

47 CONSTRUCTIVE MEMORY/SCHEMAS: THE RUMOR CHAIN

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This demonstration uses a childhood game, the rumor chain, to illustrate the constructive nature of memory. It can be presented before or after discussing constructive memory because the power of the phenomenon is great, even when students are sensitized to it.

CONCEPT The rumor chain game provides a simple, enjoyable, and dramatic illustration that the encoding and retrieval of information in long-term memory can be distorted by prior knowledge, especially by our schemas about the world. These schemas include gender-role expectations and other prejudices.

MATERIALS NEEDED You will need a story that is short enough to allow retelling several times in class, but detailed enough that students are unlikely to remember all aspects of it. A sample is included in the following section.

INSTRUCTIONS Send three to five students out of the classroom (and out of earshot). Now read aloud a paragraph-length story to a student whose task it is to repeat the story as completely as possible to one of the students who is brought back into the classroom. The newcomer's task is to repeat the story to the next student who is readmitted and so on until the last student who hears the story repeats it to the class. Each rendition of the story should be loud enough so that everyone in the class can hear.

Be sure to give instructions to the class not to laugh when errors are made because this may cause the storyteller to notice and attempt to correct mistakes. To facilitate discussion, instruct the class to take notes as each student tells the story, thus tracking the errors made.

Here is a sample story that works well for us:

A TWA Boeing 747 had just taken off from Miami International Airport for Los Angeles when a passenger near the rear of the aircraft announced that the plane was being taken over by the People's Revolutionary Army for the Liberation of the Oppressed. The hijacker held a .357 magnum to the head of Jack Swanson, a flight attendant, and forced him to open the cockpit door. There, the hijacker confronted the pilot, Jane Randall, and ordered her to change course for Cuba. The pilot radioed the Miami air traffic control center to report the situation but then suddenly hurled the microphone at the hijacker. The hijacker fell backward through the open cockpit door and onto the floor, where angry passengers took over from there. The plane landed in Miami a few minutes later and the hijacker was arrested.

DISCUSSION The errors made in each successive telling of the story are usually quite predictable and follow some basic principles of constructive memory.

MEMORY

First, the story gets progressively shorter as some details, such as the name of the revolutionary group and sometimes the flight's origin and destination, are left out. This is referred to as *leveling*.

Second, some details—perhaps the caliber of the gun or, especially for women students, the gender of the pilot—are often retained; this is referred to as *sharpening*. Because individuals retain different details, this leads to a discussion of the schemas already in long-term memory that help us retain information in a meaningful fashion and how these schemas differ for different people based on personal experience.

Third, because many elements of the story are encoded semantically (i.e., as the meaning or gist of the story rather than as exact words), they are likely to be altered in line with each teller's schemas. For example, because for many students, even today, pilots are men and flight attendants are women, Jane Randall may end up as the flight attendant and Jack Swanson may become the pilot. Further, the hijacker is almost always referred to as a man, often as an Arab, even though no gender or ethnic information is in the story. You can relate this phenomenon to false assumptions made about the identity of those who blew up the federal building in Oklahoma City in 1995. "The open cockpit door" may evoke an image of an outside door, such that the hijacker is described as falling out of the plane. Finally, the schema of "angry passengers" may cause expansion of the story to include their beating, or even killing, the hijacker.

By asking the class to describe how the story changed with the retelling, you should be able to illustrate a number of the principles listed here. You can then go on to discuss the role of schemas and constructive memory in other phenomena, such as racial prejudice and errors in eyewitness testimony.

WRITING COMPONENT

Two different writing assignments can follow from this demonstration. For the first one, have students write a paper in the form of a letter to a friend or family member describing how memory works. The letter should address the common view of memory as a sort of video recorder, why that view is incorrect, and the importance of constructive memory. Shared examples of constructive memory between the student and the recipient of the letter could be supplied to illustrate constructive memory. For example, siblings often have different memories of the same incident in their childhoods.

Another assignment would be to have students write a paper in the form of a newspaper column on the role of memory in eyewitness testimony or repressed memory cases. The paper should incorporate the rumor chain demonstration in a discussion of the issues surrounding these controversial topics. Remind students that their audience would be educated, but not necessarily knowledgeable about psychological principles.

SUGGESTED READINGS

- Bartlett, F. C. (1932). *Remembering: A study in experimental and social psychology*. Cambridge: Cambridge University Press.
- Loftus, E. F. (1992). *Eyewitness testimony: Civil and criminal*. New York: Kluwer Law.
- Loftus, E. F. (1994). *The myth of repressed memory*. New York: St. Martin's Press.
- Loftus, E. F., & Hoffman, H. G. (1989). Misinformation and memory: The creation of new memories. *Journal of Experimental Psychology: General*, 118, 100-104.

Photographic Memory Test

Directions: Have students look at the worksheet for approximately one minute and then have them turn the worksheets over. Then have students write down as many pictures as they can remember. This can be applicable to short term memory because the amount of items should exceed their short term memory due to rehearsal. Also the serial position effect may take place - students are likely to remember the first and last items that they look at. Pop-out may occur causing students to remember the darker items better than the lighter items on the worksheet.

PHOTOGRAPHIC MEMORY TEST

