

## **There's more than one way to skin a cat: Teaching novel idioms**

### **ABSTRACT**

Difficulties with interpretation of non-literal language (e.g., idioms, metaphors) have been reported in adults with brain injury and in second-language learners. This study compared the effectiveness of a traditional definition approach to teaching idioms with learning through supportive contexts. Six healthy older adults learned the meaning of 24 novel idioms; 12 were taught through definitions and the remaining 12 through supportive contexts. Results indicated that participants learned idioms equally well in both conditions, in both immediate and delayed recall. This provides support for the idea that a context-based strategy may be an effective method for teaching novel idioms.

### **There's more than one way to skin a cat: Teaching novel idioms**

Non-literal phrases such as metaphors and idioms are common in everyday communication. Difficulties with interpretation of non-literal language have been reported in various populations, including individuals with traumatic brain injury, right hemisphere brain damage, and second-language learners.

Idioms are phrases that cannot be completely understood on the basis of literal interpretation of the constituent parts. While the meanings of some idioms can be derived from their component parts (compositionality: e.g., “his mask slipped”) or from the motivation behind the phrase (transparency: e.g., “sawing logs” refers to the similar sound of sawing and snoring), other idioms cannot be decomposed and/or are not semantically transparent (Keysar & Bly, 1995; Nunberg et al., 1994; Titone & Connine, 1999).

Non-decomposable, opaque idioms cannot be interpreted from the literal meanings of their linguistic components, and their construction is not obvious. The meaning of “kick the bucket,” (i.e., to die suddenly), cannot be derived from features of the component lexical items, nor is it obvious or transparent how this particular phrase took on its nonliteral meaning. Correct interpretation of a novel, non-decomposable, opaque idiom relies on either (a) asking for the meaning, or (b) using the surrounding context to determine the meaning.

Common methods of teaching novel idioms rely on memorization, such as teaching definitions, pairing known with novel idioms (e.g., “spill the beans” and “let the cat out of the bag”; Steinel, Hulstijn & Steinel, 2007), and providing derivations for deeper understanding of the phrases (Boers, Eyckmans & Stengers, 2007). While these methods have been used with some success, all learning is stimulus-specific and there is no expectation for generalization.

A potentially more efficient and practical method for learning novel idioms is through a strategy of using the surrounding context to determine the meaning. This strategy would be generalizable, and would work regardless of compositionality and transparency. Another benefit to this approach is that idioms learned through context might be retained longer than those learned through definitions. Learning from context might be more cognitively demanding than memorizing a definition, as the reader must generate inferences and interpretations. However, as

has been repeatedly demonstrated, the more time and effort used for encoding, the better the learning and later recall (e.g., Craik & Lockhart, 1972).

Before embarking on a study of contextual strategy training, it is important to determine the feasibility of learning novel idioms by context alone. Thus, the purpose of the current study was to assess whether healthy older adults can learn the meaning of novel idioms by two methods: definition and supportive context.

The hypotheses were:

- (a) There will be no difference in immediate recall of idiom meanings learned by definition vs. context.
- (b) Delayed recall of idiom meanings will be better for those learned through context than those learned by definition.

## **METHODS**

Potentially novel idioms were selected from lists of non-English idioms (e.g., French, German, and Italian) and uncommon or regional idioms listed online (thefreedictionary.com) or in previous studies of idiom learning (\*\*). Compositionality and transparency were determined first by matching the linguistic components with the definition and excluding those that had obvious links. In the second step three individuals were asked to write the meaning of the novel idioms. Idioms were excluded if more than one third of the participants were able to generate a meaning related to the actual definition. The result was 24 opaque, non-decomposable idioms that were considered novel for American English speakers.

Twelve of the idioms were assigned to the definition group. For the remaining 12, short 3-5 sentence contexts were created to convey the meaning of the idiom. Two contexts were created for each idiom. Table 1 contains sample idioms and contexts.

### **Participants**

To date, data have been collected from 6 healthy older adults. Demographic data are provided in Table 2.

### **Experimental Tasks**

**Pre-Test.** To assess whether participants had prior knowledge of the idioms, they were first asked to write the meaning of the 24 novel idioms.

**Learning Tasks.** All participants completed both the definition and the context learning tasks. For each task, participants were asked to study the idioms (presented either with their definitions or embedded in contexts) for 10-15 minutes. This was followed by a post-test in which they wrote down the newly-learned meanings. Half of the participants studied and were tested first on the definition set, and the other half completed the context set first.

**Post-Test.** A delayed recall test was completed approximately one week after the learning tasks. Participants were asked to write down the meanings of all 24 idioms.

**Ratings.** Responses were rated independently by the two authors. A three point scale was used (0=unrelated meaning; 1=partially correct; 2=completely correct). Average ratings were used in the analyses.

## RESULTS

Data are presented in Tables 3 and 4. Collapsing data from both groups of idioms, results indicate that participants had little knowledge of the idioms initially ( $M=0.15$ ) and that ratings were significantly higher after learning ( $M=1.48$ ,  $t(5)=-3.83$ ,  $p=.01$ ), and remained significantly higher at the delayed recall ( $M=0.83$ ,  $t(5)=-3.08$ ,  $p=.03$ ). Paired t-tests were conducted to compare scores across learning conditions for immediate and delayed recall. Ratings were not significantly different for context versus definition learning at either time point, although there was a trend toward increased recall for those learned via context ( $p=.06$ ).

## DISCUSSION

Healthy older adults were able to learn the meanings of novel idioms both through definitions and through supportive contexts. Immediate learning was apparent, and although that decreased over time, the participants were able to recall some of the newly-learned idioms after a one-week delay.

In terms of the learning methods, the first hypothesis was confirmed: participants learned the novel idioms equally well through contexts and definitions. The second hypothesis was not

clearly confirmed, although there was a trend towards better recall of idioms learned through context.

The second finding may be impacted by several factors of the study design. First, the participants had to learn 24 new idioms. While they were able to learn 12 at a time for immediate recall, 24 total may have been too many to encode well enough for long-term learning. Second, the delay between learning and follow-up may have been too long, particularly in conjunction with the large number of items to recall. Third, the pre-test required participants to guess at a meaning; this may have created an additional memory trace that was later erroneously recalled. In multiple instances, participants wrote similar, incorrect, responses in the pre- and post-tests. The responses indicated that they attempted to derive meaning from the constituent parts, for example, writing “to be stubborn” for “become a goat.” This interpretation reflects the stubborn nature of goats. It was not possible to determine whether they erroneously recalled their first attempt as the correct definition, or if they did not remember the definition at the post-test and thus re-derived the meaning.

Despite these potential problems, results from this study indicate that healthy older adults can learn the meanings of novel, non-decomposable, opaque idioms simply from exposure to the idioms in supportive contexts. Given this finding, the next step is to examine whether adults with acquired deficits in non-literal language processing (e.g., due to stroke or TBI) are able to learn a contextual strategy to determine meanings of idioms and other non-literal language.

Table 1. Sample idioms with definitions and supportive contexts.

IDIOM	DEFINITION
To become a goat	to get very angry
To walk on someone's cookie	to get on someone's nerves
SUPPORTIVE CONTEXTS	
To have salt in your pumpkin	(A) Becky was very smart. Her test scores were always among the highest in her class. She HAD SALT IN HER PUMPKIN.
	(B) Janet was a quick learner. Typically she only had to be shown how to do something once before she was able to do it on her own. She HAD SALT IN HER PUMPKIN.
To spit the toad	(A) Susie had promised Jay that she wouldn't tell anyone that he was planning to leave the company. He had been offered a great position with better pay. That night she went out to dinner with her co-worker Evelyn. They started talking about Jay, and Susie just couldn't help it. She SPIT THE TOAD and told Evelyn everything.
	(B) Lisa overheard her mother talking on the phone. Uncle John was coming for Christmas, and was going to dress up as Santa Claus. Lisa knew she shouldn't ruin the surprise for her brother, but his repeated questions about Santa were really annoying. Finally she SPIT THE TOAD.

Table 2. Demographic data for six participants

Sex	1 male, 5 female
Age	
Mean (SD)	68 (11.3)
Range	50-80
Education	3 = High School 2 = 2-year college 1 = 4-year college
Telephone Interview for Cognitive Status* (max=41)	34 (1.8) 32-37

\*TICS, Brandt & Folstein, 2003

Table 3. Results from paired t-tests of all idioms.

	Mean (SD)	t	p
Initial test	.15 (.09)	-3.831	.01
Delayed recall	.83 (.41)		
Immediate recall	1.48 (.21)	-3.081	.03
Delayed recall	.83 (.41)		

Table 4. Average ratings of idiom meanings in two learning methods

	Learning Method		t	p
	Context M (SD)	Definition M (SD)		
Initial response	0.139 (.10)	0.167 (.14)	0.40	.71
Immediate recall	1.404 (.20)	1.560 (.27)	1.80	.13
Delayed recall	0.938 (.43)	0.723 (.42)	2.38	.06

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