street late at night; they read the signals swiftly about remaining or fleeing when a strange character enters a confined public space; they adduce what they hope are appropriate responses to the subtle body language of a job interviewer. Most of these quick responses are tacit in their origins and most rely on inference.

I have used the term *visual literacy* here because it is reasonably well known, although a more appropriate phrase for the meanings I am after is probably *sentient literacy.* I mean not only apprehension through sight but also its natural extension to other senses (like sound and touch) as well. In either term, *visual literacy* or *sentient literacy,* the first word helps focus attention on meanings derived from contexts that do not always rely on print, although in some communications that require a degree of visual literacy, print forms may play a role. The second word, *literacy,* as used here, also presents some problems. Many people object to using *literacy* for contexts other than print-based words and sentences. Nevertheless, I know no term other than *literacy* (or *literate*) that conveys both the intense effort to construct meanings from complex communication and the degree of competence necessary to succeed at that effort. I am aware of the lexical contradictions in popular phrases like

mathematics literacy, science literacy, and *computer literacy,* but like *visual* or *sentient literacy,* they are helpful nonetheless in signaling both the skills and frustrations that inform our attempts at understanding.

Sentient Literacy and Beyond

I want to examine briefly here what I mean by moments that draw upon our skills at sentient literacy, particularly in our attempts to infer information not overtly stated. Imagine this scene:

> Your supervisor comes to work one Monday morning at 9:30 a.m. (She's usually there waiting for you as you punch in at 9:00 a.m. sharp.) She mumbles to herself under her breath and shakes her head from side to side, biting her lip. She doesn't say hello as she usually does, but instead, staring straight ahead, she storms past your desk. At her office she turns the doorknob roughly, throws open the door forcefully, and then slams it loudly behind her.

What can we determine about the woman's behavior? And how do we know? Clearly she's angry. We guess that she's angry by adding up all that we see and hear and by relying on what we know about her usual behavior. No one has to *tell* us that she is angry. From her appearance, her actions, her body language, and her behavior, it is safe for us to guess that she is irritated about something.

To avoid making inappropriate inferences, we have to be careful not to go too far beyond the information given. For example, we cannot assume here that the supervisor is angry because she has had an argument with her son. Nothing in what we observed suggests that. On the other hand, we might have heard her mumbling an angry remark to herself about him in passing. Or we might know from past experience that she fought with her son often and that, when she did, her behavior resembled the behavior she displayed this morning. The point, of course, is that inference must be rooted in valid, available information, not simply on vague suspicions or wild guesses.

The rare student cannot use inference in the demands of living, although as we often see when students struggle over texts, its application to print may be elusive. Yet if we help beginning readers acknowledge their already existing (if tacit) abilities to infer successfully in familiar moments, we then can help them connect those skills to the demands of print.

As I have already pointed out, interpreting meaning from life's

experiences is one example, perhaps the most basic, of sentient literacy. In representational media (as opposed to personal experience), the simplest forms that require a degree of sentient literacy for understanding are pantomime, photographs, illustrations, drawings, and cartoons, all unaccompanied by oral or written words and sentences. More complex forms (drawing on multisensory impressions) include acted-out scenes (vignettes), stage productions, television and film productions, and so on. Although I acknowledge the elements of spoken language in some forms requiring sentient literacy, I exclude at the moment written words and sentences, the extensions of thought into print-based language.

To help move toward print-based literacy, we can use the classroom to call upon students' talents in exercising sentient literacy. Starting with a nonverbal situation, we can highlight students' successful use of inference in familiar contexts. For example, I describe this scene orally only to one student, asking the student to act it out without words for the rest of the class. Then the class tries to answer the questions I have posed.

> It is a hot July afternoon. After working an eight-hour day, you've been stuck in downtown traffic for two hours—it's ordinarily a twenty minute drive. Your air conditioner blew the condenser an hour ago. A pickup rammed into your car and smashed one of your tail lights. You've had to park three blocks from your apartment. You are now getting out of your car and walking toward your front door.

Inferential Questions After the Scene

1. At what time of the year do you think this scene is taking place? Why do you think so?
2. At what time of the day do you think the scene is taking place? Why do you think so?
3. What possible events do you think could have compelled the person to behave in the matter you've just observed?

An acted-out vignette will draw upon body language, facial gestures, arm movements—all actions that tap an observer's sentient literacy. Questions like those I've listed prod the use of inferential skills and demonstrate to students how well they use the technique in their sensory and intellectual lives. Questions drawing on *why, how,* and *what*—cue words for open-ended questions—help stimulate critical thinking. (See Anderson et al., 88–91.) Here, appropriate responses are rooted in inference. The last question

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allows us to consider inferential notions that may be invalid or not supported strongly enough by available information.

Inferential Meanings and Representional Images

Moving toward the application of inference to representational forms on paper—ultimately, of course, to writing on a page—we can follow a progression of tasks designed to prepare college learners for critical reading. By grounding exploration of inference in students' familiar experiential worlds and by affirming students' abilities to use critical thought skills successfully in nonprint situations, we can help dispel the notion of remedial learning. Pervading the classroom activities I am describing is a view of the student as an *enabled,* an *endowed,* not a handicapped learner. In such an approach we help students to build strengths in higher and higher levels of abstraction, and to draw out and draw on what Polanyi calls "the inarticulate manifestations of intelligence" (*Personal Knowledge* 64).

If we use representational images unaccompanied by verbal support, we can continue raising to conscious awareness our students' sense of their ability to use inference.

Inference plays an important part in understanding the picture in Figure 1. If you asked students what the photograph was about they would probably say: "A little boy in school is counting on his fingers." How did they know, however, that the child was a boy?
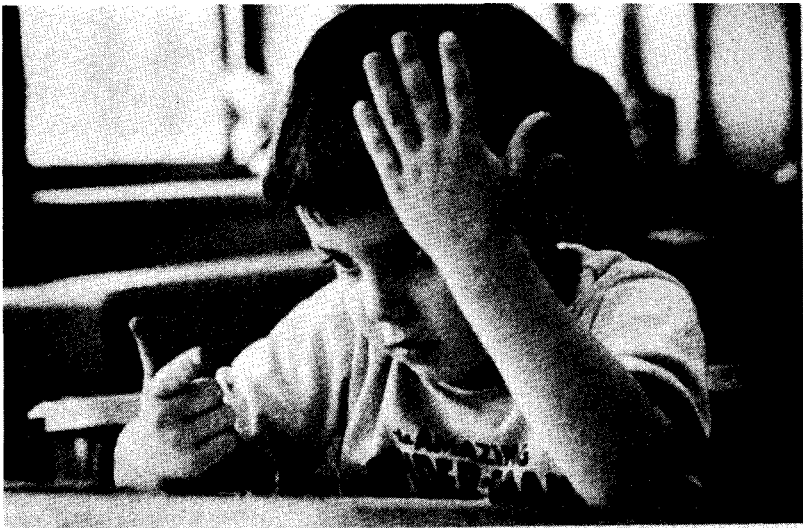
Figure 1

Certainly they don't know for sure; yet to understand the moment captured by the camera, they used tacit knowledge of physiognomy as well as hair length, perhaps, and clothing (*"Spiderman"* on the T-shirt suggests—but does not guarantee—that the wearer is a boy). How did students know that the child was at school? Again, they adduced the specifics of the scene from the large institutional window and the chairs and desk set up in the room. How did they know that the child was counting instead of merely pointing with his right hand and holding up his left hand, or simply looking at his fingers? Again, no absolute evidence in the picture supplies a response. The use of tacit inferential knowledge is a key to understanding the photograph.

I do not wish to minimize the complex intellectual tasks involved in interpreting visual representations through inference. Inferring from pictures requires an understanding beyond simple perception to "states, events and circumstances which are not defined completely and explicitly by available perceptual information" (Higgins 216). In a study of picture interpretation behaviors among ten- and twelve-year-old children, Higgins identifies six factors: Analytic Approach to Problems, Semantic Comprehension, Ideational Fluency, Operational Facility, Verbal Facility, and Visual Comprehension. He suggests that logical abilities regulate visual processing and that as students move to higher levels in the developmental cognitive sequence, their picture interpretation behavior changes (231).

Without the added burden of decoding written language, untraditional learners can exercise a wide range of cognitive abilities as they explore visual representations. Indeed, when we highlight a college student's ability to infer information in a pictorial context and point out that the skills relate directly to critical reading of print, we keep at a distance the notion of remediation and its roots in damage, ruin, and failure.

To highlight further the importance of inference in determining meanings, we must examine representational forms that combine both visual and verbal elements on a page. We are at a critical point here, the juncture of forms, the visual and the verbal working together to convey meaning in a kind of multitext. Words and pictures join in numerous instances in our everyday environments: cartoons and comics, graphs and charts, emergency information, instructions for assembling objects, recipes, advertisements, commercial packaging, identifying signs, and captioned photographs and illustrations. Drawing regularly on these types of materials, we can ally the verbal and nonverbal as joint contributors to meaning

and can highlight the common skills that allow us to understand the two forms both separately and together.

In a study of the relations between systematic thinking and its connection to illustrations in scientific texts, Richard E. Mayer concludes that illustrations stimulate a reader's cognitive processing. Within a text, however, only labeled illustrations—a combination of words and pictures—as opposed to illustrations alone, affected attention to ideas and helped the reader connect separate elements in the presentation. "Providing only pictures (without corresponding labels) or only labels (without corresponding pictures)" did not help students in problem solving, "whereas students given labeled information performed much better" (244). This study underscores the interrelatedness of text and visuals and supports the value of instructional efforts to ally the two.

A caution here: In our enthusiasm to draw on sentient literacy, it is easy to miss some of the demands made on an inexperienced reader by the mixed communicative elements. Students sometimes are uncertain about how words and pictures mutually convey an idea. Looking at a cartoon or an advertisement, for example, unpracticed readers may ignore the visual element or the verbal—one or the other—expecting each to repeat the other's intent. Similarly, examining a chart or a graph, students often will find the illustration mystifying or the words, perhaps, inappropriate. Thus, we need to provide guidance in how to use visual and verbal interplay to extract the full meanings of a multitext.

Familiar items like cartoons and advertisements build upon visual literacy and make the leap into the symbolic entity of communicating in written language.

To understand what the cartoon in Figure 2 means and to appreciate its humor, a reader relies on inference. Thoughtful questioning taps the cognitive skill. Where does the scene take place? Well-dressed people sitting in a room and staring straight ahead, talk of prayer—these conditions imply a church setting as
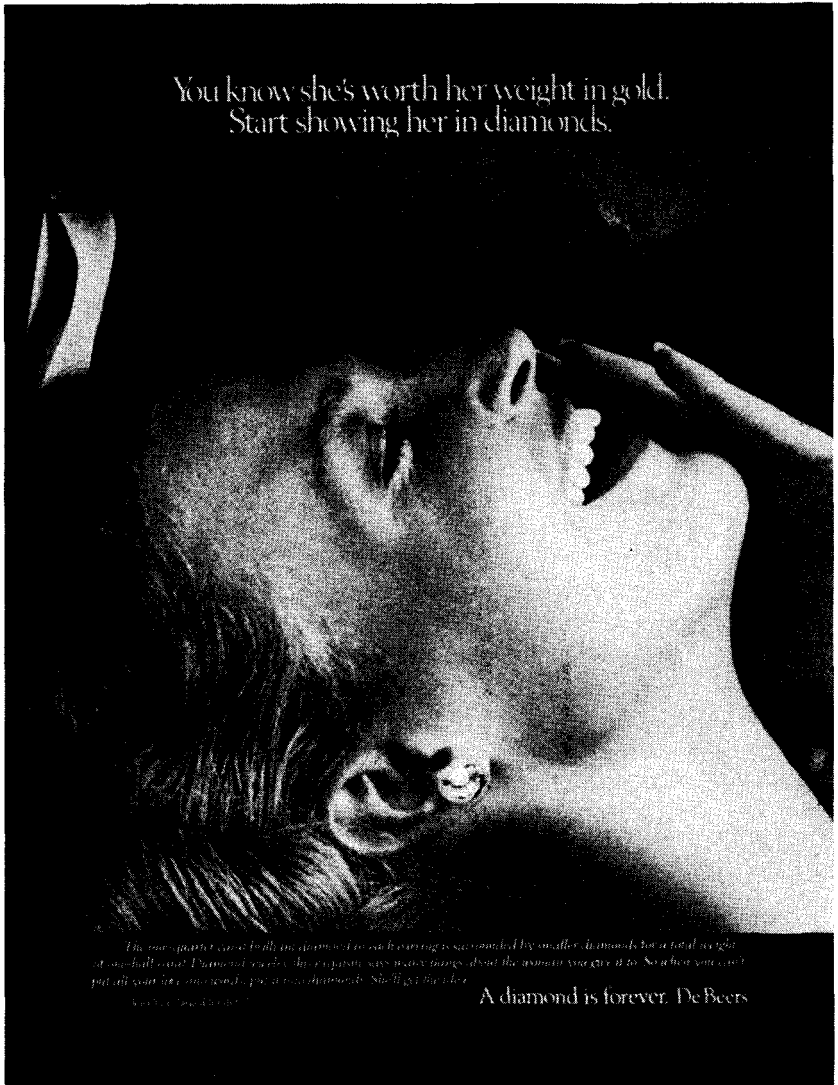

Figure 2

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opposed to a movie house, say, or a classroom. By the man's comment we infer his attitude about churchly behavior: people who pray should keep their eyes closed. Why does the man cover his mouth as he speaks? We infer from this action that he wants no one but the child to hear him. From the implications of the scene, we must reject other possible interpretations of the gesture that the man has a cough or that he is merely rubbing his face. What can we infer from the child's question to the man? The man's eyes, too, were opened during the service, making him guilty of the same offense for which he criticizes the child. Adducing that point accounts for the humor we respond to here in "The Born Loser."

Advertisements are another excellent source of analysis anchored in visual and verbal elements working together.

In the ultimately sexist advertisement (Figure 3), quite popular a few years back, applications of inference not only provide meanings intended by the visual image, but also move readers toward the subtle dialectical entrapments of advertising in general, such as longing and aspiration, social acceptability and class identity, individual feelings and "appropriate" behaviors for demonstrating emotion, and so on. Yet to reach the territory of judgment, that is, to understand the intended results of the ad on our actions, we must apply inferential skills to comprehend meanings from the visual and verbal interplay. Thus, we infer that to express their love, men should give women diamonds because diamonds tell deep feelings better than words can tell them. We infer the woman's delight at the gift of earrings and that the man and woman are lovers, perhaps even husband and wife—more, certainly, than first-night daters. We infer that in return for diamonds, the woman will give the man her love and that diamonds are more valuable than gold. From the statement "A diamond is forever" we adduce many meanings: diamonds are indestructible, never lose their value, and help make relations permanent between men and women. In order to elicit these inferential responses, we ask students open-ended questions—for example: According to this advertisement, why should men give women diamonds? How does the woman feel about the gift? What does "A diamond is forever" mean? Such questions engage students actively in applying their tacit skills to a representational multitext that draws on pictures and words.

Important though visual and verbal interconnection may be, beginning readers may miss some of the demands made by mixed communicative elements. Students are uncertain about how to deal with words and pictures as mutual supporters to convey an idea. When looking at a cartoon or an advertisement, unpracticed readers may ignore either the visual element or the verbal, expecting each to

Figure 3

repeat the other's intent. Similarly, in examining a chart or a graph students often find the drawings mystifying or the words, perhaps, inappropriate. Thus, teachers who want to help students become independent readers and writers should provide guidance in using visual and verbal elements to extract the full meanings of a multitext. Here are some pointers to help beginning college students use visual aids for meaning.

How to Use Visual Aids to Help Understand What You Read

- **Pay attention to visual aids.**

Pictures, charts, or other illustrations are not simply decorations. Look at visual aids carefully. If you skip an illustration, you might be skipping a piece of information that is important for understanding what you are reading.

- **Read carefully the captions, titles, or notes that help explain the illustration.**

A caption is a written explanation for a picture. Often a few words or sentences tell why the illustration is important. In newspapers, photograph captions usually name the people in the picture and may give other information. Captions and titles often highlight the main point of a drawing.

- **Try to connect the words with the illustration.**

You may look at the picture before you read, or you may read, then study the picture. However, when an illustration appears with a writing selection, readers most often use the words and picture together. Read a few paragraphs and then examine the illustration to relate it to what you've read. Continue reading, returning now and then to the illustration. The point is to try to connect the picture and sentences.

- **Ask yourself questions.**

What does the picture show? How does the picture relate to what I'm reading? Why has the writer included the picture? What does the picture express that the words do not?

- **State visual information in your own words.**

Illustrations give information. Try to state that information in your own words. In other words, produce sentences to explain visual entities.

New interactive technologies in the classroom of the future—computer terminals, video screens, print applications all working together—will create for students much more complex multitext formats than those I have considered here, and students will need more and more guidance on how to extract essential information from integrated media presentations.

Making Inferences From Text

Toward the goal of helping basic reading students apply inferential strategies to academic texts, we move now to print alone. Recommended classroom activities to this point stressed the

students' innate skills at inference and drew first on nonverbal and visual representations, then on combined visual-verbal illustrations.

We will examine a simple prose paragraph for which inference is critical to meaning and, next, a more complex selection from a current periodical. Questions follow the second selection.

> After lunch Diane took her bike and sneaked quietly into the yard. She moved carefully to the plot of soil under the oak in back of the house as she checked to see that nobody watched her. She leaned her bicycle against the tree and bent down. All around dark clouds rumbled noisily in the sky; a streak of yellow zig-zagged far away, and she trembled. Digging swiftly in the hot earth, she made a small hole and quickly took a crushed ten-dollar bill from her pocket. After she slipped the money into the ground and she covered it, she breathed deeply and smiled. She was glad *that* was over! Now no one would find it or know how she got it. Certainly it would be there later when she wanted it.

> The morning of New Year's Day was cold and overcast: flat light coming from a yellow sky; empty streets. Christmas wreaths hung in dark windows of McFeely's bar, on West Twenty-Third Street. A solitary man crossed an asphalt playground on Horatio Street, trailing a plume of cigarette smoke. There were four padlocks on the front of Ponce Sporting Goods Sales, on Madison Street, and Joe's Spanish-American Record Shop ("Candies—Reg. Nylons—Panty Hose—Latest Hits") was also locked, as were the Misión Pentecostal and Jehovah's Witnesses buildings down the block. An elderly Chinese man wearing a blue ski jacket with a fur collar moved slowly across Mott Street at Grand. A long subway train came rattling and rumbling down the ramp of the Manhattan Bridge into Manhattan. Six teen-agers with two footballs began throwing passes in the small plaza between St. Andrew's Church and the Municipal Building, behind the United States Courthouse on Foley Square. At the Ng Yung grocery, on lower Broadway, a man was putting boxes of red apples on the sidewalk; a pile of ice left to melt in the gutter remained solid. Seagulls were flapping around the Department of Sanitation dock on the Hudson near Twelfth Street. No boats were moving on the river, and parts of it were frozen and white.
>
> — *The New Yorker*

1. The main idea of this paragraph is:

a. to show the effects of cold weather on New York City
b. to describe an area of Manhattan on January 1
c. to demonstrate the ethnic variety of people who live in New York
d. to show how hard people work in the city during early morning hours
e. to argue against laws that keep businesses closed on holidays

2. We may infer that most stores and other establishments are closed because:

a. the weather is much too cold
b. there are no customers available
c. it is too late at night
d. the noise of the subway train disturbs people in the shopping area
e. it's a holiday

3. The sporting goods store probably has four padlocks on it because:

a. the owner does not want to encourage people from the Misión Pentecostal to come by
b. the store has been robbed many times before
c. the police require four locks for safe protection of neighborhood establishments
d. there is valuable merchandise inside that requires protection from robbery
e. all of the above

No visual elements provide hints to meaning in the first sample. Despite its apparent and deliberate simplicity the passage about Diane is rich in inferential meanings, and thoughtful questioning will draw them out.

How old is Diane? Nothing in the paragraph directly answers that question. Yet, we know from her actions (burying ten dollars in the ground) and the level of her thinking that she's not sixteen, say, or a young mother, or a three-year-old. We infer her age roughly at about nine or ten. How did Diane get the money? From her actions we can tell that she obtained it suspiciously although no sentences overtly state such information. To determine the setting (the scene occurs just before a summer rainstorm) and Diane's feelings after she hides the money (great relief), inferential reasoning plays a major role.

Also without visual presentation, the second selection, taken

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from *The New Yorker,* taxes the student's inferential skills with sophisticated vocabulary and syntax. I have included here multiple choice questions like those typically provided on reading assessment measures or in textbooks and other practice exercises for college basic skills students. Again, these questions can tease out important inferences as we keep in mind that the same reasoning and logical trains of thought used in nonverbal contexts also come into play here. In the selection, we adduce that the writer's main interest is to describe a city scene early on the morning of January 1. Although the writer points out both the effects of cold weather in New York City and the neighborhood's ethnic variety, neither of those points captures the dominant idea of the selection. Why are many of the stores closed? We infer that the New Year's Day holiday interfered with normal business. We would not assert that cold weather prevents the shops from opening (although it's cold, certainly) or that no customers would be available (the grocer expects shoppers), or that the noise from the subway train disturbed people and keeps them away (the train is noisy but we have no evidence to assume that the rattle and rumble deter commerce). Why does the sporting goods store have four padlocks on the front? We can safely infer from information in the paragraph that to protect valuable merchandise, the owner rather dramatically padlocked his door. We may infer that the neighborhood is probably not burglar proof. Yet, we would be probing more speculative territory if we asserted that the store has been robbed many times before or that the police in this Manhattan neighborhood required four locks on all commercial storefronts or that the owner distrusted people from the Misión Pentecostal and Jehovah's Witnesses buildings.

To bring inference skills to the surface as the student examines print-based text alone, and thereby to make a connection between sentient literacy and academic reading, we can present and discuss a set of strategies for enhancing students' abilities to use inference. Designed to bridge the divide between students acknowledging their inherent abilities to infer and applying those abilities to academic writing, these strategies help students think critically about what they read and serve as general guidelines for independent textual analysis. Basic skills students can use the pointers listed here to heighten their inferential learning from print.

Building Inference Skills

- **Try to read beyond the words.** Fill in details and information based on the writer's suggestions. Important meanings often lie below the surface.

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- **Question yourself as you read.** "Why is Diane hiding the money?" you might have asked as you read the first brief selection. "Why are there clouds and lightening in the sky?" Supply the answers on the basis of the writer's hints and your own experience. Questions help you piece together important details that allow you to make valid inferences.
- **If a writer describes a person, try to understand the person** from how s/he moves, what s/he says, and what s/he looks like. You can infer things about character from the way a person behaves. Try to build a picture of the person in your mind; base your picture on the writer's description of action and appearance.
- **Try to draw conclusions and predict outcomes.** Answer questions like: What may happen if what I've read is true? What can I expect as an outcome of these issues?
- **Try to generalize.** That is, see if you can establish a principle or rule that might be true based on what you have read.
- If you find you cannot easily answer the question about what you have read, **remember to draw on your inference skills.** Return to the part of the reading where you expect the answer to appear. Then see if the writer suggests something that you yourself have to supply in clearer and fuller terms.

Living and Thinking: Conclusions

Once again, the way we make inferences from print is not unrelated to the way we make inferences in nonverbal settings. I believe that both of these processes manifest what Polanyi calls "the logical interrelation between living and thinking" (*Tacit Dimension* 90). So rooted in our representational artifacts is the tacit dimension that to ignore it—to assume that beginning college readers know little and need emergency medical attention—is to ignore the dormant seeds of learning.

In this paper I have used sentient (or visual or nonverbal) literacy as a correlative of Polanyi's idea of tacit knowing. I have tried to show that by starting from the enabling skills of learners, we can both alter the basic tenets of our epistemology for adult student readers and writers and, very practically, can provide instruction that moves to higher and higher levels of abstraction in the often evanescent quest for critical reading and writing skills.

My intention here was to examine basic *reading and writing*

instruction in the postsecondary setting and to acknowledge their explicit connections that Marilyn Sternglass believes we accept almost as an article of faith in that we "say that reading and writing should be taught together in language-centered classrooms" (184). The role of inferential reasoning is vital for both readers and writers—in weighing audience, purpose, thesis, issues of logic and sequence—in short, many of the essential elements in composing draw on the confluence between denotation and connotation, implication and inference, suggestion and statement. Other skills traditionally identified as essential for critical reading, skills such as generalizing, predicting outcomes, drawing conclusions, understanding figurative language—these too infuse the writing teacher's concerns.

Writers at all levels must attend carefully to the inference they wish intelligent readers to draw from a text; and readers must be alive to language and style that stimulate the inferential faculty and produce meaning beyond the word on a page.

Any links we can forge between visual and verbal literacy in those critical areas will enrich learning for beginners in college. Underlying these links, finally, are our beliefs in students' abilities to extend and expand personal knowledge to abstract thoughts, worldly transactions to representational forms, cultural experience to symbolic print.

In the last chapter of *The Tacit Dimension,* wonderfully titled "A Society of Explorers," Polanyi extends the connection between living and thinking. "Rising stages of evolution," he says, "produce more meaningful organisms, capable of ever more complex acts of understanding. In the last few thousand years human beings have enormously enriched the range of comprehension by equipping our tacit powers with a cultural machinery of language and writing. Immersed in this cultural milieu, we now respond to a much increased range of potential thought" (91).

We must at all times keep our eye on that range of potential thought among our students. We must recognize their latent abilities and we must build on those abilities as we move our classes to gain command over comprehension and expression.

Note

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