Titles as a Double-Edged Sword in Memory for Prose Passages

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This is Sample Paper 1: One-way Design

The experiment and data reported here were fabricated for teaching purposes only and are loosely based on work by Sulin and Dooling (1974)
Abstract

Although titles have been shown to improve overall memory for prose passages, they may also cause certain kinds of errors to occur. We tested the hypothesis that prior knowledge of a theme or title for an ambiguous passage may cause people to incorrectly think that the material brought to mind by the theme or title was part of the information they actually read. We presented college students with a short text about a girl who had a difficult childhood. Half of the participants read the paragraph by itself, and half of them read it with the title, *Helen Keller’s Early Years*, above it. We predicted that on a subsequent memory test, participants given the title would incorrectly think that they had read sentences such as “She could not hear or see,” which were not in the actual text but might have been brought to mind by the title. Consistent with our prediction, participants who saw the title did make more such memory errors than participants not given the title. Thematic knowledge may increase false memories as well as true memories for materials.
People often need to remember information they have acquired from prose passages – for instance, in order to answer questions on an exam from their reading assignments, in order to write reports at work based on sources they have collected, or simply for the pleasure of recalling a story they have read. Although some people claim to have photographic memories that allow them to easily remember everything they read, most people are aware that their memory for what they have read is far from perfect.

Studies of memory for text have shown that performance can be improved by the presence of informative titles. For instance, Bransford and Johnson (1972) presented people with passages containing vague and ambiguous descriptions of common activities. A sequence of sentences might go something like this, “The first step is to separate the objects into piles. It is important that the piles be made correctly; otherwise, unfortunate problems can arise. Then the piles must be taken to the appropriate location. Once there, the next step is to prepare the machines for the task.” Bransford and Johnson found that recall of the passage was poor for people given the passage alone, but it was much better when participants received a title such as *How to do Your Laundry* that
allowed them to use their general knowledge to help interpret the sentences. Studies such as this one suggest that knowing the theme or topic of a passage in advance can help people understand and later recall the text.

However, it is possible that knowing a theme or topic in advance might not always be helpful in improving memory for text. For instance, suppose that when people know that Bransford and Johnson’s (1972) passage is about doing laundry, they assume that the phrase “the piles” refers to piles of clothing, and the phrase “the appropriate location” refers to a laundry room. As they read the passage, they may be picturing piles of clothing in a laundry room in their mind. Later on, when they remember what the passage said, it is possible that they will, wrongly, think that they passage actually talked about piles of clothing or a laundry room, or both. In other words, they may create some false memories because of the interpretations they made guided by the title.

The hypothesis we will test, then, is that prior knowledge of a theme or title for an ambiguous passage may cause people to incorrectly think that the material brought to mind by the theme or title was part of the information that they actually read in the passage. To test this idea, we presented college students with a short text about a girl who had a difficult childhood. The text contained sentences such as “She was wild, stubborn, and violent”
and “She could not learn to read or speak.” Half of the participants read the paragraph by itself, and half of them read it with the title Helen Keller’s Early Years above it. All of the participants then read a list of sentences and indicated which ones they believed actually appeared in the passage. Some of these sentences included information about Helen Keller, such as “She could not hear or see”, that were not in the actual text but that might have been brought to mind by those who had the title. If our hypothesis is correct, participants should be more likely to think they read these sentences if they read the passage with the title than if they read it without the title.

**Method**

**Participants**

Forty Lehigh University undergraduates participated for course credit. Approximately half were male and half were female.

**Design**

The independent variable was Presentation Mode, with two levels: With Title and Without Title. The dependent variable was the number of sentences related to the title that the participants incorrectly identified as having been present in the passage.
The experiment used a between-subjects design, with 20 participants randomly assigned to the With Title condition and the other 20 assigned to the Without Title condition.

Materials

The passage presented to participants was taken from previous research on memory for text by Sulin and Dooling (1974). As already described, it concerned a girl whose childhood was difficult. It was 12 sentences long, and each sentence described some aspect of her behavior, abilities, or family life. The complete text of the passage can be found in Appendix A. The passage was presented in typed form on a sheet of paper. Above the passage on half the copies was the title *Helen Keller’s Early Years*. The other half had no title.

The memory test was devised by the experimenters. It contained 15 questions. Eight of these consisted of sentences that actually did appear in the passage. For example, one was “She was wild, stubborn, and violent.” Three of them consisted of sentences that did not appear in the passage and were not closely related to information that might be brought to mind by the title. For example, one was “She spent many happy summers in Kentucky.”

The purpose of these questions was to make sure participants had paid enough attention to the passage to distinguish completely false information from information related to the text.
Finally, the critical questions were four that contained information that might have been called to mind by the title, but that did not actually appear in the text. These were, “She had suffered from scarlet fever”, “She could not hear or see”, “She could not speak”, and “Her parents despaired about her condition.” The complete memory test can be found in Appendix B.

**Procedure**

Participants completed the experiment in groups of three to five. The experimenter told them that they were participating in an experiment on story understanding. They were further told that they would be reading a short passage and then tested for their understanding of it. The experimenter asked them to read at their normal speed, and to just try to understand the story. No mention was made of a memory test, so that they would not adopt any special strategies to try to memorize the passage.

After any questions were answered, the passages were distributed and participants were asked to begin reading. All participants in a group were given the same version (either With Title or Without Title) so that they would not be aware that there was a different version from the one they received. Participants were asked to turn the paper over when they had finished reading it.
After all participants had turned over their papers, the experimenter handed out the “comprehension test” (actually the memory test). Participants were asked to put a check mark next to each sentence that they thought they had read in the passage, and to put an X next to each one they thought they had not read. Participants were asked to work at their own pace, not to look at anyone else’s paper, and to turn over the test when they were done. When all participants had turned over their tests, the tests were collected and the participants were thanked, debriefed, and dismissed.

Results

The questions containing information not included in the text, but unrelated to Helen Keller, were examined first to make sure that participants had been paying attention to the text when they read it. No participant made more than one error on these questions, indicating that all of them had been paying attention.

The memory tests were scored based on the four questions that had material not included in the passage but closely related to the title. Each test received a score of 0 to 4 indicating how many of these questions the participant incorrectly marked as having been read in the text. Then we calculated the mean number of questions incorrectly marked for the With Title condition and the Without Title condition.
If our hypothesis is correct, then more errors should have been made in the With Title condition than in the Without Title condition. The pattern of means is consistent with this prediction. A mean of 2.2 errors was made in the With Title condition, whereas a mean of only 0.6 errors was made in the Without Title condition. The difference between the means was significant, $F(1, 39) = 3.56, p < .05$. The outcome therefore supports our hypothesis that knowing a theme or title for a piece of text may sometimes cause people to mistakenly believe that information brought to mind by that theme or title was actually part of the text.

**Discussion**

We found that people who saw a title for a piece of text later falsely recognized more sentences related to the text than people who did not see the title. Our results suggest that when people read a piece of text, sometimes they may think that a certain thing was said in the text that actually was not. They may incorrectly “remember” this material because it was brought to mind by the title or other source of information, and the material brought to mind becomes part of their memory of what they read.

This result raises the question of whether it would be better not to give people titles or other sorts of information about what they are about to read before they read the material. We think that it would be wrong to draw this conclusion. Although some errors

**Briefly remind the reader of the predicted outcome if hypothesis is correct.**

**State whether the pattern of data is consistent with the prediction.**

**Then give the actual data.**

**Then give the statistical test that shows if this difference is meaningful.**

**Last, draw a conclusion from the data.**

**Remember, each paragraph should have a topic sentence, and the rest of the paragraph should stick to this topic.**

**Elaborate on implication of the data for the hypothesis.**

**Briefly summarize the outcome in general terms (no numbers).**
of the sort we found may be made, previous research (e.g., Bransford & Johnson, 1972) does suggest that titles also benefit people by increasing their overall recall of information. Although we did not examine our participants’ performance on the questions referring to correct material in our experiment, if we had done so, we might have found that people who received titles performed better than people who did not have titles. The effect of titles, then, may be a double-edged sword – on the one hand, it may improve memory performance overall, but on the other hand, it may contain some risk of also increasing errors of a certain type.

In general, the benefits of titles may outweigh the costs, so we do not suggest removing titles from passages despite the possible disadvantages.

However, our finding does suggest that simply viewing titles as devices that increase recall and improve comprehension is too simplistic. The situation seems to be more complicated, in that there may be negative consequences of titles as well as positive. People do not seem to be aware of the negative consequence, or at least they are not able to recognize when it has occurred, because if they were aware, they would not have made the errors on the memory test. Therefore, it may be helpful in improving memory accuracy for people to become more aware that they need to

Consider further implications of the data.

Draw a conclusion for the paragraph.

Wrap up with an overall conclusion.

Avoid “more research is needed” as your conclusion. Be concrete about what is needed to advance theory or practice.
distinguish between what they actually read and what they may
have thought about as they read.
References


Follow APA reference format!
Appendix A

Put materials here, if needed
Appendix B

Put more materials here, if needed