LEVELS OF PROCESSING THEORY

The levels of processing theory of memory was put forward by Craik and Lockhart; it is not a model of memory, but it proposes that whether or not information is transferred to LTM depends on what we do with the information, rather than simply rehearsing it.

The theory proposes that there are three different levels of processing that can be used to process words:

- **structural level** (i.e. shallow) processed visually; i.e. what the information looks like
- **phonetic level** (i.e. intermediate) processed acoustically; what the information sounds like
- **semantic level** (i.e. deep) processed semantically; what the information means

The theory states that the way material is rehearsed is crucial. For example, when revising for an exam, if a person just reads over his/her notes, this won’t really help him/her, as this is just visual, shallow processing. A slightly better idea would be to read his/her notes out loud (or have them read to him/her), as this is a higher level of processing. However, the best thing to do would be to try and understand the information, make links between different facts and topics, etc. This is the highest level of processing, and it means the person is more likely to remember the information in the long-term.

*Craik and Tulving – WORDS PROCESSING STUDY*

**Aim:** To investigate depth of processing by giving participants a number of tasks requiring different levels of processing and measuring recognition.

**Method:** Participants were presented with 60 words, one at a time. When each word was presented to them, they had to answer one question about the nature of the word (for example, the word ‘BOOK’), out of the following three:

- Is this word in capital letters? *(shallow processing)*
- Does this word rhyme with ....? (e.g. ‘cook’) *(intermediate processing)*
- Does this word fit into this sentence: *(deep processing)*
  
  e.g. The ____ is on the table.

After they were shown all 60 words, the participants were given a list of 180 words among which were the original 60. They were asked to identify as many as possible which had been in the original list.

**Results:** 65% of deep processing (semantic) words were remembered, compared to 37% intermediate processing (phonetic) and 17% shallow processing (visual).

**Conclusion:** The deeper the level at which a word had been processed, the better it was remembered. Therefore, there is a link between level of processing and memory, which supports the levels of processing theory.

**Evaluation:** This study involved *incidental learning* (participants didn’t know they would be asked to recall the words), rather than *intentional learning* (the opposite), which makes the study more internally valid.
The theory also states that there are two different types of rehearsal:

**maintenance rehearsal** - this is a shallow/intermediate level of processing; simply repeating the words in one’s head

**elaborative rehearsal** - this is a deep level of processing; analysing the words, making links between them.

**EVALUATION OF LEVELS OF PROCESSING THEORY**

Craik and Lockhart said that perception, attention and memory are all linked, and depend on each other. This is because memory traces are formed as a result of perception and attention.

This theory can easily be investigated through the use of studies (like the Craik and Tulving) study, and in general studies have supported the theory and its predictions. Also, most of the studies have involved incidental learning, rather than intentional learning, which makes the studies more internally and ecologically valid.

However, a problem with the theory is that there isn’t a proper way of measuring “depth” of processing. The definition of death is circular, as it is defined as “the number of words remembered”; in turn, the latter phrase is used as a measure of depth. In the end, we still don’t know what “depth” really is.