Across several paradigms and tasks, researchers have reported a measurable processing delay when participants have to switch tasks (for a review, see e.g., Monsell, 2003) or when passages switch languages (Kolen, 1986). Switch costs have been reported when words and pronounceable nonwords alternate between languages (e.g., Dalrymple-Alford, 1989, Experiment 2; Granger & Beaulieu, 1987; von Strohrib & Green, 1987). 

Behavioral measures:

- Asymmetrical switch costs: larger switch costs from a concrete to an abstract word compared to the other way around.
- A memory advantage for emotion words has been reported in both laboratory (e.g., Alford, 1985, Experiment 2; Grainger & Arenberg, 1999): (a) Concreteness (b) Imagery (c) Context availability (d) Number of unique word associations. 

**Word Type Effects**

- Research has revealed distinct characteristics that differentiate between word types: 
  - Paivio’s (1971, 1986) dual coding theory distinguishes between concrete and abstract word representations. 
  - Concrete, abstract, and emotion words differ along several dimensions (Altarriba, Bauer, & Benvenuto, 1999): 
    - Concreteness 
    - Imagery 
    - Context availability 
    - Number of unique word associations. 

- A memory advantage for emotion words has been reported in both laboratory (e.g., Alford, 1985, Experiment 2; Grainger & Arenberg, 1999): (a) Concreteness (b) Imagery (c) Context availability (d) Number of unique word associations. 

- An asymmetrical switch effect: larger switch costs from concrete to abstract words compared to the other way around. 

**The Current Study**

Two purposes: 

- Investigate a new type of switching with English words. 
- Distinguish between the mental representations of concrete, abstract, and emotion words, using an LDT and incidental learning paradigm. 

**Predictions:**

- Switching word type from one trial to another (e.g., concrete to abstract) will create a processing delay akin to switching languages or tasks. 
- Word type will affect LDT performance: Switch costs will be lower for words following emotion words.

**Method**

- **Participants:**
  - N = 46 University at Albany, SUNY undergraduate students (M = 19–50 years), all English monolingual speakers. 
  - All participants were screened with the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996) and the State Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) (M = 5.02 and M = 31.28, respectively). 
  - Lexical Decision Tasks (LDT) were used as the primary behavioral measure. 
  - Asymmetrical switch costs: larger switch costs from a concrete to an abstract word compared to the other way around. 

- **Stimuli:**
  - 75 words were selected from the Affective Norms for English Words (ANEW; Bradley & Lang, 1999) database: 25 words for each word type. 
  - The English Lexicon Project (ELP; Balota, Cortese, Hutchison, Awh, et al., 2004) was used to match all words on length, frequency, and LDT RTs. 
  - Words were pseudorandomly arranged, with an equal number of stay (e.g., concrete-concrete) and switch (abstract-concrete) trials. 
  - The University of South Florida Free Association Norms (Nelson, McEvoy, & Schreiber, 1998) was used to ensure that forward and backward association values from one word to another were 0. 
  - Nonwords were created by changing one vowel; all were pronounceable according to English phonological rules. 
  - No trial type (concrete/abstract/emotion, stay/switch, word/nonword) was repeated more than three times in a row. 

**Word Type**

- Length: 5.42 words 
- Frequency: 1.17 occurrences per million 
- LDT RT (ms): 630 ms 
- Arousal: 4.25 
- Valence: 3.14

**Results**

- Main effect of trial type was significant, with faster RTs to stay trials (M = 628 ms) than to switch trials (M = 642 ms). 
- RTs to the three word types were equivalent. 
- Concrete = 631 ms 
- Abstract = 636 ms 
- Emotion = 637 ms

- The 2 (trial type) x 3 (word type) interaction was significant: RTs were fastest when the target word was preceded by an emotion word. 
- Incidental learning was assessed with a surprise free recall task after the LDT: Recall was very low, though more emotion words were recalled than concrete or abstract words.

**Discussion**

- Varying word type led to significant switch costs: RTs were significantly faster when a target’s word type matched that of the previous word. 
- LDT performance was facilitated when the target was preceded by an emotion word. 
- The emotion advantage was demonstrated by LDT and free recall performance.

**Implications and Future Directions**

- Word type can influence LDT performance, from trial to trial. 
- How does word type interact with language switching? 
  - What is the role of language dominance? 
  - Will other word categories show these kinds of switch costs? 
  - Pick a word type (e.g., concrete vs. abstract) and an emotion (e.g., happy vs. sad). 
  - Can we model these findings to show the relationship between concrete, abstract, and emotion words?