William Schell

Cognitive Science Program at Oswego General Education Critical Thinking Assessment

Essay 2: Develop a well-reasoned argument in support of the idea that humans tend not to reason logically in abstract, formal situations, but that they do tend to reason logically in certain contextually rich situations. Human Situational Thinking based on Wason's Selection Task

Humans have a great tool that is not always given enough credit for. All humans have brains and they are responsible for our actions, thoughts, and they are our guide for what we should do given certain situations. These situations can be abstract, formal situations, or contextually rich situations. Humans have been thought to do well in situations that are contextually rich because they are given the information to come up with the logical conclusion. But everyone's mind is different from everyone else's mind. Some people may take longer to get the same answer as someone who was able to complete the task instantly. Others are unable to complete the task in a logical way. Allin-all, humans in situations such as abstract, or formal situations, do not always think logically but when given a context rich situation they are able to logically think about the situation.

If we consider Wason's Selection task, this is an abstract form of logical thinking. Wason's Selection Task is where a person is shown a set of four cards and every card has a number on one side and a colored patch on the other side. Two of the cards are face up, where you can see the numbers, let's say they are 5 and 6, then the other two cards are face down, one showing the color blue, the other showing the color green. So now we have the set of 5, 6, blue, green. Now you are proposed the question, which card(s) must you turn over to test the truth of the proposition that if a card shows an odd number on its one face, then its opposite face is blue? (Wikipedia, 2017). There are many things that one could think to do. Many people will be able to figure this out based on some simple rules. Since you are trying to find out if an odd number has a blue back to it and if a blue back means that there is an odd number front, then that is all that

matters. We will not pay attention to the green card or the even card because they are not relevant. A clearer form of the rules is as follows: If the 5 is green then the rule is violated. If the 6 is blue or green it does not violate the rule. If the red card is even or odd it does not violate the rule. And if the blue card is even then the rule is violated (Wikipedia, 2017). The solution, you should start out by flipping over the 5 and then flipping over the blue card. If the color side of the 5 is blue, and the number side of the blue card is odd then you have logically proved the proposition true. That is the logic behind Wason's Selection Test. When you think about the rules, or if they are given then the task becomes very simple which we will see soon.

When we look at an experiment conducted by Leda Cosmides we see that when she gives her students the task of Wason's Selection Task only about 25% of them get the answer correct (UPenn, n.d.). This is not an easy task to look at because the context is not there. You have to look at the problem and just figure it out from thinking about it. But an interesting thing that Cosmides does is apply context to the situation. So if we take the exact same problem as before where we have the set of four cards, but instead of numbers and color let us apply context to them. Let's say card one says the word "beer", the second card says "diet coke", the third card says "23 years old", and the final card says "19 years old" (UPenn, n.d.). So when given the proposition: if someone drinks beer, then they are 21 years old or older, this gives us a substantial amount of information to solve this problem. So if we know that someone that drinks beer is older than 21 then it is clear that we should flip over card one, "beer", and card 3, "23 year old." This will give us the answer to whether or not the preposition is true or false. When we flip over the cards the opposite side of beer should be an age 21 years

or older. When this problem is given to her class 75% of the student got this question correct. By why do we only worry about the beer card being 21 years or older?

It can help to group the subjects together into a general group, card one and card two are both beverages, and card 3 and 4 are both ages. We can assign each group a letter, let's say beverages P and age Q. The proposition is again: if someone drinks beer, then they are 21 years old or older. Let's apply P to equal beer, and Q to equal 21 years or older, in this case 23 years old. This means that not P will be diet coke and not Q will be under 21 years, or in this case 19 years old. The only case in which this problem fails is if P it True and Q is False because of the if, then statement.

It is clear that when given a situation it really helps to have the context of the situation. With an abstract or formal situation, it is a lot harder for a person to come up with a solution that satisfies the problem. The context rich situation will provide useful information that a person can think about and use to come to a conclusion in a faster and easier way which, based on Cosmides' work, will produce more correct answers from people than abstract or formal situations.

References

UPenn. "Leda Cosmides and the Wason Selection Task." Humanities 100 -- Lecture

Notes on Evolutionary Psychology. N.p., n.d. Web.

"Wason Selection Task." Wikipedia. Wikimedia Foundation, 14 Apr. 2017. Web.