but be unable to instruct an apprentice on exactly how to duplicate his expertise. Most knowledge involving pattern recognition skills fall under the category of tacit knowledge. For example, a seasoned radiologist can generally look at a typical radiographic film of a patient's chest and instantly decide if the film is normal or abnormal. However, eliciting the process that the expert diagnostician used to make her determination is virtually impossible. When forced to teach residents and students how to read radiographic studies, radiologists use a systematic approach, looking at bones first, then soft tissues, and so on, so that the learner has a place to start in the learning process. In fact, however, the system most radiologists teach isn't the system that they use. Similarly, pathologists, like master chess players, use one system and teach another.

Implicit knowledge, like tacit knowledge, typically is controlled by experts. However, unlike tacit knowledge, implicit knowledge can be extracted from the expert—through a process termed knowledge engineering. For example, an expert at assigning risk to insurance prospects might use the risk heuristics discussed earlier, assigning risk as a function of age and marital status. Once a new employee is given the same heuristics, either in the form of a set of rules or drawn as a decision tree, he or she can make a risk assignment with the same level of accuracy as the expert, who may have developed the heuristic through years of experience.

The third form of knowledge, explicit knowledge, can easily be conveyed from someone proficient at a task to someone else through written or verbal communications. The recipe for a cake, the steps involved in bolting a car door to the main chassis on an assembly line, and the list of ingredients required for a chemical process are all explicit knowledge. Unlike tacit and implicit knowledge, explicit knowledge often can be found in a book or operating manual.