

Annotated Bibliography on Question Formulation

A curated list on question formulation research and literature: This includes research on the number of questions students are asking at different ages, versus the teacher, in school versus out; the discrepancies in who is asking questions and who is not; the effect learning to ask questions has on students' curiosity, memory, and academic achievement across disciplines.

Literature Reviews

Chin, C., & Osborne, J. (2008). [Students' questions: a potential resource for teaching and learning science](#). *Studies in Science Education*, 44, 1-39.

A literature review on research related to students' questions.

Harris, P. (2015). [What children learn from questioning](#). *Educational Leadership*, 73(1), 24-29.

Harvard Graduate School of Education Professor Paul Harris provides an eloquent overview of the research on children's questions pulling from educational, psychological, and philosophical literature.

Research on the Question Formulation Technique (QFT)

Clark, S., Harbaugh, A. G., Seider, S. (2019). [Fostering adolescent curiosity through a question brainstorming intervention](#). *Journal of Adolescence*, 75, 95-112.

A Boston University research study which found that the Question Formulation Technique (QFT) had a positive impact on the curiosity of adolescent students.

Other Research on the Skill of Question Formulation: Equity & Learning Outcomes

Dillon, J. T. (1988). [The remedial status of student questioning](#). *Journal of Curriculum Studies*, 20, 197-210.

A seminal article on the topic of students not asking questions.

Gruber, M. J., Gelman, B. D., & Ranganath, C. (2014). [States of curiosity modulate hippocampus-dependent learning via the dopaminergic circuit](#). *Neuron*, 84(2), 486-496.

In this study conducted at the University of California, Davis, participants showed improved memory for information that they were curious about

Hinsley, A., Sutherland, W. J., & Johnston, A. (2017). [Men ask more questions than women at a scientific conference](#). *PloS one*, 12(10).

Researchers find that male researchers ask more questions than their female counterparts, on average 1.8 questions for every 1 question asked by a female researcher.

King, A. (1994). [Guiding knowledge construction in the classroom: Effects of teaching children how to question and how to explain](#). *American Educational Research Journal*, 31, 338-368.

King explores the influence of question-asking on students' comprehension and knowledge construction.

Shah, P. E., Weeks, H. M., Kaciroti, N. (2018). [Early childhood curiosity and kindergarten reading and math academic achievement](#). *Pediatric Research*, 84, 380-386.

Researchers at the University of Michigan found that greater curiosity was associated with greater kindergarten reading and math academic achievement.