risk conditions lead to a more stringent criterion than do low-risk conditions, even though the memory trace in both situations is equivalent in strength and match to the test stimulus.

Besides yes-no recognition, there is also forced-choice recognition as exemplified in multiple-choice tests. As before, memory strength plays a role in the decision to choose a particular answer. The decision criterion, however, is determined not only by risk conditions surrounding the overall task, but by the distractors in each test item. That is, a severe penalty for wrong answers will decrease guessing overall, even though, in a four-distractor item, the chances of getting an item right by pure guessing is 25 percent. But suppose, in question 2, you could eliminate two of the distractors immediately. This increases to 50 percent the chances of getting the answer right, high enough odds, perhaps, to offset the penalty. An obvious implication of this for test construction is to write distractors that have equal probability of being chosen if the learner is forced to guess.

Encoding Specificity. Regardless of expected response type, the process of retrieval can be greatly influenced by the cues available to learners at test time. Two different principles have been investigated by researchers that suggest a relationship between conditions at encoding and conditions at recall.

The **encoding specificity** principle states, in essence, that *whatever cues are used by a learner to facilitate encoding will also serve as the best retrieval cues* for that information at test time (Thomson & Tulving, 1970; Tulving & Thomson, 1973). To illustrate, Anderson and Ortony (1975) gave subjects the sentences, "The container held the apples" and "The container held the cola." What images come to mind when you read those sentences? Most likely, you encoded an apple basket and a cola bottle. In fact, Anderson and Ortony found that *basket* served as an effective retrieval cue for the first sentence but not the second, while *bottle* served as a good cue for the second sentence but not the first.

Retrieval, then, is very much influenced by the context of encoding. This suggests for instruction that many different contexts or examples may be important to discuss during the presentation of new concepts. In this way, students will have many cues available to assist in encoding that may later be used for recall. If new information is presented in only one context, students may not find sufficient cues in test questions to support retrieval of information that is actually in memory.

Related to encoding specificity is the concept of state-dependent learning. Some years ago, a study was conducted in which subjects learned lists of paired words in one situation and recalled the lists in a different situation (Bilodeau & Schlosberg, 1951). The situations differed in the rooms in which the sessions (whether learning or testing) took place, whether the subjects were standing or sitting, and the method of list presentation. Results indicated that recall was best for those who were instructed and tested in the