

Perfetti, C., Wlotko, E., & Hart, L.A. (2005). Word learning and individual differences in word learning reflected in event-related potentials. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 31, 1281-1292.

Keywords: word learning, ERP study, N400, vocabulary learning.

Summary: Adults learned the meaning of rare words (e.g., gloaming) and then made meaning judgments on pairs of words. The 1st word was a trained rare word, or an untrained familiar word. Event related potentials distinguished trained rare words from both untrained rare and familiar words. The results of the study may point to an episodic memory effect. Participants with high comprehension skills learned more words than those with less comprehension skills. It was further suggested that superior word learning among those who possessed higher comprehension skills may arise from a stronger episodic trace that includes orthographic and meaning information and illustrate how an episodic theory of word identification can explain reading skill.

Assumptions:

- Adult English speakers know the meanings of thousands of words and are vaguely familiar with many more.
- Many people learn the meaning of words from some reading or spoken language experience.
- If the meaning of a word has been learned, the learner can recognize the word and understand its meaning.
- Comprehension skill among children and adults is supported by their knowledge of words.

Results:

- Event-related potentials (ERP) measures can be used as indicators of word learning.
- When the meaning of a rare word was learned, the consequences of this learning were observable when the learners made meaning judgments on the word.
- Participants in the study were nearly as accurate on the rare trained words as on familiar words.
- Neither the early nor the later separation of trained words from other words can be taken as an indicator of learning word meanings.
- Those with strong comprehension skills and who have larger vocabularies were better able to use their word knowledge to add new words to their vocabularies.

Conclusions:

- There are individual differences in the ability to learn the meanings of new words.
- Adults who were higher in comprehension skills showed better learning than those with lower comprehension skills as evidenced in their performance on a single-word meaning probe following training.
- Adults with high comprehension skills generally know more about word forms

- than do adults with lower comprehension skills.
- Learning meanings is seldom just about meanings but also about the connections between forms and meanings.
 - Effective experiences with words, multiple encounters with a word that lead to an abstracted representation of form and meaning, enhances reading skills.

Suggestions for Teachers:

- Be prepared to assist students of varying educational levels in the word learning process.
- Help students to become more skilled readers through word learning and word meaning.
- Assure that the student not only recognizes a word but is able to understand its meaning.
- Remember that successful experiences with words create effective reading skills.

Suggestions for Literacy Leaders:

- Help all educators recognize the power of words and word learning as related to reading skill.
- Make teachers more aware that word-form knowledge and its connection to meaning is the core of the lexical processing and that weakness in this knowledge will negatively affect word-level comprehension.