Understanding New Age Texts

Ryuhei Kawamoto, Cassandra Baty, Mason F. Cunha, Loise M. Ladrazo, & Kimberly A. Barchard
University of Nevada, Las Vegas

UNLV

Abstract

More than ever before, people use supplemental tools to communicate with each other. However, communication tools that rely solely upon writing (e.g., email) often lead to misunderstandings. People are particularly likely to misunderstand the messages' emotional connotations. The Metaphors Test (Barchard, Hensley, Anderson, & Walker, 2012) was designed to measure the ability to perceive the emotional connotations of written language. This study explored whether this ability can be improved by increasing overall verbal skill. 181 participants completed our study online. The correlation of the Metaphors Test and verbal skill was positive but only moderate, suggesting that the ability to perceive emotional connotations cannot be improved by boosting basic verbal abilities alone.

Introduction

The way people communicate with each other has changed dramatically. Because of the advancement of communication tools such as e-mail, people less frequently communicate with others in person (Byron, 2008). These convenient communication tools, however, do not convey emotional subtleties due to the absence of nonverbal cues such as facial expressions (Barchard, Hensley, Anderson, & Walker, 2012). This deficiency in written language can easily cause emotional miscommunication (Byron, 2008). For example, people are less likely to correctly interpret a person's emotion in e-mails (Byron, 2008). There are two types of information that are carried in written language (Barchard et al., 2012). The first type, denotative information, refers to the direct meaning of a word (Barchard et al., 2012). The second type is connotative information, which refers to an associated meaning of a word (Barchard et al., 2012). For example, "the words house and home have roughly the same denotative meaning, but home has stronger emotional connotations than house" (Barchard et al., 2012, p. 1).

The Metaphors Test was designed to measure people's ability to correctly interpret connotative meanings of written information. The Metaphors Test is suitable as the measurement for two reasons. First, the metaphors are often used to represent emotions, especially anger, sorrow, fear, and happiness (Barchard et al., 2012). Second, metaphors do not have to include direct emotional information; thus, a reader must have the ability to go beyond the denotative meanings of the words to correctly interpret the emotion (Barchard et al., 2012). The current study focuses on this second reason and examines the relationship between a reader's verbal ability and the ability to interpret metaphors.

Previous studies have shown that a person's ability to correctly interpret metaphors does not correlate with the person's vocabulary knowledge (Jones & Stone, 1989). For example, the ability of language learning disabled and normally achieving adolescents to interpret metaphors was not related to general vocabulary knowledge or to knowledge of task-specific vocabulary (Jones & Stone, 1989). In contrast, a different study found that the development of metaphor comprehension is highly linked to receptive vocabulary (Rundblad & Annaz, 2010). The purpose of the current study is to explore whether the ability to correctly interpret metaphors can be improved by increasing overall verbal skill. We hypothesize that there is a moderate, positive correlation between the ability to interpret creative metaphors and verbal skill.

Method

Participants

A total of 181 participants (81 female and 100 male) completed this study. Ages ranged from 20 to 68 (M_{age} = 31.05 years, SD = 10.83). The majority of participants were Asian (78.5%), followed by Caucasian (11.6%), other (5.5%), American Indian/Alaska Native (3.3%), and Black (1.1%). Participants were recruited through Amazon's Mechanical Turk (mTurk) system. mTurk is a crowdsourcing website that allows requesters (such researchers), to create Human Intelligence Tasks (HITs). HITs can be used to promote and advertise studies posted on mTurk. Workers are individuals that complete the HITs. In a research study, the workers are the participants. In general, mTurk HITS provide low monetary compensation. Participants in this study were paid 10 cents.

Measures

The Metaphors Test

The Metaphors Test consisted of 10 items that were closely related to emotional intelligence (Barchard, 2012). Participants were asked to imagine that a person stated the metaphor to them (Barchard, 2012). For each metaphor, three emotions were presented – e.g, refreshed, upset, guilty (Barchard, 2012). Participants rated the extent to which the speaker was feeling each of the three emotions by using a 5 – point scale (Barchard, 2012).

Verbal Skills

Participants' verbal skills were measured by a self-report, which consisted of two different types of questions. First, participants were asked to report how many years they have been speaking English. Second, participants were asked to indicate how comfortable they were with English in Reading, Writing, Speaking, and Listening by selecting a number between 1 and 10. 1 represented "Very uncomfortable, it's a real struggle," and 10 represented "Perfectly comfortable."

Procedures

Participants completed the online study that took approximately 15 minutes to complete. The program used to create this study was Qualtrics. Qualtrics is a computer program that was designed to aid researchers in conducting their research. This specific program allows researchers to freely design and manipulate online resources such as surveys and questionnaires. This allows researchers to conduct their studies to participants around the world. At the end of the study, participants received a validation code generated in Qualtrics, which they could enter into mTurk to receive credit for participation.

Data Analysis

To examine the relationship between the Metaphors Test and the verbal comprehension assessment, we used a Pearson Product-Moment Correlation. The two variables we correlated were verbal skills and metaphor comprehension.

Results

       We found a moderate positive correlation between the Metaphors Test and verbal skills (r(179) = .30, p < .001). Figure 1 shows the scatter plot for these two variables.

Figure 1.
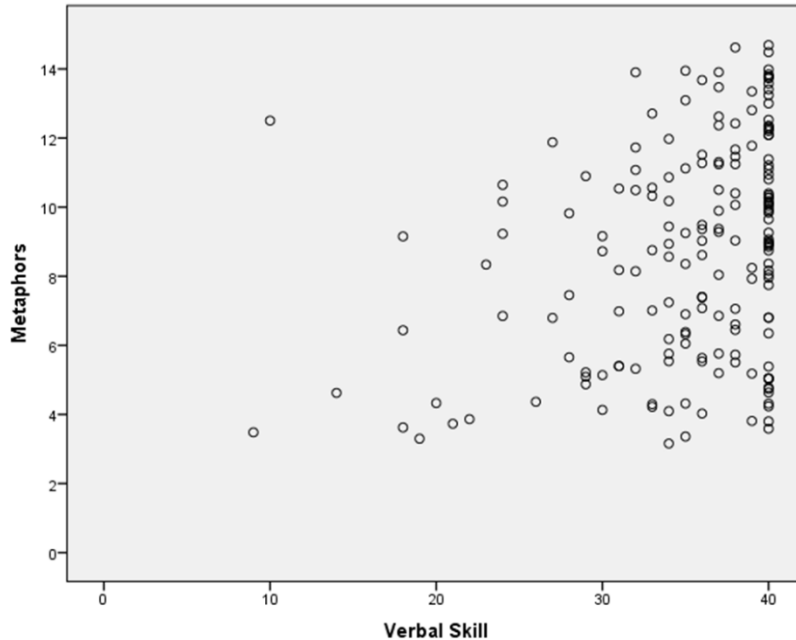
The Relationship between the Metaphors Test and Verbal Skills

Discussion

       In the current society, people less frequently communicate with others in person. Instead, people more frequently communicate by using tools such as e-mail. This type of communication tends to cause misinterpretation due to the lack of nonverbal cues such as facial expressions (Barchard et al., 2012). The Metaphors Test was designed was to measure people's ability to interpret connotative meanings of written language (Barchard et al., 2012). The purpose of this study was to explore whether the ability to correctly interpret metaphors can be improved by increasing overall verbal skill. We hypothesized that there is a moderate, positive correlation between the ability to interpret creative metaphors and verbal skill.

       The results were conclusive with our original hypothesis. Because there was a positive correlation between the two, learning verbal skills may boost people's ability to correctly interpret metaphors. However, it does so only in a moderate degree. Perhaps, this is because the ability to accurately interpret metaphors has more to do with cognitive processing rather than simple verbal skills. Previous studies theorize that there are a few mechanisms that are involved with the analysis of metaphors, including reasoning and associative mechanism association (Huang, 2013). Although these models require basic vocabulary knowledge, theories like the associative mechanism association require putting together given information and forming ideas within the imagination (Boden 2003; Pereira 2007).

       Our result, however, might have been significant because of the backgrounds of our participants. Participants were collected online, and they were from various countries. Needless to say, a participant's verbal skills in English have an impact in answering a survey that was written in English. Therefore, future research should examine the discriminant validity between the Metaphors Test and verbal skills by using participants whose native language is English. In addition, this current study did not fully measure people's English comprehension skills. We used a self-report to measure the participant's verbal skills. Thus, future research should use a professional English comprehension test.

References

Barchard, K. A., Hensley, S., Anderson, E. D., & Walker, H. E. (2012). Measuring the ability to perceive the emotional connotations of written language. Journal of Personality Assessment, 95, 332-342. doi:10.1080/00223891.2012.736906

Boden, M. A. (2003). The creative mind: Myths and mechanisms. London: Routledge.

Byron, K. (2008). Carrying too heavy a load? The communication and miscommunication of emotion by email. The Academy of Management Review, 33, 309-327. doi:10.2307/20159399

Huang, X., Huang, H., Liao, B., & Xu, C. (2013). An Ontology-Based Approach to Metaphor Cognitive Computation. Minds & Machines, 23, 105-121. doi:10.1007/s11023-012-9269-z

Jones, J., & Stone, C. (1989). Metaphor comprehension by language learning disabled and normally achieving adolescent boys. Learning Disability Quarterly, 12, 251-260. doi:10.2307/1510208

Pereira, F. C. (2007). Creativity and artificial intelligence: A conceptual blending approach. Berlin: Mouton de Gruyter.

Rundblad, G., & Annaz, D. (2010). Development of metaphor and metonymy comprehension: Receptive vocabulary and conceptual knowledge. British Journal of Developmental Psychology, 28, 547-563. doi:10.1348/026151009X454373