The Cloze Response Patterns of L1 and L2 Students to Literal and Idiomatic Text

Lee Gunderson
Kenneth Slade
Darlene Rosenke

A lack of background knowledge has been shown to contribute to the difficulty ESL students have in comprehending text. An important part of background knowledge is an understanding of metaphor. The study measured the effects of metaphor on ESL adults' reading comprehension. Two passages were selected that were comparable in difficulty; one containing many idiomatic items, the other containing only literal language. The passages were made into cloze passages and were administered to randomly selected native English speaking university students and adult ESL students. The university students scored significantly higher on both the literal and idiomatic passages than the ESL students. The ESL students scored significantly higher on the literal passage than they did on the idiomatic passage while the university students scored significantly higher on the idiomatic passage than the literal passage. Idiomatic language resulted in lower comprehension for the ESL students while it increased the English speakers' scores. It was concluded that since the vehicles of many metaphors have become lost and are not retrievable from surface structure, it may be necessary to teach metaphors as vocabulary items. Further research into the methodology of teaching metaphor is called for.

It has been shown that a lack of background knowledge contributes to ESL students' difficulty in comprehending (Johnson, 1982). Recently, researchers have cited such items as knowledge of childrens' games, national holidays, and marriage rites as just some of the culturally specific items contributing to their difficulty (Carrell, 1983; Mohan, 1979).

An important part of native English speaking students' background knowledge is an understanding of metaphors. There has been considerable interest in the study of the role of metaphor in comprehension (Johnson and Malgady, 1980; Pearson et al, 1979; Verbrugge and McCarrell, 1977). Honeck (1980) sees the "flurry of activity" in investigations of metaphor as being caused by a change of emphasis within the psychological tradition from linguistic competence to that of communicative performance. The understanding of metaphoric and figurative language requires cultural knowledge. This is, perhaps, to state the obvious. It should be remembered, though, that competence in metaphoric and figurative language is a late-developing ability even in native speakers (Asch & Nerlove, 1960;

Gardner, 1974). It has been argued that ESL students, even adults, follow the same developmental patterns in the acquisition of English competence as do native speakers, albeit in varied time spans (Bailey et al, 1974; Richards, 1971). If true, a logical assumption is that the ability of ESL students to comprehend metaphor would also be late developing. If true, their ability to comprehend literal text would precede their ability to comprehend text containing metaphoric language. The comprehension of metaphoric language would, in addition, be especially difficult for L2 students because it contains a great deal of culturally specific knowledge.

Some researchers (Ortony, 1975; Petrie, 1979) see the use of metaphor in written text as facilitating understanding, arguing that metaphor serves as a link between that which is known to that which is unknown. Supporting this position, Arter (1976) based her study on the idea that metaphor in text serves to increase comprehension in both high and low achievers. While she failed to find significant results due to metaphor, she did report a positive effect with the low achieving group. Subsequent research has focused on metaphor as a bridging device in familiar and unfamiliar contexts (Pearson et al, 1979) with grade three, six and college level populations. They concluded that children and adults recall metaphoric texts as well or better than literal texts when the metaphor is part of the individual's background.

Generally, metaphor has been considered to be a functional rather than a grammatical phenomenon. Readers rely on a surrounding context to signal that an idiomatic rather than a literal interpretation is required. Metaphor may cause readers comprehension problems if they do not know the vehicle of the metaphor. In some cases metaphor is frozen. It is not possible to understand its meaning because the referents have been lost over time. The meaning of the metaphor is, therefore, frozen, e.g., "fit as a fiddle."

The Study

This study was designed to investigate the notion that adult L2 students who have mastered a basic competence in English would have more difficulty understanding a text containing metaphors than understanding one without because of a lack of background knowledge, i.e., they do not know the vehicles of the metaphors. In order to better understand the role of metaphor in comprehension and to compare L2 students' performance, a group of native English speakers was included in the study. It was predicted that there would be significant differences in the L2 students' comprehension between a literal and a metaphoric passage. It was predicted, however, that a metaphoric passage would be better comprehended by native English speakers than a literal passage of the same difficulty

level since the metaphoric embelishments would aid their comprehension.

For purposes of this study, metaphor was defined as the application of a word or phrase belonging to one context to a word or phrase belonging to another context to express meaning through some real or implied similarity in the referents (Anderson, 1964; Gambell and McFetridge, 1981). In addition, metaphor was used to refer to both similies and metaphors since they perform the same function and appear to be comprehended in the same manner (Kintsch, 1974; Ortony, 1979).

Procedures

Two newspaper articles of approximately the same length were selected to be used in the study. One, written by D. Boyd (1983), was about clichés and contained many well-known metaphors. Another article from the same newspaper, written by M. Royko (1980), was selected because it was a literal passage. Both passages were measured for difficulty using the Dale-Chall (1948) and the Fry (1968) formulae and were found to be, respectively: D-C 6.34, Fry 8 and D-C 7.34 and Fry 8. The literal passage was slightly more difficult according to the Dale-Chall formula. The passages were transformed into cloze tests by deleting every fifth word beginning with the fifth word of the second sentence. Both the initial and final sentences were left intact.

Native English speaking subjects were randomly selected from 2nd year education classes at the University of British Columbia while the ESL students of the same age were foreign students studying at a Language Institute in Vancouver, British Columbia. It was determined that all of the ESL students were literate in their first language and were at an intermediate to advanced level in English ability as measured by interviews and language assessments performed by the director of the Language Institute. All subjects were instructed to fill in the deleted words and were given 50 minutes to complete the task. Only the exact words used in the original passages were scored as correct. The literal passage contained 149 deletions while the metaphoric passage contained 162. Raw scores were converted to percentages for purposes of comparisons. Data were tested by Analysis of Variance (ANOVA). Incorrect insertions were analyzed to measure qualitative differences in subjects' cloze performances.

Findings

Mean percentage scores for the ESL and Native English (NE) students on the literal and metaphoric passage are shown in Table 1.

ANOVA revealed differences due to Passage ($F1,67 = 102.54$), Language ($F1,67$), and Group by Version ($F1,67$). The native English stu-

62

TESL CANADA JOURNAL/*REVUE TESL DU CANADA*
VOL. 6, NO. 1, NOVEMBER 1988.

dents' scores were significantly higher than the ESL subjects for both passages. The NE subjects' scores on the metaphoric passage were significantly higher than their scores on the literal passage while the ESL students' scores for the literal passage were significantly higher than for the metaphoric passage. Indeed, there was a significant interaction which is shown in Figure 1.

Table 1

Mean scores of L1 and L2 students on literal and metaphoric texts.

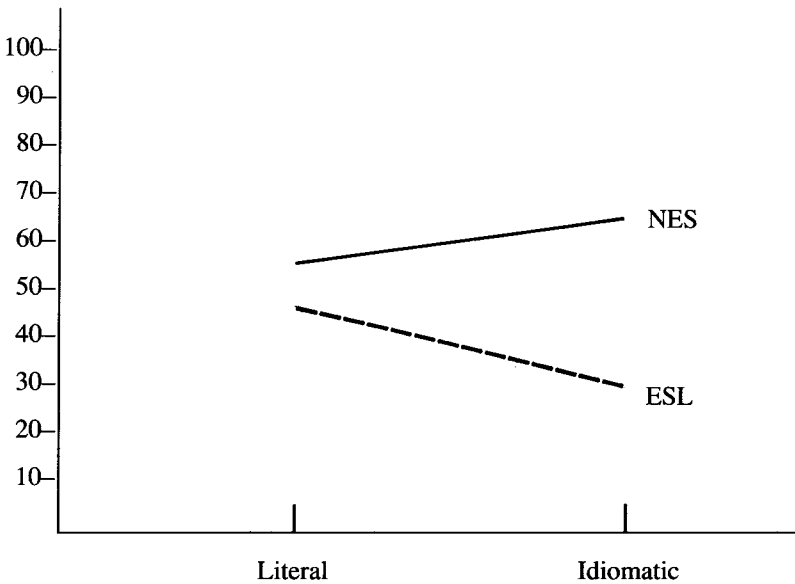| | ESL | | NE | |
	Mean	S.D.	Mean	S.D.
Literal	40.41	6.38	53.42	8.80
Idiomatic	28.29	6.50	57.40	11.21

Figure 1. Mean percentage scores of native English speakers (NES) and ESL students reading a literal passage and an idiomatic passage.

An error analysis revealed that ESL students had the most difficulty with content words, i.e., adverbs, adjectives, and nouns on both passages. In the literal passage, they used substitutions that were grammatically correct. Most idioms with a function word deleted were correctly completed.

> _to_ lend him a hand
> _off the_ top of my head
> stepping _on_ my toes
> stubborn _as_ a mule

Deletions with content words in idioms were a much greater source of error:

> I know it like the _back_ of my hand
> old as the _hills_
> warm the _cockles_ of my heart
> growing like _weeds_

NE students, on the other hand, made the greatest number of errors on adjectives, nouns, and verbs in the literal passage. They made very few preposition and subject pronoun errors. When they completed idioms they had less difficulty with function words. They knew, in many cases, the vehicle of the metaphor. In both the literal and idiomatic passages, NE errors were syntactically and semantically correct. Idiomatic phrases were associated with higher cloze scores for NE students than ESL students suggesting that when NE students know the vehicle of a metaphor it aids comprehension. Knowing the vehicle of a metaphor is a specific kind of background knowledge, often lacking in ESL students.

Discussion

The results of this study support the findings of other researchers using native English speaking populations showing that metaphor aids comprehension. This was not, however, the case with ESL students. This group scored significantly lower on the metaphoric passage than they did on the literal passage. Indeed, there was a significant interaction between passage type and language group. Results confirmed the notion that the ability to comprehend metaphoric language develops after the ability to comprehend literal language since passages comparable in difficulty were comprehended differently by the ESL students.

Research has shown that background knowledge is of utmost importance in ESL students' comprehension of text. Metaphor represents an area of background involving, in many cases, a consensually validated notion of the meaning attached to particular items. It may be that we, as teachers, must simply teach such metaphors as vocabulary items since the original

64

TESL CANADA JOURNAL/REVUE TESL DU CANADA
VOL. 6, NO. 1, NOVEMBER 1988.

meanings have been obscured by the passage of time. That is, one can no longer understand the vehicle of the metaphor from the surface structure, e.g., "in hot water" vs "hungry as a starving man." Those who advocate direct instruction have little to offer in ways of suggesting how such a task can be accomplished. Advanced level ESL students, those who have mastered the basic communicative proficiencies to allow them to succeed at university level courses requiring English ability, still have difficulty comprehending text containing metaphoric language. The present study can be criticized because the metaphoric text was filled with idiomatic items. However, it was a real text in a medium widely used by ESL teachers, the newspaper. At the present time we understand the importance of metaphor in comprehension, but know little about how to effectively teach it to ESL students. Further research into such methodology represents a fertile area of endeavor.

REFERENCES

Anderson, C. (1964). The psychology of metaphor. *Journal of Genetic Psychology,* 105, 53-73.

Arter, J. L. (1976). *The Effects of Metaphor on Reading Comprehension.* Unpublished doctoral dissertation. University of Illinois.

Asche, S. and H. Nerlove. (1960). The development of double function terms in children: An exploration study. In B. Kaplan and S. Wapner (Eds.) *Perspectives in Psychological Theory.* New York: International University Press.

Bailey, N., C. Madden, and S. D. Krashen. (1974). Is there a 'natural sequence' in adult second language learning? *Language Learning,* 24, 235-243.

Boyd, D. (1983). Remember, Bill, advice is cheap. *The Vancouver Sun,* February 12, p. A-3.

Carrell, P. L. (1983). Some issues in studying the role of schemata or background. *Reading in a Foreign Language,* 1, 81-92.

Dale, E., and Chall, J. S. (1948). A formula for predicting readability. *Educational Research Bulletin,* 27, 11-20, 37-54.

Fry, Edward. (1968). A readability formula that saves time. *Journal of Reading,* (April), 11, 513.

Gambell, T. J. and P. A. McFetridge. (1981). Children, similies, metaphors and reading go together. *Reading-Canada-Lecture,* 1, 29-35.

Gardner, H. (1974). Metaphors and modalities: How children project polar adjectives onto diverse domains. *Child Development,* 45, 84-91.

Honeck, R. P. (1980). Historical notes on figurative language. In R. P. Honeck and R. R. Hoffman (Eds.), *Cognition and Figurative Language,* Hillsdale, N.J.: Erlbaum.

Johnson, P. (1982). Effects on reading comprehension of building background knowledge. *TESOL Quarterly*. 16 (4), pp. 503-516.

Johnson, M. G. and R. G. Malgady. (1980). Toward a perceptual theory of metaphoric comprehension. In R. P. Honeck and R. R. Hoffman (Eds.), *Cognition and Figurative Language*. Hillsdale, N.J.: Erlbaum.

Kintsch, W. (1974). *The Representation of Meaning in Memory*. Hillsdale, NJ: Erlbaum.

Mohan, B. (1979). Cultural bias in reading comprehension tests. ERIC document reproduction service number ED 208 683.

Ortony, A. (1975). Why metaphors are necessary and not just nice. *Educational Theory*, 25, 45-53.

Pearson, P. D., T. E. Raphael, N. TePaske, and C. Hyser. (1979) *The Function of Metaphor in Children's Recall of Expository Passages*. Urbana-Champaign, Ill.: Center for the Study of Reading Technical Report No. 131.

Petrie, H. G. (1979). Metaphor and learning. In A Ortony (Ed.) *Metaphor and Thought*. Cambridge: Cambridge University Press.

Richards, J. (1971). Error analysis and second language strategies. *Language Sciences*, 17, 12-22.

Royko, M. (1980). Leisure-Living Man: A life without sweat. *The Vancouver Sun*, September 4, p. A-16.

Verbrugge, R. R. and N. S. McCarrell. (1977). Metaphoric comprehension: Studies in reminding and resembling. *Cognitive Psychology*, 9, 494-533.

THE AUTHORS

Lee Gunderson (Ph.D., Berkeley) is an assistant professor in the Language Education Department of the University of British Columbia where he teaches undergraduate and graduate courses in reading. His research interests are in L1 and L2 reading acquisition.

Dr. Kenneth Slade is a member of the Language Education Department of the Faculty of Education at the University of British Columbia where he teaches undergraduate and graduate courses. He is interested in developmental reading behaviour across the curriculum. Recent research interests focus on the effects of home rehearsal time on the reading achievement of elementary school students.

Darlene Rosenke teaches in the English Language Institute at the University of British Columbia. Her research interests are in the area of adult ESL students and reading comprehension, particularly the role of metaphor and idiomatic language.

66

TESL CANADA JOURNAL/*REVUE TESL DU CANADA*
VOL. 6, NO. 1, NOVEMBER 1988.