



Universiteit  
Leiden  
The Netherlands

## Learning from texts : extending and revising knowledge

Beker, K.

### Citation

Beker, K. (2017, March 2). *Learning from texts : extending and revising knowledge*. Retrieved from <https://hdl.handle.net/1887/46247>

Version: Not Applicable (or Unknown)

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/46247>

**Note:** To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/46247> holds various files of this Leiden University dissertation

**Author:** Beker, Katinka

**Title:** Learning from texts : extending and revising knowledge

**Issue Date:** 2017-03-02

A P P E N D I X I

**A**

Example Texts of Experiment 1

## Refutation Text

### Introduction (7 sentences, 100 words)

The Parker family was vacationing at their favorite spot at a scenic New England lake. Every summer they would rent the same cabin right on the water. The two brothers, Jack and Ryan enjoyed water skiing. It was an exceptionally hot day so the boys decided to gear up for some water skiing. Jack had trouble adjusting his life jacket because his hands were dripping with sweat. Frustrated, he asked his brother why it was always so hot in the summer and always so cold in the winter. Mrs. Parker, who was reading a science textbook, overheard her boys talking.

### Refutation (2 sentences, 33 words)

Ryan said that it was because the Earth is closer to the Sun in the summer than in the winter. Mrs. Parker said she read in a textbook that this idea was incorrect.

### Explanation (6 sentences, 100 words)

The textbook stated the Earth is actually farther away from the Sun during summer in the Northern Hemisphere than the winter. Seasons are caused by the Earth being tilted on its axis. As the Earth orbits the Sun, different parts of the world receive different amounts of direct sunlight. The textbook illustrated while the Sun is farther away during summer, the Northern Hemisphere is tilted towards the Sun. Thus due to the tilt, the days are longer and there is more direct sunlight. In the winter, even though the Sun is closer, the Earth is tilted away from the Sun.

### Filler (4 sentences, 60 words)

After patiently listening to their mom talk about the seasons, the boys went back to getting ready for water skiing. The boys agreed that they would take turns on the water skis. It was still too hot, so they decided to head home. They knew their mom would quiz them, so they reread the textbook to confirm that it is

### Target Sentence with Correct Outcome (37-43 characters)

the tilt of the Earth causes the seasons.

### Spillover (5-8 words)

The boys were very happy with their answer.

### Closing (6 sentences, 90 words)

Jack and Ryan ran to the kitchen to make a snack. Although they had not been on the lake for long, the hot sun made them very hungry. After their snack the two boys decided to play video games. Even though Jack and Ryan enjoyed playing video games they discussed how much they would rather be outside water skiing. Finally

the sun went down and the temperature cooled off. The boys excitedly checked the weather channel and hoped for a cooler day so that they could enjoy more water skiing.

### Comprehension question (immediately after reading)

Were Jack and Ryan going water skiing? (yes)

## Transfer Text (Same as in Experiment 2)

### Introduction (7 sentences, 100 words)

A group of ladies were taking a computer course at the local community center. The center organized courses for the elderly because they wanted to help them to manage the digital society. Agnes and Fran sat close to the teacher so that they could ask a lot of questions. This was the second time they took the course and they still did not understand how the computer worked. Today they had to complete an assignment about the planets. They had to use the internet and a word processing program to write an essay. Agnes and Fran wanted to start immediately.

### Filler (2 sentences, 33 words)

Agnes opened the internet browser by following the steps described in the manual, and searched for 'planets'. Agnes and Fran clicked on the first result on the list to read the first article.

### Cue for revised belief (*tilt of planet*) (6 sentences, 100 words)

The website described how the planets differ from each other and from planet Earth. The women were encouraged to make a table on the computer so they could organize the characteristics of different the planets. They searched the manual for instructions on how to make a table that had columns for various planet features such as names, size, temperature, degrees of tilting, and atmosphere conditions. Agnes scanned the website and found out that Venus' tilt is 177 degrees. This means it is almost vertical. The website explained that this means that the axis of Venues has no tilt at all.

### Filler (4 sentences, 60 words)

The website provided other information about Venus. The women spent the next hour finding information about planets. They were happy to have learned how to make tables on the computer, knowing that this skill would help them on other projects. They were also excited about the planet facts they had learned. Agnes and Fran figured their friends would not know

**Target Sentence with Correct outcome (37-43 characters)**

there are no seasons on planet Venus.

**Spillover (5-8 words)**

Agnes and Fran learned lots of new things.

**Closing (6 sentences, 90 words)**

By browsing through the internet they also read about the shape of orbits around the sun. An elliptical orbit causes a planet to come closer to the sun during some seasons, making the temperature rise. When the orbit is circular, like on Earth and Venus, the distance to the Sun stays the same. Therefore, this will not influence the temperature. The course assignments were designed not only to teach computer skills, but also to demonstrate the usefulness of these skills. That is why Agnes and Fran found the assignments interesting.

**Comprehension question (immediately after reading)**

Was the course at the community center? (yes)

**Non-Refutation Text****Introduction (7 sentences, 100 words)**

Kate was out for her nightly run. Halfway through the run, she stopped at a corner to rest and stretch. Kate looked up at the clear night sky while she took a sip from her water bottle. She saw a meteor falling beyond the trees and she watched until it hit the ground. She quickly ran about 400 yards to the site where the meteor landed. When she arrived there were already several people there. She noticed that her neighbor Jerry, an astronomy professor at the local university, had also come down the street to see what was going on.

**Non-Refutation (2 sentences, 33 words)**

Kate was excited because she had never seen a meteor on the ground before. Jerry, the professor, offered to run home to get an astronomy book, so they could learn about the meteor.

**Non-Explanation (6 sentences, 100 words)**

The professor told them that there were so many fascinating movies made about space, and so many more exciting things written on the topic. Everyone at the scene began talking about their favorite movies about space. The group could not believe it when Kate mentioned she hadn't seen any of the Star Wars movies. The conversation quickly turned back to the meteor, they could not believe a meteor

had actually landed in their very own town. Jerry decided to run home and get a few books on astronomy. As the news spread, more people began to gather around the meteor.

**Filler (4 sentences, 60 words)**

Kate continued to stare at the meteor. She had never seen anything like this in person before, and figured that would be true of many people here. What if a television crew came to interview witnesses? She could be on TV! She had to come across as smart if she was interviewed. She listened carefully as Jerry assured everyone that

**Target Sentence with Correct Outcome (37-43 characters)**

meteors landing on Earth are always cold.

**Spillover (5-8 words)**

Police cars were now arriving at the scene.

**Closing (6 sentences, 90 words)**

In situations like these they had to make sure that no one was approaching the meteor. They had to make sure that researchers would get the opportunity to investigate the area. People were not allowed to take pieces of the meteor back home. If the meteor was special, it would be transferred to a museum to add to their collection. The police told the crowd they had to go home because they needed to block off the area. Kate decided to sprint home to tell her family about the news.

**Comprehension question (immediately after reading)**

Was Kate out for a walk? (no)

**Transfer problem test questions (after reading all 18 texts)****Refutation text**

Consider a planet that has extreme seasons. The difference in temperature between the summer and the winter is large. Explain what could be the cause of this pattern of extreme seasons and how would this pattern influence temperatures in the summer and in the winter.

**Non-refutation text**

Consider a meteor that landed on planet Z. Explain if whether this meteor is hot or cold, what influenced the temperature of the meteor, and how.