

as separate and distinct from their prior knowledge (Spiro, 1977). They adopt an experiment set, which means that they approach the learning material in a rote fashion and fail to assimilate the information into related prior knowledge. Unfortunately, all too often learners tend to approach learning tasks in much the same way, regardless of whether they have prior knowledge to apply to the task. I have seen this happen in my graduate courses in which former teachers fail to use what they know about teaching to help them in learning about formal theories of learning and instruction.

In an instructional situation, then, the activation of prior knowledge should not be left to chance. To assure that meaningful learning takes place, instructors and designers can employ a variety of strategies to help learners relate their prior knowledge to new information they are to acquire. Making these connections is what Ausubel referred to as the first function of instruction, and he proposed the advance organizer as a means of accomplishing it (Ausubel, 1963a, 1968; Ausubel et al., 1978).

Advance Organizers. Advance organizers are relevant and inclusive introductory materials, provided in advance of the learning materials, that serve to "bridge the gap between what the learner already knows and what he needs to know before he can meaningfully learn the task at hand" (Ausubel et al., 1978, pp. 171-172). Ausubel et al. (1978) also stated, "organizers are presented at a higher level of abstraction, generality and inclusiveness than the new material to be learned" (p. 171). Consider why this might be so. For one thing, learners are likely to have somewhat idiosyncratic cognitive structures, and while it might be desirable to construct advance organizers for each and every learner to meet their unique needs, that is not a very practical strategy. Thus, organizers should be sufficiently general to function for a variety of learners. In addition, remember Ausubel's call for using the most inclusive and relatable concepts of a discipline to guide learning. Constructing organizers more abstract and inclusive than the learning materials is one way of doing this.

The effectiveness of advance organizers for enhancing learning and retention of verbal materials was a subject of great debate in the research literature, but in spite of contradictory findings, the concept has persisted. Some studies (e.g., Ausubel, 1960; Ausubel & Fitzgerald, 1961; Ausubel & Yousell, 1963; Kuhn & Novak, 1971; West & Fensham, 1976) confirmed the positive effects of advance organizers on learning. Others suggested that the facilitating effect might be limited to learners with low verbal or analytic ability (e.g., Ausubel & Fitzgerald, 1962). But research reviews conducted by Barnes and Clawson (1975) and Hartley and Davies (1976) pointed to even more equivocal findings.

Some of the problems cited in the research concerned methodological flaws in conducting the studies. For example, researchers may have failed to ascertain whether the organizers in their studies contained relevant concepts