Relation of cognitive style to metaphor interpretation and second language proficiency

What this study was about

Relationships among measures of language proficiency, cognitive style, and metaphor comprehension for first (L1) and second language (L2) speakers of English.

What the researchers did

- **Participants**: 45 university students in Toronto divided into three groups of 15. Group 1 = English native speakers only. Group 2 = English non-native speakers (3/4 L1 Chinese, 1/4 other L1s including Indonesian, Persian and Gujarati) just starting the first term of an English as a Second Language (ESL) course. Group 3 = non-native speakers (similar L1 makeup to group 2) who had finished the first term of the ESL course and were beginning the second.

- **Procedure**: Participants completed several tests/tasks:
  - **Cognitive style (block designs test)** = timed task requiring test-takers to use coloured blocks to reproduce picture models, a higher score suggests a more field-independent or analytical cognitive style, less reliant on external sources of information (e.g. other people in an interaction). A lower score indicates a more field-dependent or holistic style, characteristic of a less analytic-minded student.
  - **English proficiency (two tests from Woodcock Language Proficiency Battery)** = included a picture vocabulary task, where participants give appropriate words for pictures shown, and a verbal analogies task where participants orally “provide the missing term in analogies of the form A is to B as C is to____”. The Communicative proficiency of Group 3 (and five Group 2 participants) was measured as a teacher’s average rating of their student’s proficiency in pragmatics, pronunciation, comprehension, vocabulary, syntax, and their communicative competence on a scale from 1 to 7 (*high competence*).
  - **Metaphor interpretation ability** = a metaphor task requiring participants to orally interpret 10 ambiguous metaphors. Participants were first presented with the nouns that made up the metaphors (e.g. “heart” and “bowl”), and then were asked to provide possible meanings for the metaphors (e.g. “Her heart was a bowl”). Once one or more spontaneous responses had been produced, the researchers asked for more. Following this, metaphor complexity was estimated by two raters, who categorised the initial spontaneous responses from 1 to 5 (reflecting: *inappropriate, identify, analogy, experiential predicate, conceptual predicate*). Metaphor fluency was calculated as the average number of responses given, regardless of complexity. Participants completed tasks in the order: Metaphor, picture vocabulary, verbal analogies and block designs.

What they found

- The English native speakers scored better than the ESL students on the picture vocabulary and analogies tasks but all groups were similar on the cognitive style and metaphor measures.
- For the non-native English speakers (as a larger combination comprising both groups), metaphor fluency was positively associated with teachers’ ratings of communicative competence in English and a more field-dependent cognitive style.
- The results met the predictions of pre-existing theories and suggest that while having English as a first language is beneficial with regard to vocabulary and verbal analogies, proficiency in English should not, in and of itself, impede communication involving metaphor (as measured).

Things to consider

As the researchers acknowledged, cultural and linguistic factors may affect interpretation of metaphors. Although the language groups did not differ in complexity of metaphor interpretations, the authors provided examples of differences in content of interpretations. The authors also suggested that the results need replicating before further investigation into cognitive style and type of language instruction can proceed.


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