Part III

Functional systems

The challenge of adult literacy acquisition and the mastery of specialized forms of writing have become of special interest to educators and psychologists within the past three decades. A variety of approaches govern their efforts. Some educators emphasize traditional methods, including drills (see Kazamek’s discussion, 1988), paying little attention to the specific cognitive and emotional needs of adult students. A more powerful approach was developed by Moffett (1981), who emphasizes the expressive aspects of writing, and considers formal features, such as spelling and punctuation of secondary importance. The approaches of particular relevance to the chapters presented in this volume are those in which functions of literacy are examined as practiced and taught in different societies. As Heath (1980, p. 126) writes: “Literacy acquisition is often a function of society-specific tasks, which are sometimes far removed from those of formal schooling, and are not conceived of as resulting from effort expended by ‘teachers’ and ‘learners.’”

Scholars who approach literacy as a societal process of which the individual learner is a part rather than its sole focus bring an interdisciplinary point of view to its analysis. The functions, contexts of use, as well as the historical conditions in which writing has developed in a particular community, provide researchers such as Scribner and Cole (1981) part of the framework for the study of literacy in nonschool settings. The social view of literacy put forth by Paolo Freire (1970) has had a substantial impact upon the teaching of literacy. His influence is due, in part, to his philosophy in which he stresses the necessity of students and learners to constitute a community, and then to examine together the functions of literacy within their own, historically shaped circumstances. Juan Daniel Ramirez’s paper in this section presents such an approach: he emphasizes the daily life of his adult students, addresses issues and problems where writing is relevant to their actual concerns, and views the uses of literacy in a sociocultural context. In comparing Ramirez’s paper on adult learners in Spain to that of Francine Filipek
Collignon with Hmong immigrants (both in this section), an interesting difference in gender attitudes toward learning surfaces. Whereas the men of southern Spain are absent from beginning literacy classes, due, Ramirez speculates, to a possible fear of being seen as limited by the women and the community, Hmong students include both men and women in classes at all levels of proficiency. The Hmong women’s attitude toward themselves as learners is quite striking; studying alongside men intimidates them. Uprooted from their agricultural communities, both men and women recognize the critical importance of literacy in their new, industrialized countries. But the women see themselves as limited in their skills to working solely with their hands whereas they see men as learning “with their heads.”

Examining the cultural sources of language use and knowledge acquisition in the lives of adult learners is seen as a necessity by the three contributors to this section. In Michele Minnis’s analysis of legal writing, she focuses on the role of class and ethnicity as powerful influences in the ways in which students approach the task of acquiring the highly specialized forms of legal literacy. Minnis suggests that for many law students and professors, childhood experiences, such as heated debates at the family table, are part of their early socialization leading to success. These students, drawn from the majority culture, are prepared for the argumentative forms of legal reasoning. They and their professors have a difficult time recognizing that different styles of interaction and values govern the childhood experiences of their peers drawn from minority communities. To the latter, deference and cooperativeness across generations are a primary mode of interaction with which they approach their law school experiences. The acquisition of new, domain-specific values and skills – whether in law school or in urban factory settings – confronts the subjects of the chapters to follow. The writers rely upon interactionist theory to clarify some of the issues raised by their work as literacy teachers and they suggest new pedagogical approaches in the joint construction of their students’ emerging spoken and written discourses.

A central notion in their use of a sociocultural theoretical framework is that of “functional systems.” The value of this concept is particularly noticeable in the analysis of cognitive stability and change: in the realization that for adults who are entering unknown cultural settings, not all of their approaches to learning will be new. Some aspects of their perceptual, cognitive, and interpersonal processes remain stable, while others are undergoing, in the course of cultural and intellectual adaptation, important shifts, additions, and transformations. Thus, adult learners, while engaged in new and demanding tasks, combine rapid change with familiar approaches, constructing new functional systems. Newman, Griffin, and Cole (1989) have suggested that adapting Luria’s use of func-
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Functional systems – which were of particular use to him in his analyses of brain injury – provides an excellent framework for the study of cognitive change and representation. Their use of this notion includes cognitive and interpersonal variables, both of which are central to the study of literacy development. In the following quotation they describe their view of some aspects of the “interpersonally constituted functional systems” with a particular relevance to the representation of cognitive mastery:

The theoretical position we are proposing focuses on the changes within the functional system and the variable cognitive and interpersonal mechanisms that play a part in the system. . . .

In the standard framework [of cognitive science] external devices, like talk and charts and writing, bear an opaque and perhaps uninteresting relationship to internal structures. In our mediational framework they are windows in the evolution and appearance of cognitive constructs. They are an essential part of the functional system that gives the actors as well as the analysts access to changes that are occurring. . . .

In the standard framework representations are static; communicative comprehension requires an equivalence of representations. In our historical framework, representations are dynamic and communication proceeds with a series of “as if” relations where partial constructs are appropriated and revised. (1989, pp. 72–73)

In discussing the early stages of reading acquisition, Ramirez gives many examples of the appropriation of partial constructs as learners struggle with the phonetic and semantic aspects of texts. Collignon suggests that writing tools are appropriated by Hmong learners as connected to their sewing implements – in both instances their use of tools is linked to their needs to give shape to their experiences.

In our own research with Pueblo children (John-Steiner & Osterreich, 1975), we found the concept of functional systems very valuable. Researchers usually describe Native-American children as shaped by their visually potent environment: Alfonso Ortiz (1969) gives many examples of a “people’s picture of the way things are.” Evidence that Indian children excel in imaginal and spatial skills has been collected for over 50 years (Bland, 1970, 1974; Dennis, 1942). Children score high on certain visual tests and are less proficient on tasks measuring verbal proficiency. In light of these findings, a visual–verbal polarity is frequently used in describing how Native-American children learn. But such a simplification leads to poor research and poor theory. As our study evolved, so did our thinking about Pueblo children. Rather than using a simple polarity in learning styles, we explored the way in which children integrated various styles and strategies of learning. In relying upon the notion of functional systems, as discussed by Cole and Scribner (1974) in their cross-cultural research, we were able to document how children linked
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newly acquired symbol systems with previously developed, culturally patterned cognitive processes. We confirmed some of Luria's (1979) observations, namely, that complex, conscious activities are initially carried out in an expanded way. In its early stages, complex thinking requires a number of external aids for its performance. Not until later in the life of the child or in the course of mastering a particular form of activity does thinking become condensed and converted into an automatic skill. (p. 126)

The process of condensation described by Luria is not limited to children. The beginning literacy efforts of adults, as described by Ramirez, show many repetitions and a pulling apart of words. Slowly, novice readers start hearing their own words and, with the help of their teachers, link form and meaning.

One of the most interesting features of "functional systems" is the notion of "variable mechanisms," namely, that a particular task can be performed by variable means. Newman et al. (1989, p. 72) suggest: "In our functional systems, there may be variable representations corresponding to the variable mechanisms that can still get the task done." In the mastery of literacy and of specialized forms of writing, this feature – a reliance upon variable means – provides a significant tool for analyzing the role of culture in acquisition. As Collignon explains, Hmong women prefer those methods of literacy acquisition that are based on their earlier learning of sewing. There are hundreds of patterns in the Hmong "paj ntaub"; these are acquired slowly during childhood while the novice is observing, copying, correcting. Adult Hmong women like to use copying and dictation as part of their literacy learning, integrating into their functional systems new content and symbols, but also maintaining some continuity in their approaches to challenging tasks.

In Ramirez’s and Minnis’s work, similar notions are apparent. These authors rely upon sociocultural theory to assist them in examining the particular challenges faced by adult learners. They recognize that culturally embedded forms of learning require a lengthy process of mastery as well as reorganization of existing functional systems. In helping students interpret texts, teachers in Ramirez’s literacy programs rely upon colloquial expressions as well as terms derived from the instructional material expressed in more formal language. He writes of their reliance on various genres and discourses, which are first separate in the students’ repertoires, but which become, with the teacher’s help, linked into new functional systems of comprehension and representation. There is also an interesting parallel between Ramirez’s work on literacy and Wilcox’s study (in this volume) of signed language. Both authors show how novice learners use private speech in guiding their
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activities when faced with new problems or challenges. The adult speaker acquiring literacy needs to process written speech at several levels of organization. Luria (1982, p. 166) describes this process as follows: “Written speech involves several processes at the phonemic level, such as the search for individual sounds and their contrasts, the coding of individual sounds into letters, and the combination of individual sounds and letters into complete words.” When words are read slowly, the linking of the externally produced forms are matched with difficulty to their internal representation. In the course of the matching process, the novice asks herself questions, guiding her process with the aid of private speech.

Teachers of adult learners are faced with a difficult task; their assistance, while greatly needed, cannot be based on interactional patterns and learning materials used with children. Instead, literacy workers have to understand the culture, the motivation, and the interests of adult learners. Ramirez and Collignon have developed methods, based in part on Paolo Freire’s contributions, which take these concerns into consideration.

The challenge of acquiring legal discourse is a difficult one for all students. It is particularly demanding for minority law students, who are expected to fit into a traditional, competitive, and highly structured educational environment. Failing to adopt these values, and the legal discourses that govern classroom interactions, minority students are frequently seen as incapable of acquiring “lawyerly thinking.” Minnis analyzes the cognitive and linguistic skills needed, but not taught, for the successful completion of law assignments. By showing what these skills consist of, she provides a model for an alternative approach to current legal education, one in which students are consciously and supportively socialized into their future profession. Such a model contrasts with the present situation, where students experience their classes “as contest(s) between opponents.”

The students who are successful in combining their traditional socialization with the strategies needed for survival in law school develop new functional systems. These functional systems are constructed with the aid of individuals who are aware of the students’ need to build cultural, cognitive, and attitudinal bridges between the students and their new environment. They rely upon the learner’s zone of proximal development. While the first use of the concept of “functional systems” by Anokhin and Luria (see Luria, 1979, p. 124) emphasized new, physiological connections in the brain, in more recent uses of this notion, the interpersonal and cognitive aspects of human dynamic systems have been stressed. This current usage is well documented in the chapters that follow.
REFERENCES


