Semiotics has been condemned as an imperialistic discipline and praised as the most comprehensive of fields. Jonathan Culler, a well-known theorist, acknowledges that "the major problem of semiotics is its ambitions," but he notes that "the value of semiotics is
linked to its unwillingness to respect boundaries,...to the conviction that everything is a sign." The central concerns of this wide-ranging field can be defined, though, and its implications for teaching can be outlined.

WHAT IS SEMIOTICS?

Semiotics is the study of SIGNS. A sign is something that stands for something else. There are three kinds of signs:

1. symbols--signs that bear an ARBITRARY RELATIONSHIP to that which they stand for (e.g., the word "apple" by convention stands for the fruit we identify with the word).

2. icons--signs RESEMBLING that which they stand for (e.g., a painting of an apple looks like the fruit it represents).

3. indexes--signs that are INDICATORS of a fact or condition (e.g., a chest pain can indicate heartburn; smoke usually indicates fire).

Additionally, signs can be organized into SYSTEMS OF OBJECTS AND BEHAVIORS. The arts and the academic disciplines are highly complex, interrelated sign systems--formulations and configurations of symbols and/or icons. The way you set your table is part of a system of cultural signs, as is your choice of clothes, wallet photos, and bumper stickers. IDEAS are signs too, since they stand for entities as defined in one's culture. Your idea of snow, for instance, is determined by the repertoire of words, categories, pictures, and other interpretants provided by your culture.

There are three basic areas of semiotics--semantics, pragmatics, and syntactics. SEMANTICS deals with the MEANINGS OF SIGNS AND SIGN SYSTEMS; that is, meanings of words, sentences, gestures, paintings, mathematical symbols, etc. Stated another way, semantics attempts to specify the cultural definitions of all kinds of signs and sign combinations. PRAGMATICS, broadly speaking, deals with INFERENTIAL MEANING--not merely logical inference, but the subtler aspects of communication expressed through indirection ("It's drafty in here" = "Close the door") and through social contexts (as when a threat is understood as horseplay among boasting friends). SYNTACTICS deals with the STRUCTURE of signs and sign systems (such as the structure of a sentence, novel, film, fugue, or ceremony). Linguistic syntactics (phonology, morphology, and syntax) is best known by teachers, but semiotics also deals with the "syntax" of nonlinguistic sign systems.

The above definitions, adapted from Umberto Eco, Charles Morris, Charles Sanders Peirce, and others, are necessarily over-simplifications. Yet they provide some sense of the vast range of semiotics, suggesting its relationships to communication, anthropology, psychology, and various traditional school subjects.
HAS SEMIOTICS INFLUENCED THE TEACHING OF ENGLISH AND LANGUAGE

ARTS? In oral language, reading, and literature, pragmatics has had a growing influence. Literary theorists, researchers, and classroom teachers find common ground in the notion that reading and writing are not mere message transmission but complex response processes in which the readers and writers cooperate in creating meanings (Beach, 1990; Harste, et al., 1984). The student's background knowledge, indeed the student's entire repertoire of life experience, determines the qualities of meaning derived from a text. Similarly, the classroom culture set by the teacher influences not only how well students understand texts, but how they conceptualize the very acts of reading and writing. These are not merely theoretical observations. The teacher who stresses word-calling and five-paragraph themes is sending a different pragmatic message about the nature and purpose of literacy than a teacher who stresses comprehension and process writing.

Reading researchers, moreover, are asking a variety of pragmatic questions about reading: How can our understanding of children's oral language, drawings, and writing be used to enhance emergent literacy? How, and at what ages, do children develop schemata for reading different kinds of stories predictively? How can Peirce's theory of cognition (especially, abductive inference) advance our understanding of reading comprehension?

WHAT ARE THE GENERAL IMPLICATIONS OF SEMIOTICS FOR TEACHING?

A comprehensive view of curriculum is implicit in semiotics insofar as ALL EXISTING SCHOOL SUBJECTS--AND EVEN SUBJECTS NOT YET FORMULATED--ARE BY THEIR NATURE WAYS OF ORGANIZING SIGNS. If we think of learners as individuals with the potential for understanding and communicating through a variety of signs (such as linguistic, gestural, pictorial, musical, and mathematical signs) and sign systems, we gain a fresh perspective both on human potential and on the organization of school subjects.

A constellation of cognitive, aesthetic, and psychomotor skills is brought to the surface when we consider students' abilities to understand and perform in numerous sign systems. The role of language in the curriculum, moreover, takes on new power in the semiotic perspective. Language is the main arbiter as students learn to use and understand all of the other symbol systems. Language is used by musicians and visual artists in articulating their intentions and describing their techniques. Analysis of the syntax of any nonlinguistic object, from an equation to a piece of sculpture, involves language. So does description of the ideas or emotional responses that the object evokes in us.
The centrality of language in semiotics can be disputed on theoretical grounds, but as Eco (1978, p. 174) says, "Language is the most powerful semiotic device that man has invented." Piaget (1970, pp. 45-46) states that "language is but one among...many aspects of the semiotic function, even though it is in most instances the most important." John Carroll acknowledges the educational importance of pictorial forms but notes that they "are almost always accompanied by language and often require language to make them intelligible" (1974, p. 156). Language across the curriculum, then, is not a mere buzzphrase; it is an essential condition for learning.

Semiotics is an overarching conception that provides a stronger basis for interdisciplinary studies than traditional rationales like the humanities and aesthetic education, or more recent ones like global education and visual literacy. (Suhor and Little, 1988) Consistent with Howard Gardner's theory of multiple intelligences (1989), a semiotics-based curriculum would in Dyson's phrase, seek to help children to "develop as symbol users" (1986, p. 800). It would encourage students to talk about the paintings and music they produce, to create collages expressing the themes of novels and plays, to write about the things they see under microscopes, and to engage in a variety of purposeful cross-media activities.

The richness of skills required in a semiotics-based curriculum is evident. Salomon (1970) points to the broad range of mental skills required in multimedia reception and production. Dickson sees in new technologies an immense potential for "juxtaposing symbol systems" in ways that "contribute to the development of metacognitive awareness and higher-order problem-solving skills" (1985, p. 37). The very range of semiotics and its potential for organizing our thinking about curriculum in new ways can add structure and substance to arguments for the things that teachers value: oral language, the written word, the arts, interdisciplinary study, and the articulate exchange of ideas and feelings among students.

**SOURCES FOR FURTHER READING**


Suhor, Charles and Deborah Little. "Visual Literacy and Print Literacy--Theoretical Consideration and Points of Contact." Reading Psychology, 9(4) 1988, 469-81. [EJ 392 019]

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