

Title	深い知識の引出し実現に向けた質問への誤情報混入効果に関する研究
Author(s)	嶋田, 祐観
Citation	
Issue Date	2026-03
Type	Thesis or Dissertation
Text version	author
URL	https://hdl.handle.net/10119/20454
Rights	
Description	Supervisor:西本 一志, 先端科学技術研究科, 修士(知識科学)

A Study on the Effects of Embedding Misinformation in Questions to Elicit Deep Knowledge

2410070 Masaaki Shimada

This study investigates whether intentionally embedding misinformation in questions can elicit more informative and experience-based responses from knowledgeable respondents. In interactions between novices and experts, answers often remain superficial, as experts may avoid providing detailed explanations that require substantial effort. Drawing on observations from online communities and the experience-based heuristic known as Cunningham's Law, this study examines whether presenting questions that contain incorrect assumptions can stimulate corrective behavior and richer responses.

In a questionnaire-based experiment focusing on soccer-related knowledge, participants answered a series of questions that either contained misinformation or were factually correct. The misinformation varied in both content type (rules vs. theories) and plausibility (plausible vs. implausible). Responses were analyzed using multiple indices, including response length, response style, and self-reported confidence. To assess the effect of misinformation on response quantity, linear mixed-effects models were employed, with participants treated as random effects.

The results showed that the presence of misinformation did not uniformly increase response length. Instead, response length was strongly influenced by individual differences among respondents, and the main effect of misinformation on response quantity was not statistically significant. These findings indicate that simply embedding misinformation does not automatically lead to more extensive responses.

However, qualitative analyses revealed that misinformation significantly affected how respondents structured their answers. Responses that explicitly or implicitly corrected the incorrect premise tended to contain more information and contextual explanations than responses that avoided or accepted the misinformation. Furthermore, the type of question moderated response behavior. For rule-based questions with clear correct answers, respondents often avoided engaging with the misinformation and instead provided correct information without explanation. In contrast, theory-based questions, which allow greater interpretive flexibility, elicited more implicit corrections and premise-accepting responses. Extremely implausible misinformation did not reliably increase corrective behavior and was sometimes ignored or accepted without challenge.

Overall, the findings suggest that misinformation functions not as a direct trigger for longer responses, but as a factor that can alter respondents' engagement strategies and communicative stance. High-information responses emerged only when respondents chose to correct or restructure the question's premise. This study contributes to the empirical evaluation of Cunningham's Law by demonstrating that its effectiveness depends on the nature of the misinformation and the respondent's willingness to incur communicative costs. The results highlight the importance of designing questions that not only contain errors, but also encourage respondents to engage in corrective and explanatory behavior.