Methods and Strategies

Plonsky (2011) reports that researches on the effects of second language strategy instruction (SI) have been extensive yet inconclusive. His meta-analysis, therefore, aims to provide a reliable, quantitative measure of the effect of SI as well as a description of the relationship between SI and the variables that moderate its effectiveness (i.e., different learning contexts, treatments, and outcome variables). The study also produced evidence to support claims of a relationship between certain methodological characteristics of primary studies (pretesting, random group assignment, reporting of reliability) and the effects of SI they produce.

The cognitive theory of learning

Basically, this theory treats language learning as any other skill that can be obtained with the cognitive faculties of human beings. Linguistic information is stored and retrieved in the same way as other learnt information. There are mainly three fundamental cognitive aspects: how knowledge is developed, how it becomes automatic and how new knowledge is integrated into an existing cognitive system of the learner (Takac, 2008, p. 26). This theory makes use of the existence of short-term (working) memory and long term memory. This, of course, leads to the debate about formal instruction. It is also recognised that there are individual differences of how learners approach the task of learning foreign languages, for instance language aptitude (working memory (Ellis, 2001)), motivation, cognitive style, learning strategies, age and sex. This means that teachers, to be effective, have to take account of these individual differences. This has also to do with grammar teaching. Some learners might not need explicit instructions – others do. But I would suggest that for adult learners it is not case of instruction or not, but more what kind of instruction. The teacher has to be intuitive here since in a class he/she as to find a middle way that suits the group best.

The concept and existence of learner strategies are vital for this cognitive theory. If there are strategies, the learning of L2 has to be different from the learning of L1. Learning strategies make, by definition, the learning process conscious and explicit. By doing so, the adult learner relies heavily on declarative memory, the memory for facts, for storing idiosyncratic lexical knowledge, but also for memorising complex forms and rules. And there is the procedural memory, the memory for the learning of new, and controlling of long-established motor and cognitive skills and habits, especially those involving sequences. Neither the learning nor the remembering of these procedures appears to be accessible to conscious memory. In adult education there is the factor of aging. Differences in L2 acquisition abilities are expected across the adult years between individuals (see above). Because learning in declarative memory and possibly procedural memory becomes more problematic with aging during adulthood, particularly in later years.(Sanz, 2005; Takac, 2008; Ullman, 2005)

"Given the fact that adult L2 acquisition takes place after cognitive development is basically complete, adult language learners need to make the most of their cognitive resources in order to compensate for the limitations that have been imposed both externally (linked to the nature of the input, generally poorer in quality and frequency than L1 input) and internally (related to depleted cognitive resources)" (Sanz, 2005)

Total Physical Response (TPR)

TPR, as developed by Asher (Asher, 1966, 1969, 1977), is one of the SLA methods based on neurolinguistic methods, as are, among others, Suggestopedia and the Natural Approach. Richard and Rodgers (1986): 34 stated in their survey of methods that TPR has always attracted a larger following of teachers than Suggestopedia because it draws on several familiar Western traditions, "including developmental psychology, learning theory, and humanistic pedagogy, as well as on language teaching procedures proposed by Harold and

Dorothy Palmer."

TPR is based on four central right hemisphere learning mode (R-Mode) principles:

- Receptive skills emerge before productive skills.
- A close relationship between instructor and learner will minimise the inhibition and fears that impede language acquisition.
- The new SL input should be imparted with verbal cues that get students involved in physical activities.
- New material should be introduced only when the students are capable of understanding what it allows them to do.
- If the new input is not learned rapidly, the students are then obviously not ready for it. Consequently, it should be withdrawn and presented again at some future time.

When a sufficient amount of R-Mode learning has taken place, Asher affirms, the left hemisphere learning mode (L-Mode) will be triggered *on its own* to produce grammatical abstractions. For this reason, grammar training is not employed in TPR. Asher bases this claim on brain physiology. The somatosensory cortex receives messages from the sense organs as well as signals from all parts of the body and the environment. If stimulated with R-Mode techniques involving physical activity, Asher believes that this region of the brain will trigger association and memory regions in tandem. In fact, the brain will analyse and store linguistic information *autonomically* when properly "activated" through R-Mode techniques. (Danesi, 2003, p. 40)

The above author goes on to claim that this method is not suitable for adults, since they perceive this activity as childish. My experiences are congruous (JH).

It seems to me that the discovery of mirror neurons and the way they work could help to explain the apparent success of the TPR method. When in a group one pair plays out the command/response activity, the rest of the group are watching this and their mirror neurones take part in the exercise without conscious awareness of the spectators. (see also below: Miscellaneous)

The following findings seem to confirm the rationale of the TPR method, bodily action.

Cook at al (2010) examined whether recall was improved, if the speaker accompanied his/her speech with gestures, either spontaneously or instructed. Recall was indeed better. “Gesturing during encoding seems to function like action in facilitating memory”.

Paired Associate Task
(cf. thesis: ch. 4.2)

Mary Whilton Calkins (Calkins, 1894) was among the first generation of women to enter psychology (Furumoto, 1980). In 1896, she published a paper in *Psychology Review* that provided the first description of the *paired associate task*. In many respects, this paradigm treats subjects in a memory experiment as if they were learning the vocabulary of a foreign language (Kintsch, 1970). Subjects learn a list of stimulus-response pairs. Sometimes this (is) learned via the “study-test” method. With this method, subjects are presented both members of the pair at the same time, and attempt to remember

the association between the two. In the test phase of this method, subjects are only presented the stimulus, and must attempt to recall the associated response on their own. .

Calkin's proposal for the paired associate task was inspired by the teachings of William James (James, 1890). James' treatment of association is found in chapter 14 of his *The Principles of Psychology*, and it possesses several key elements. First, James recognized that one idea or event could be represented in the brain as a pattern of activity across a set of more than one neuron. Second, he expressed his law of habit in terms of a process that affected the ease of transit of a nerve-current through a tract: the basic idea was that neural signals would be most likely to propagate through fibres that had already been used frequently *(rote learning JH)*. Third, he explained succession of thoughts by hypothesizing that activity in one brain state (i.e., some set of neurons) leads to activity in some different brain state that had previously been associated with the first. "When two elementary brain-processes have been active together or in immediate succession, one of them, on reoccurring, tends to propagate its excitement into the other" (James, 1890, p. 566). Finally, James was predominantly concerned with predicting which subsequent brain state would be activated by a prior brain state, given that one idea might be associated with a number of different ideas, others at different times or in different ways. James attempted this kind of variation by realizing that any given neuron would be receiving signals from a number of other neurons, and that its degree of activation would depend on an entire pattern of input, and not upon an association with a single incoming signal.

After the cognitive "revolution" in the second half of the twentieth century, many researchers began to use computer simulations to study human memory. Some of the earliest research on connectionist models developed distributed memories capable of learning associations between pairs of input patterns (Steinbuch, 1961; Taylor, 1956), or of learning to associate an input pattern with a categorizing response (Rosenblatt, 1962; Selfridge, 1956; Widrow & Hoff, 1960). The basic structure of this kind of connectionist network, which has

come to be called *the standard pattern associator*, (McClelland, 1986) is essentially identical to the memory proposed by James (1980), and is ideally suited to perform the paired associate task (Dawson, 2005, pp. 5-6). The keyword-method is such a paired associate task for learning vocabulary.

Background on the Paired Associate Paradigm

(…) we noted that the paired association task was first seen in the literature before the end of the nineteenth century (Calkins, 1894). In this task a subject must remember a list of pairs of items. “The paired-associate list is an exact counterpart of learning foreign-language equivalents of English words , where the first member of each pair (the stimulus term) is the English word and the second member of each pair (the response term) is the foreign word” (Underwood, 1966).

In the literature on human memory, there are two general ways in which the paired associate task can be presented (Underwood, 1966). The first is called *alternate study and recall*. In this method, a subject is presented each full pair in succession, and is instructed to learn the pairs. The subject is then presented each stimulus term alone, and is instructed to generate the appropriate response term. Once this has happened, another study phase is presented, followed by recall. This can be repeated until the full list is learned. The second is called the *anticipation method*. Using this procedure, the subject is presented the first stimulus term in the list by itself, and is asked to generate the appropriate response. After a brief period (say 3 seconds) the same stimulus term with its to-be-associated response term, providing feedback to the subject about the accuracy of his or her response. This process is repeated with the next stimulus term in the list. In both methods, the dependent measure of interest is the number of stimulus presentations that are required before a subject learns the complete list.

The paired associate task was a fundamental tool used in the early days of cognitive psychology to study associative processes in verbal learning and memory (Deese & Hulse, 1967). Because this task can be viewed as a model example of the associative process, it was used to explore such issues as whether associations develop gradually, or are learned all-or-none; and whether response-stimulus associations develop in the same fashion as stimulus-response associations. Often this could be accomplished by manipulating within-list properties of stimuli, such as stimulus or response meaningfulness (Hunt, 1959; Wimer & Lambert, 1959). The paired associate task was also instrumental for investigating the effects of interference on learning and memory. Usually this involved studying the effect that the learning of one list had on the learning of later lists, and explored relationships between lists as well (Hunt, 1959; Underwood, 1957; Underwood, Runquist, & Schulz, 1959).

As one example of the way in which the paired-associate task can be used to explore a particular research topic, consider the following example. Dallet (1966) was interested in the effects of acoustic similarity on the learning of paired associates, as well as on the retention of this learning. …..In general, Dellet found that learning was faster in conditions in which between-list similarity was high; within-list similarity produced much slower learning of the paired associates. However, within-list similarity resulted in much higher retention, as measured by having subjects recall what they had learned a week earlier.

Modern researchers still use the pair-associate task, particularly in the fields of cognitive neuroscience and neuroscience. For instance, researchers are using modern brain imaging to study brain activity during paired-associate learning (Honda et al., 1998; Poldrack et al., 2001). In general, the goal of this kind of research is to explore how different memory systems interact during this kind of learning. This type of exploration is a natural extension of earlier functional theories that recognizes that paired-associate was multi-staged, but did not posit any underlying neural mechanisms for these stages (Underwood et al., 1959). Similarly, different versions of the

paired-associate task have been developed for studying memory processes in rats. This because there is a growing view that the “cognitive map” instantiated by the hippocampus (Dawson, Boechler, & Valsangkar-Smith, 2000; O'Keefe & Dostrovsky, 1971; O'Keefe & Nadel, 1978) is a special case of more general hippocampal associative learning (Eichenbaum, 1992, 2000; Eichenbaum, Dudchenko, Wood, Shapiro, & Tanila, 1999; Long, Mellem, & Kesner, 1998). This continued interest in the mechanism of paired-associate learning is also reflected in modern simulation studies (Kahana, 2002; Rizzuto & Kahana, 2001).

One reason for the longevity of the paired-associate task is that this paradigm is very simple to administer, the data that it delivers is straightforward to score and analyse, and it is very easy to manipulate the properties of to-be-associated items to explore any number of issues concerning human memory. One of the reason that researchers have been interested in the distributed associative memory is because many of the kinds of experiments that have been with human subjects can be simulated with this kind of connectionist network (Carpenter, 1989; Eich, 1982; Hinton & Anderson, 1981; Murdock, 1982, 1997; Pike, 1984).

(Dawson, 2005, pp. 41-42)

Another reason for this longevity might be that this connectionist system confirms the prejudices of those advocating strongly rote learning which is still very much alive on this globe but repetition happens will ALL language learning methods.

Comprehension Hypothesis

Krashen (2008) hopes that the Comprehension Hypothesis will be better understood in the future and that the teaching profession will take more advantage of it. If I understand it correctly, this is another name for his input hypothesis. I think he is a bit biased when it comes to other methods. When he describes the Skill-Building Hypothesis, he is not exactly

describing what is happening in the classroom. One can try to understand the language through the teachers' explanations and have meaningful input at the same time. He claims, correctly, that there are plenty of cases of people who learn a foreign language very satisfactorily without knowing many (grammatical) rules, *if any (my addition)*. And that is the point. I am one of these. I have learnt my English in the offices, streets, pubs and living rooms of friends in England which means I had what he calls "sufficient" input. I never went to any formal language education. This "sufficient" input is not available in the classroom with an L1 environment outside it. The learners need therefore the supplement of understanding some of the underlying rules. The question is not whether there should be instruction, but the question of quantity and quality has to be addressed. He also equates conscious learning/instruction with "lots of hard work". But grammar teaching/learning can be enjoyable, so can be the acquisition of vocabulary. The keyword method is one way to achieve this.
But I agree that formal correction is not all that beneficial. However, there are subtle ways of correction which work better.

Kaivanpanah and Alavi (2008) ask whether the deriving of word meaning from context is reliable. The answer is that it is not. This confirms my own experiences. I had some pretty embarrassing times in my learning period, when I thought I had understood a word, used it – and got it completely wrong. From this experience I strongly suggest that the task of deriving words from a text is fine, as long as there is a way of checking the result. Without this we fail the learners.
Anyway, I agree with Kelly (1990) that guessing is no substitute for the systematic learning of lexis.

Do teachers think that methods are dead?

This paper examines Block's (2001) claim that whereas the notion of method no longer plays a significant role in the thinking of applied linguists, it still plays a vital role in the thinking of teachers. In order to assess Block's claim, four

sources of data on teachers' beliefs were examined—two direct sources of data: (1) interviews with questions directly addressing teachers' opinions on the concept of method and (2) discussion board postings on the topic of post-method, and two indirect sources: (3) language learning/teaching autobiographies and (4) teaching journals. The evidence from the data suggests that teacher interest in methods is determined by how far methods provide options in dealing with particular teaching contexts. Rather than playing a vital role in teacher thinking teacher attitude towards methods is highly pragmatic. In the light of this evidence, implications for teacher education are considered.
(Bell, 2007)

Language learning strategies: students' and teachers' perceptions.

Although issues related to learner variables have received considerable attention over the years, issues related to teachers have not been researched as thoroughly. This study aimed to investigate the point of intersection of teachers' and learners' perceptions regarding language learning strategies. Using an original questionnaire developed in a classroom situation and based on student input, this study examined reported frequency of strategy use by international students and teacher perceptions regarding the importance of strategy use. Although students' and teachers' perceptions were not perfectly matched, results indicated that teachers regard strategy use as highly important, and there was a high level of accord (71 per cent) between strategies which students reported using highly frequently and those which teachers reported regarding as highly important, an encouraging finding somewhat at variance with the results of some previous studies. Implications of these results for the teaching/learning situation are discussed.
(Griffiths, 2007)

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