

The Role of Question Asking in Creative Thinking

Introduction

Question asking has been a critical tool for teaching and learning since the time of Socrates and is important in the creative problem-solving process. Yet, its role in creativity has insofar not been thoroughly explored. The current study assessed the role of question asking in the creative process.

Alternative Questions Task (AQT)



What are all the creative questions you can ask about these objects?

Bloom Taxonomy



Higher Pyramid levels represent more complex, higher order thinking skills

Creativity Assessment

Objective Creativity: Maximum Associative Distance Scores Subjective Creativity: Scored using five online raters from Prolific **Bloom Taxonomy**: Scored for respective Bloom level Fluency: Number of AQT responses

Methods

Divergent thinking: Alternative uses task (AUT) conducted alongside other tasks measuring openness, curiosity, and intelligence

Participants

Participants: participants were recruited from Prolific Academic.

(N = 221; Mage = 26.1, SD = 6.4;

47.9% male, 50.4% female, 1.7% prefer not to say)

Bloom Level and Creativity



Figure 1. Correlation analysis of average Bloom level and Objective (left) and Subjective (right) creativity ratings









Less Creative Response

More

Creative

Figure 2. Correlation analysis of frequency of individual Bloom level responses and Subjective creativity ratings

¹Technion – Israel Institute of Technology, Haifa, Israel ²University of Nebraska, Omaha, NE, USA

Results



THE COGNITIVE COMPLEXITY

Serial Order Effect

Bloom level rating

	Example
	Why isn't it hard?
	What is it for?
	What's the most convenient pillow?
	Do you like to put your hand inside the pillowcase while sleeping?
	Do you prefer to have the buttons of the pillowcase to be on the left or right?
	Would it be possible to create biodegradable pillows, since after years of use, they're gross and unrecyclable?

Discussion

Complex questions were found to be positively correlated with objective and subjective creativity scores.

Individual level analysis showed that lower levels correlate with lower creativity while higher levels correlate with higher creativity.

The current work suggests that the Alternative Questions Task coupled with Bloom's taxonomy allows elucidating the role of question asking in creativity.

Contact



Figure 3. Regression analysis for predicting AQT objective creativity

Tuval.Raz@campus.Technion.ac.

Scan me!