We began this survey of the spontaneous strategic behavior of handicapped children with a discussion of some of the differences in cognitive processes between handicapped and nonhandicapped learners. Competent learners produce a variety of strategies, depending on task demands, whereas ineffective learners tend not to generate their own strategies in the absence of adult guidance. Transfer or generalization has been noted many times to be particularly difficult for handicapped students; when the student is presented with a new and slightly different task, the previous knowledge is either not applied or is applied exactly as taught, without adaptation to the requirements of the new situation.

The research literature has supported the characterization of handicapped learners as unable to transfer or generalize information from one situation to another (Brown, 1978). Attempts to improve memorization have generally focused on training a single strategy such as rehearsal (Butterfield, Wambold, & Belmont, 1973), verbal mediation (Jensen & Rohwer, 1963), or elaboration (Campione & Brown, 1974). Although these interventions have met with some success in improving recall immediately after training, little has been achieved in terms of transfer (Burger, Blackman, & Clark, 1981; Campione & Brown, 1974). One of the reasons proposed to explain this consistent finding is that different kinds of problems or stimuli require at least slightly different applications of a given strategy.

We have discussed at some length our belief that one of the main difficulties in achieving transfer of learning by handicapped children is our failure as teachers to take sufficient account of children's preferred and spontaneous learning styles and the varying strategic requirements of different tasks. The procedure of training a handicapped learner in the use of a "good" strategy might result in a rigid expectation that it is the sole appropriate solution regardless of task demands. By contrast, adequate problem solvers are flexible in their approach to learning and can modify previously learned strategies in response to novel stimulus demands (Battig, 1975). Although disabled learners can be trained to produce their own elaborative responses in a specific learning situation (Pressley, 1982), little is known about their capacity to produce and select from a variety of possible strategies, some of which may be more appropriate to certain tasks and situations than others. A recent investigation (described at some length in Chapter 3) provided some evidence that learning-disabled children do benefit from a dual-strategy training intervention (Cherkes-Julkowski et al., 1986).
This chapter will describe some of our experimental efforts to look at the unprompted strategic behavior of different types of children on a simple memory task. Some of the preliminary findings obtained from a pilot study have already been discussed in Chapter 3. In essence, we were impressed by the evidence that handicapped children frequently approached the task in a very different fashion from that of average or gifted learners, and that their seemingly inefficient processing was not necessarily counterproductive for them. We agree with Bruner's conclusion, "...If one of our objectives is indeed to help people be good at problem solving, we had better keep well in mind how people would like to go at it, if they could get away with it" (1985, p. 599).

To overcome the difficulty of measuring strategy use (discussed in Chapter 4), we used small groups and recorded their discussions. We became concerned, however, that the encouragement of verbalization and active participation in the group dynamics might in itself have an effect on the strategic behavior of the children (Forman & Cazden, 1985; Skon, Johnson, & Johnson, 1981). We therefore included a sample of children examined individually, using the "talk aloud" method, so that we could compare the behavior of children working alone with that of children in groups.

The sample for this study consisted of 137 students from several comparable nonurban school districts in Connecticut. Children in four diagnostic categories, average, learning disabled, slow learning, and gifted, with a mean mental age between 8.0 and 9.0 years were included. For the purpose of this experiment, these categories were operationally defined as follows.

**Average:** Children performing in the fourth to sixth stanine or with IQ scores in the range of 85 to 115 on school-administered standardized tests and not in any special or remedial program.

**Learning Disabled:** Children identified by the school system as learning disabled and having an IQ in the range of 85 to 115.

**Slow Learning:** Children performing in the first to third stanines on school-administered standardized tests or with IQs in the range of 55 to 80. Most of these children were included in special programs for the educationally handicapped.

**Gifted:** Children performing in the eighth to ninth stanines on school-administered standardized tests having IQ scores above 125 or identified by the school system as gifted. (Gifted learning-disabled children were not included in this sample.)

Children in each diagnostic category were randomly assigned to one of two conditions, group or individual, with the restriction that chronological ages in the two conditions were as close as possible. Children within a school district were assigned across the two treatment conditions.

Children were presented with a memory problem in which they were asked to memorize pairs of pictures, each pair presented on a single card with one picture above the other. Three sets of pictures were used, each consisting of paired stimuli designed to appeal to a different strategy for memorizing and recalling the second member of the pair. The three types of stimuli were as follows.