In many fields of Cognitive Systems, there exists the usage of analogies to help make sense of information that may otherwise be confusing. An analogy is defined as a comparison or correspondence between two things, typically for the purpose of explanation or clarification. From the use of analogy of creating worlds in computer science, to the use of comparative analogies in psychology, to the general use of predictive analogy, these are able to help explain things in ways that are easier to understand towards the general public.

In beginner computer science courses, students are given the analogy that creating the code is analogous to creating a “world”. By making that connection, it is easier for students to break down the steps they need to take in order to create the code (data definitions, function definitions, etc.), because if they can interpret it as creating their own world, it is much simpler to logically break down the steps in which they must perform rather than trying to memorize those steps straight from the textbook.

Comparative analogies are widely used in psychology as a way to understand the connection between two terms or ideas. For example, questions in the form of “X is to Y as A is to B” are commonly used, where A and B are scientific terms that can be related to each other in a similar way to X and Y, which are more common ideas. This way is helpful because most students would find it easier to connect two scientific ideas together by relating them to the common terms, rather than trying to understand the scientific ideas on their own.

Different from the previous two analogy ideas that are more specified towards one single field, predictive analogies can be applied to a variety of fields. Predictive analogy is “a process of inferring further similarities between two situations based on existing similarities.” (Indurkhya, 1992) For example, someone who is about to drive a boat for the first time, but she has experience with driving cars. From the similarities she notes between boats and cars, she could infer that pushing the rudder to the right in the boat, analogous to turning the wheel to the right in a car, would cause the boat to turn right. This is helpful because if analysts are able to identify enough similarities between two situations, they may be likely to infer further similarities and test those out for their hypotheses.

Analogies have proven to be useful in many fields of Cognitive Systems, helping to learn procedures, explain connections, and strengthen hypotheses. They help lead to a clearer understanding of the subject, and through an easier way, too.

References: