1- Strategies refer to both general approaches and specific actions
2- Strategies are problem oriented
3- Learners are generally aware of the strategies they use
4- Strategies involve both linguistic and non-linguistic behavior
5- Language learning strategies are performed in both the L1 and L2
6- Some strategies are mental while others are behavioral
7- Strategies contribute either directly or indirectly to L2 learning
8- Strategy use varies across individuals and tasks(pp.532-533)

Strategies vs. Styles

A distinction is usually made between learning strategies and learning styles in educational psychology and professional language teaching literature (Hall, 1997; Brown, 1994; Fontana 1988, Crozier, 1977). Learning strategies are regarded to be problem oriented actions or techniques which are resorted to in overcoming learning difficulties. Consequently, depending on the nature of the problem faced, an individual's learning strategy may differ from that of another. Learning styles, on the other hand, are belived to be relatively permanent and general across all learning situations. In other words, one's learning style(s) may not change considerably during his lifetime, while he/she may adopt a large number of learning strategies as the occasion arises. In reality, however, it is not always possible to stick to this dichotomy. There are certain class of strategies that are not task specific and, in a sense, general across a wide range of learning situations. Such learning strategies, which are known as metacognitive (see the section on strategy classification), are concerned with the management and planning of learning (Brown, 1994), and the topic to be learned will not cause a dramatic change in their application. There are also cases in which individuals change their style in response to a specific learning context or task, as when a field dependent person decides to concentrate on his/her reading in a crowded bus due to the imminece of an examination. However, the distinction between strategies and styles can be regarded as a workable dichotomy in which strategies show more variety and change more frequently according to the learning context and the task at hand.

Are learning strategies conscious?

The conscious characteristic of learning strategies is an issue referred to by Ellis in his list of characteristics of strategies and explicitly in the definition offered by Cohen (1998). Cohen states that "the element of consciousness is what distinguishes strategies from those processes that are not strategic" (p.4) and "if the behavior is so unconscious that the learners are not able to identify any strategies associated with it, then the behavior would simply be referred to as a *process*, not a *strategy*" (p.11). However, not all the researchers would agree with Cohen's assertions. McDonough (1995) finds the distinction between processes and strategies problematic, while McLaughlin (1992) believes that the distinction made in the foreign language teaching literature between consciousness/unconsciousness is fruitless, since we do not yet possess a scientific theory of mind. In his words "lacking an adequate theory of mind that allows us to decide what particular mental states or operations are 'conscious' or 'unconscious', one can not

falsify claims regarding consciousness in second language learning" (p. 617). Instead, he proposes a distinction between controlled and automatic processes. "The distinction between automatic processing relates to the degree to which skills in question have been routinized and established in long-term memory" (p. 621). McLaughlin's proposal seems to overcome the terminological confusion surrounding conscious/unconscious nature of language learning strategies, but a close inspection of the classification offered indicates that it still suffers from the scientific imprecision one encounters in the case of conscious/unconscious. It seems that any idea coming from cognitive psychology, due to its extensive use of metaphors, will be doomed to some sort of theoretical or scientific obfuscation. If we accept McLaughlin's view, then we can view the investigation of language learning strategies as an activity in which the researcher tries to get insight into the mental operations which are not yet routinized, and as a result, available to the learners' introspection.

There are, however, some applied linguists who, due to their psychological orientation, find the distinction between conscious/unconscious operations useful and practical. Schmidt (1990), for instance, based on the distinction between consciousness/unconsciousness, concludes that some noticing or directing attention to the learning task and the input will facilitates learning. Ehrman and Dornyei (1998), based on the ideas borrowed from Freudian psychology, refer to three levels of consciousness: Conscious, preconscious, and unconscious. Conscious is the level at which mental operations are directly accessible to the learners' cognition. Preconscious operations are those that are not directly or immediately open to the learners' introspection but can be made conscious through the use of think-aloud or retrospective techniques. The unconscious is the realm that is not under the individual's control or supervision in any way. If we opt for Ehrman and Dornyei's classification of mental operations, then we can place language learning strategies within the preconscious confines of our consciousness.

The theoretical foundations of language learning strategies

From a theoretical perspective, language learning strategies are related to Anderson's information processing theory (1983, 1985), which is itself a cognitively based approach to the study of memory and learning. According to Anderson, knowledge is represented in memory either as declarative or procedural knowledge. Declarative knowledge, which is concerned with factual data and information, stores knowledge either through propositional representations or schemata. Propositional representations consist of relations and arguments. Relations include verbs, adjectives, or relational terms and phrases, while arguments include nouns. For example, in the sentence:

Hitler was the leader of Nazi Germany

The relations are was, *Nazi*, and *leader* of, while *Hitler* and *Germany* are arguments. Schemata are knowledge structures that include information as sequence of events (called scripts) or images.

Procedural knowledge, which is related to our performance ability, stores knowledge through production systems. Each production system consists of an action and a condition component (If x, then do y, i.e., whenever the condition is met, then the action can be

performed), and the system is activated when a related problem is encountered. "Our ability to understand and generate language ... [is an example] of procedural knowledge" (o'Malley and Chamot, 1990:24). Based on this model, skill acquisition, including language, is a process through which stored declarative knowledge turns into its procedural counterpart.

In his move toward proceduralization, the learner goes though a number of stages: *Cognitive* (during which the learner is conscious of the learning task and the activities required), *associative* or the semi automatic stage (which is, in fact, the stage of rudimentary proceduralization), and the *autonomous* or the automatic stage (during which knowledge is subconsciously and automatically put to use). Learning strategies neatly fit into this scheme; they are first acquired in a relatively conscious manner through the declarative component of our information processing system, and as they are increasingly applied to different learning situations and problems, they become automatic or procedural. "[Learning] strategies can be represented the same way as any other complex skill and described as a set of production systems that are compiled and fine tuned until they become proceduralized" (O' Malley and Chamot, 1990:42).

Classification of learning strategies

The study of language learning strategies at the time of Rubin (1975) and Naiman et al. (1978) lacked a theoretical foundation, and as a result, researchers had to be content with listing the actions and behaviors good language learners engaged in. It was during 1980s that the application of psychological ideas to the concept provided a theoretical basis for the classification and the discussion of language learning strategies. In the following section, only a selective treatment of the available classifications is offered.

Rubin (1975) identified two broad classes of strategies: a group of strategies that directly affected L2 learning, and another group of strategies which had an indirect impact on the student's learning. In her later work, Rubin (1981) classified the strategies used by the L2 learners into three categories: Learning strategies, communication strategies, and social strategies. Learning strategies, which directly or indirectly contribute to the interlanguage development of the learners, are further classified into cognitive and metacognitive strategies. The cognitive strategies identified by Rubin include clarification/verification (checking ons's comprehension and rule formation process), guessing/inductive inferencing (forming hypotheses about the way the L2 works), deductive reasoning (making use of the knowledge of the rules), practice (dealing with repetition and memorization), memorization (dealing with the storage and the retrieval of information), and monitoring (checking one's own performance). Metacognitive learning strategies are concerned with the supervision and the regulation of the use of cognitive strategies. In the words of Williams and Burden (1997) metacognitive learning strategies "involve an awareness of one's mental processes and an ability to reflect on how one learns, in other words, knowing about one's knowing" (p. 148). Metacognition was first addressed by Flavell (1970, 1976) and defined as knowing about knowing. More precisely, he refers to metacognition as "one's knowledge concerning one's cognitive processes and products or anything related to them." (Cited in Nisbet and Shuchsmith,

1986:30). Later, Flavell (1979) referred to three concepts as the components of the metacognitive knowlege of an individual: person knowlege, task knowledge, and strategic knowledge. Person knowledge refers to knowledge about human learning in general and the factors that affect learning in specific situations. Task knowledge refers to the individual's knowledge about the nature of the task, its purpos, and what it requires. Finally, strategic knowledge is concerned with "general information about what strategies are, why they are useful, and specific knowledge about when and how to use them" (Wenden, 1998:519). Communication strategies, the second category in Rubin's classification, are those which are used when the learners are faced with a linguistic difficulty in the L2. In fact, communication strategies are compensatory moves which are resorted to when the learner feels that there is some deficiency in his linguistic competence in terms of syntactic rules or lexicon. In today's second/foreign language teaching literature, however, the concept of communication strategies has been defined more professionally and narrowly. Communication strategies are viewed as strategies used to "overcome obstacles to communication by providing the speaker with an alternative form of expression for the intended meaning" (Bialystok, 1990:35). These strategies are no longer regarded as assisting the learners in internalizing the second language input in a more efficient manner. In other words, communication strategies are not viewed as aides to the learning process. The last category of strategies, that is, social, are those that learners employ in order to increase their exposure to the second language. Reading books, watching second language films, or initiating conversations with the native speakers are some of the examples of social strategies used by the L2 learners.

Oxford (1990) provides a comprehensive strategy classification which draws on the work of previous studies as well as cognitive psychology. She classifies L2 learning strategies into two gorups of Direct and Indirect. Direct learning strategies are concerned with "language itself in a variety of specific tasks and situations" (p.14). This category includes memory strategies (for storing and retrieving new information), cognitive strategies (for comprehending and producing language), and compensation strategies (for overcoming gaps in the learner's language knowledge). Indirect learning strategies are for "the general management of learning" (p.15). In this category, Oxford puts metacognitive strategies (for the coordination of the learning process), affective strategies (dealing with emotional regulation of the L2 learning process), and social strategies (concerned with learning through interaction with others). Compensation strategies are similar in nature to what is usually termed as communication or production strategies (Bialystok, 1990; Tarone, 1981). These strategies are activated to cover gaps in the learners' L2 competence and keep the flow of communication going. In fact, "compensation strategies, like guessing or using synonyms, allow learners to use the language despite their often large gaps in knowledge" (Oxford, 1990:37) (Although, as it was stated earlier, the inclusion of communication strategies in the category of learning strategies is a point challenged by some researchers, on the grounds that communication strategies are concerned with

the output while learning strategies deal with the *input*). Strategies such as coining words, switching to mother tongue, or using mime or gestures are part of this category. Guessing the meaning of unknown words from the context in listening and reading are also instances of compensation strategies.

Memory strategies, or mnemonics, are used by learners to help them memorize and remember new information. Oxford refers to four major strategy groups in this category: creating mental images, applying images and sounds, reviewing well, and employing action. These strategies, which are basically for vocabulary storage purposes, make use of association techniques in which words are connected to sounds or mental pictures.

Cognitive learning strategies "enable learners to understand and produce new language by many different means" (Oxford, 1990:37). Practicing, receiving and sending meassages, analyzing and reasoning, as well as creating structure for input and output are strategies discussed in this category. The basic concept in the use of cognitive strategies is *practice*: learners should seek opportunities which will enhance their use and the exposure to the second language. Metacognitive learning strategies "allow learners to control their own learning" (Oxford, 1990:135). The strategies included in this category are basically concerned with managing and organizing learning activities. Oxford refers to centering learning, arranging and planning, as well as evaluating learning as instances of metacognitive learning strategies. Affective learning strategies deal with the control of emotions and motivation in learning. These strategies are related to either anxiety, developing a positive self image, or regulating one's emotional reactions. The strategies dealt with here are lowering anxiety, encouraging oneself, and taking one's emotional temperature. The last category of strategies in Oxford's classification are social strategies. "Social strategies help students learn through interaction with others" (p.135). The social strategies addressed by Oxford are "asking questions, cooperating with others, and empathizing with others.

O'Malley and Chamot (1990) provide a classification which is to a large extent similar to the one proposed by Oxford (1990). However, what is novel about their classification is their attempt to relate the concept of L2 learning strategies to the information processing theory proposed by Anderson (1983;1985) in cognitive psychology (see the section on the theoretical foundation of learning strategies). O'Malley and Chamot divide learning strategies into three groups of metacognitive, cognitive, and social/affective strategies. Metacognitive learning strategies are "higher order executive skills that may entail planning for, monitoring, or evaluating the success of a learning activity" (p.44). O'Malley and Chamot refer to the following as examples of metacognitive language learning strategies:

1- Selective attention for special aspects of a learning task, as in planning to listen for key words or phrases

2- Planning the organization of either written or spoken discourse

3- Monitoring or reviewing attention to task, monitoring comprehension for information that should be remembered, or monitoring production while it is occurring, and

4- Evaluating or checking comprehension after completion of a receptive language

activity, or evaluating language production after it has taken place(p.44)

Cognitive strategies are defined by O'Malley and Chamot as strategies that "operate directly on incoming information, manipulating it in ways that enhance learning" (p.44). Cognitive strategies are usually task specific and include three broad strategy categories: Rehearsal, organization, and elaboration. O'Malley and Charnot refer to the following list of cognitive strategies:

1- Rehearsal, or repeating the names of items or objects that have been heard;

2- Organization, or grouping and classifying words, terminology, or concepts according to their semantic or syntactic attributes;

3- Inferencing, or using information in oral text to guess meaning of new linguistic items predict outcomes, or complete missing parts;

4- Summarizing, or intermittently synthesizing what one has heard to ensure the information has been retained;

5- Deduction, or applying rules to understand language;

6- Imagery, or using visual images (either generated or actual) to understand and remember new verbal information;

7- Transfer, or using known linguistic information to facilitate a new learning task; and

8- Elaboration, linking ideas contained in new information or integrating new ideas with known information (elaboration may be a general category for other strategies such as imagery, summarization, transfer, and deduction) (p.45)

Finally, social/affective strategies are referred to as "a broad grouping that involves either interaction with another person or ideational control over affect" (p.45). The following are examples of social/affective listening comprehension strategies:

1- Cooperation, or working with peers to solve a problem, pool information, check notes, or get feedback on a learning activity;

2- Questioning for clarification, or eliciting from a teacher or peer additional explanation, rephrasing, or examples; and

3- Self-talk, or using mental control to assure oneself that a learning activity will be successful or to reduce anxiety about a task. (p.45)

Cohen (1998) classifies language strategies into two broad groups of *strategies of use* and *language learning strategies*. Language use strategies include retrieval strategies, cover strategies, rehearsal strategies, and communication strategies. Retrieval strategies are used for the storage and recall of linguistic information. Cover strategies are used to create the impression that the learner is in perfect command of the second language system while in fact he is not. Rehearsal strategies are used for practicing grammatical structures in the target language. Finally, communication strategies are used for the successful communication of meaning in the target language. Language learning strategies are divided into four groups of metacognitive, cognitive, affective, and social strategies. "[C]ognitive strategies encompass the language learning strategies of identification, grouping, retention, and storage of language material, as well as the language use strategies of retrieval, rehearsal, and comprehension or production of words, phrases, and other elements of the second language" (p.264).