Lecture Notes

# Chapter 15: Cognition in Cross-Cultural Perspective

## Learning Objectives

* Describe and provide examples of cultural syndromes
* Summarize cross-cultural studies of perception, memory, categorization, reasoning, and counting
* Analyze the effects of schooling and literacy on cognition
* Explain how situated cognition has been studied in the United States and other countries

## Outline

**I.** Setting the Stage

**A.** The research discussed in this textbook so far has predominately focused on people in the United States and Europe; but does such research generalize to people in other cultures?

**B.** Culture can be defined in terms of a distinct language, distinct customs and modes of dress, and distinct beliefs or philosophies.

**C.** Because “cultures” vary in so many ways, the goal of finding differences among cultures is a fairly empty one and a better goal would be to “unpack” the term and determine which aspects of a culture contribute to the differences found.

**D.** A fundamental question raised by cross-cultural research is the degree to which competencies and capacities are culturally relative or culturally universal.

**E.** Cross-cultural researchers face many methodological challenges.

**1.** People cannot be randomly assigned to cultures.

**2.** It is difficult to choose experimental tasks that are equally difficult and familiar to members of different cultures.

**II.** Examples of Studies of Cross-Cultural Cognition

**A.** Cross-cultural studies of perception show that people from different cultures literally “see things” differently.

**1.** People view and interpret two-dimensional pictures depicting three-dimensional scenes differently from one culture to another.

**2.** Further, the tendency for children to generate narratives or interpretations of visual scenes when asked to “tell [the tester] what you see in the picture” differs from one culture to another.

**3.** Visual illusions that are dependent on interpretations of depth, such as the Muller-Lyer illusion, are more pronounced among people who live in more carpentered environments.

**4.** Similarly, people from cultures where the horizon is part of the everyday landscape are more susceptible to the horizontal-vertical illusion than people from cultures where the environment does not afford opportunities to view vast distances.

**B.** Cross-cultural studies of memory show cultural differences in specific aspects of memory and memory strategies.

**1.** American children asked to recall word lists often display clustering in their recall, whereas Kpelle children of Liberia do not show this behavior.

**a)** When prompted, Kpelle children benefit from a clustering strategy, but they do not engage in such activities on their own.

**b)** Similarly, studies of young and elderly Chinese and American adults show that clustering is particularly difficult for elderly Chinese adults.

**2.** Wang has examined cultural differences in autobiographical memory, showing that Caucasian undergraduates tend to reminisce about one-time events that focus on their own experience, whereas Asian-American students report more recurring events that involved groups of people.

**3.** Visuospatial memory tests of Australian teens showed that Aboriginal adolescents outperformed White Australian adolescents in every condition, perhaps because their everyday life requires differentiating among sites that are visually unremarkable.

**4.** Similarly, studies in northern Peru have shown that people with greater experience in herding are more likely to describe positions in an allocentric way (with respect to other objects in view) than in an egocentric way (with respect to the speaker’s own body).

**C.** Categorization studies suggest that the way we carry out classification tasks depends on both development and culture.

**1.** Among American children, classification is first done on the basis of perceptual characteristics (especially color) and later on the basis of function.

**2.** Among unschooled Wolof children in West Africa, children become better at categorizing by color as they get older but do not shift toward categorizing by function; schooled Wolof children, however, sorted increasingly on the basis of function as their years of schooling increased.

**3.** Studies of Mayan children in Mexico also showed that schooling improved the ability of children to sort by color, shape, or number, as well as the ability to reclassify objects using a new dimension.

**4.** Mayo rice farmers in Liberia found it easier to sort bowls of rice than to sort cards depicting geometric figures; Americans showed the opposite pattern of results.

**5.** Cultural traditions lead American and Japanese children to classify “people, animals and plants” as being similar to each other and different from inanimate things; Israeli children, however, consistently classify “people and animals” as similar, with plants being seen as more like inanimate objects.

**D.** Reasoning tasks also show cross-cultural differences.

**1.** Nonliterate villagers in central Asia refuse to attempt verbal syllogisms, arguing that they could not answer questions about things that they had not seen.

**a)** They had difficulty accepting premises that contradicted their own experience.

**b)** They refused to treat general premises as truly general.

**c)** They tended not to see the various premises as parts of a single problem.

**2.** Similar results were found with Kpelle tribespeople in Liberia.

**3.** Not all cross-cultural differences in reasoning can be explained on the basis of schooling, however.

**E.** Not all cultures have developed the same arithmetic systems to meet their needs, and thus cross-cultural differences in concepts of number have been of particular interest.

**1.** Gelman notes that counting actually involves several distinct principles.

**a)** The one-on-one principle states that each item must be counted only once.

**b)** The stable-order principle states that the count words assigned to each item must be chosen in a repeatable order.

**c)** The cardinal principle states that when one is counting, the final tag (count word) represents the number of items in the set.

**d)** The abstraction principle says that any group of items can be counted.

**e)** The order-irrelevance principle states that the order of enumeration (which item is tagged “1,” which “2,” and so forth) does not matter.

**2.** In New Guinea, Oksapmin children develop a body-part counting system based on 27 labeled body parts and develop counting at a later age than American children, but their developmental pattern is quite similar to that of American children.

**3.** Chinese 4- and 5-year-olds can count higher than their American counterparts, perhaps because the number-naming system for numbers higher than 10 is more regular in Chinese than it is in English.

**III.** Effects of Schooling and Literacy

**A.** Some theorists assert that literacy changes thought in fundamental ways.

**B.** According to Vygotsky, cultures affect schooling in several ways.

**1.** Culture arranges for the occurrence or non-occurrence of particular types of problems.

**2.** Culture determines the frequency with which problems and practices occur.

**3.** Cultures determine which events go together.

**4.** Cultures regulate the level of difficulty of tasks within contexts.

**C.** Schooling and literacy are often related, but not synonymous.

**1.** According to research by Scribner and Cole among the Vai people of Liberia, unschooled literacy does not have broad general effects on cognitive skills.

**2.** Schooling, however, was seen to improve the ability to provide verbal explanations and justifications.

**3.** Literacy had specific effects on knowledge of grammar and “reading” of new scripts (rebus puzzles).

**IV.** Situated Cognition in Everyday Settings

**A.** Cultural contexts also appear right here at home; practical thought may be different from theoretical (school) thought.

**B.** Scribner studied how workers on the job solved problems and discovered that workers were remarkably efficient in filling orders with the least possible number of transfers from one case to another.

**1.** Experience on the job was necessary to reach this level of efficiency.

**2.** Furthermore, novices at the task were inclined to be more algorithmic and literal in their approaches, whereas experienced workers showed greater cognitive flexibility.

**C.** Lave studied grocery store arithmetic and found that it was 98% accurate, although the same people were only 59% accurate on school-like arithmetic tests.

**D.** Similarly, Brazilian children working as street vendors were more accurate in solving problems embedded in real-life situations than in formal test questions.