The interest in individual differences in perception led to research into cognitive learning styles in the 1950s and 60s. The aim of this review is to show the background to the early developments in cognitive style theory and to point out how the concept has changed today. From an early emphasis on cognition, more recently attempts have been made to develop more integrated learning styles which encapsulate the multidimensional nature of the learning process. It has become an educational aim to make learners aware of their own learning styles, i.e. to make the processes underlying language learning explicit in order to enable them to gain some control over their learning procedures. Factors involved in raising learners' awareness are presented and difficulties are pointed out (also see the reviews by Gardner and by Hamayan in Volume 4).

EARLY DEVELOPMENTS

In the 1950s research into cognitive learning styles emanated from the New Look Movement, a loose confederation of perception psychologists who were critical of the then dominant approaches to perception which neglected the point of view of the person who does the perceiving (Witkin & Goodenough, 1982, p. 1). It was, for example, the early behaviourist position that language learning was an external not an internal phenomenon, the emphasis being on the importance of input; learning was a process of habit formation through repetition and reinforcement. In sharp contrast, nativistic theorising, exemplified most notably by Chomsky, assumed that the way our perceptual systems organise language acquisition is innately given and everybody therefore follows a uniform pattern. A different line of research investigated individual differences in perception, which were then used as points of departure for research into cognitive learning styles.

The educational interest in individual learner differences found support from psychological theory and neurological evidence in the 1950s and 60s. Cantril & Livingston (1963) suggest that the term transaction more appropriately describes a psychological event than does the term interaction, in that it emphasises 'the contribution the perceiving individual makes in shaping his own perceptions' (p. 6). From neurological evidence Cantril and Livingston present the picture of a 'central transactional core' (p. 7) in the central nervous system which exerts a constant modulating influence...
on sensory input as well as on motor output. The view that the individual actively participates in the learning process is at the core of transactional theory of learning.

Further support for this comes from personality theory. Kelly (1955) asserts that the whole of the individual's psychological processes are thought of as arising directly from his personal constructs, i.e. from the ways in which he interprets as well as from the ways in which he anticipates events. Ames (1953) addressed the question as to the origin of our perceptual constancies. In his theory of transactional functionalism he tried to show that our fundamental perceptions are learnt reactions based on our interactions and transactions with the environment, they are 'pragmatic truths', which means that they work for us in practice. This functional point of view also seems to partly explain why people have different learning styles – because the procedures were found expedient in the past.

**MAJOR CONTRIBUTIONS**

An interest in individual differences in processing information led to the theory of **cognitive learning styles** which was widely researched during the 1960s and early 1970s. (Vernon 1973; Witkin et al., 1977; Claxton & Ralston, 1978; Entwistle, 1981; Witkin & Goodenough, 1982). According to Witkin and his colleagues, who did the most extensive research into this area, cognitive learning styles reflect systematic differences in the way individuals tend to approach learning and problem-solving. The emphasis is placed on 'how' the individual processes information and not on 'what' or 'how much' is processed. Witkin et al. (1977) describe them as follows:

Cognitive styles are concerned with the form rather than the content of cognitive activity. They refer to individual differences in how we perceive, think, solve problems, learn, relate to others, etc. The definition of cognitive styles is thus cast in process terms (p. 15).

The concept of cognitive style is not limited to cognition in the narrow sense. Witkin & Goodenough (1982) describe it more in holistic terms:

It is a pervasive dimension of individual functioning, showing itself in the perceptual, intellectual, personality, and social domains, and connected in its formation with the development of the organism as a whole (p. 57).

The two probably most extensively investigated cognitive learning styles are **field-dependence – field-independence** (Witkin et al., 1977; Witkin & Goodenough, 1982). Very briefly summarised, a field-independent person tends to approach situations in an analytical way, separating elements from their background, whereas a field-dependent person tends to see the whole rather than the parts and approaches situations in a global way. The two style dimensions can be assessed by the Group Embedded Figures Test (Oltman et al., 1971), a self-diagnostic test which enables students to identify their own learning style preferences.