In the article published in Contemporary Educational Psychology, *The Influence of the Length and Causal Chains on Question Asking and on the Comprehensibility of Scientific Texts*, Jose Otero, Helene Caldeira, and Carlos Joao Gomes in Portugal conducted a co-relational study between comprehensibility and causal question-asking. The researchers tried to answer: “Is comprehensibility of and questioning on a sentence containing a causal relation related to the length of causal chain linking cause and effect? Do readers with different knowledge ask different questions on sentences containing short or long causal chains?”

The team randomly selected 163 students from grades 8 and 12. The students were then asked to read short paragraphs on “clouds” and “dissolved oxygen.” One group read the “short” version of the text while another group read the “long” version. Each version included a control sentence, and variable sentences in which they either weakened (“short” version) or strengthened (“long” version) the link between the cause and effect of the natural phenomena. After reading, the students wrote down any questions they had and rated the level of the comprehensibility in a scale of 1 to 5. The ratings of the variable sentences were then calculated in relative to the control sentences.

These questions stemmed from the view that inquiry is an important process in learning and problem solving in science. However, the researchers
failed to include the instructional component to the question asking. The researchers chose simply to address the student reading comprehension of the subject independent of any guidance. In a real classroom, the teacher plays an essential role in leading the students to the zone of proximal development. What this study reveals is less of the students’ ability to learn science and more of their ability to comprehend expository texts. As a teacher, I would be less interested in how much they can learn independently from reading the textbook, but more interested in how much more they can learn collaboratively from interacting with the teacher and the peers.

Why the two particular age groups had been picked was not so clear to me. Inarguably, there is a wide gap in cognitive development and content knowledge between the two age groups. Acknowledging this disparity, they should have at least assessed the students’ prior knowledge, but they did not.

The students’ written questions were categorized as “verification”, “causal antecedent”, “expectational”, and “assertion”. The students asked significantly a lot more “causal antecedent” questions. Students could easily articulate this type of questions. Given limited time and vocabulary, these would be the first questions they would ask.

In general, 8th grade students asked a lot more questions than the 12th grade students. The type and the number of questions asked were then attributed to the level of comprehension as a result of strength or the lack of the cause and effect link. Although I found the data analysis fascinating (I had never
thought of keeping tabs of the why and what is asked), I struggled to buy-in the experimental method. I teach 8th grade. I know they ask a lot more questions because they are processing their thoughts through asking their questions aloud. Of course, depending on the personality, some students will ask the questions right away, and others will think before asking any questions. As there are obvious developmental changes between the four years, I question if the frequency and the level of question asking could simply be attributed to the level of interest or the learning modalities of the individual students or the class.

The method seemed to assume that all students could clearly articulate questions in writing. There is a hidden assessment of reading and writing competency. Not all students would know how to ask questions or even feel comfortable enough to ask as many questions as they actually had.

Nonetheless, the article helped me to understand the different types of question asking and the parallel levels of thinking order. How the information is presented in the textbook could enhance or hinder the student understanding of the subject. Question asking is a process of learning and processing the new information. Looking at what is asked, the teacher could get a better idea of the student’s level of comprehension.