

**"There are only two ways in which humankind can produce knowledge: through passive observation or through active experiment." To what extent do you agree with this statement?**

TOK Essay, May 2015

Date: January 22nd 2015  
Word Count: 1,425

The theory of knowledge question states: "There are only two ways in which humankind can produce knowledge: through passive observation or active experiment." To what extent do you agree with this statement? This question indicates that there are only two ways to produce knowledge, but I believe there are more than two ways to do so, although, the most reliable way is to be determined. This question analyzes how knowledge can only be produced through passive observation or active experimentation. In order to understand this question effectively, passive and active need to be defined. Passive can be defined as the acceptance of what is happening without taking action, while active can be defined as always ready to make a physical change to unexpected results. From these definitions, one has to inquire if passive observation or active experimentation can be used at a continuum, only individually, or can observation be active and experimentation passive? These questions are the basis for this essay and an explanation behind why I disagree with the previously stated knowledge question. These next few paragraphs will demonstrate why I believe a continuum of both observation and experimentation produce the most efficient and reliable knowledge.

According to the question given, there are only two ways in which knowledge can be produced, although I disagree. An active and passive observation can consistently be seen in the area of knowledge using art as an example. Although, taking into consideration there might not be consistent knowledge produced during passive experimentation. Passive experimentation wouldn't be possible because passive is to resist making a change or only having an opinion, but experimentation is making a physical modification, doing something. This would result in creating a contradiction

supporting why passive experimentation is not a way to produce knowledge. Though this could differ depending on one's language or definition of these terms. Active observation could be another example other than the ones listed. One example that could make observation active could be if one changed a piece of art based off of a passive observation. Making one's opinion active, one would have to change for example an art piece until they are satisfied with what it is saying or portraying to a greater audience. This would result in active observation to be considered another way to produce knowledge. Although, another way knowledge can be produced is through a continuum of both observation and experimentation. Seen often in the sciences specifically observation and experimentation are constantly used at a continuum. These examples support how there are more than two ways to produce knowledge and will be developed further in the next few paragraphs.

Passive observation can be used to gain knowledge individually seen through artists and art examples. Banksy is a well known graffiti artist from Bristol, United Kingdom. One of his well known paintings is "Maid in London" which shows a maid sweeping dust under a sheet over a brick wall. This image could be an example of passive observation to viewers of Banksy's work. When people pass his work they might think, oh that's not right to ruin our town with graffiti, but they can't do much to stop it other than have an opinion. This is what I think passive observation is, to have an opinion, but knowing you can't change it. Another reason why this piece can be seen as an example of passive observation is because when creating graffiti the observation of where to put a piece supports this. A piece of art needs to be placed where it will be noticed to gain a reaction, or what the piece will say for viewers or the artist themselves

showing passive observation. "Maid in London" was placed in 2006 in the North of London. Banksy has created many controversial pieces that not everyone agrees with and considering graffiti isn't legal creates more controversy but also more recognition and fan base for him. Banksy said this piece is meant to represent democratizing subjects in art because in the past it used to be just kings, queens, etc that could afford a portrait painted, so he chose a maid. A strength when using passive observation in art, is understanding ones surroundings and the reactions a piece will get as well as the reaction the artist wants to get. This would be producing knowledge through passive observation because of the reactions the piece would get. This is possible through passive observation because it gives time to step back and consider all the options and different reactions. This example shows passive observation because of the way art work is expressed and the reaction of the people, which is seen through passive observation.

Active experimentation can be seen through most of the hard and natural sciences such as chemistry as a way to produce knowledge. A personal example, chemistry can be seen as an active experiment because the whole basis of a chemistry experiment is taking a hypothesis and physically supporting it through an experiment conducted. Chemistry is only one of the many sciences that involve active experimentation due to the hands on support needed for an experiment. One personal example I have recently done in chemistry class is to test and see if sugar levels effect the evaporation rate of a vary of soft drinks. The hypothesis stated previously that the higher the concentration of sugar the higher the evaporation rate will be (less liquid left over). The theory behind this hypothesis was that adding a substance like sugar would



dissolve into the water increasing the particles in the water making the evaporation rate longer when more sugar is added. This hypothesis proved to be correct to some extent because as seen in the data the more sugar added the less liquid collected although there is a positive slope on the graph. This illustrates to some extent how the sugar amount and the evaporation rate will increase, but if too much sugar is added then the evaporation rate decreases. Chemistry supports the idea that there are different ways to produce knowledge. Active experimentation can be supported in this example seen from the hands on experience created and done to support the hypothesis.

In my opinion, the most reliable and common way to gain knowledge is seen through a combination of both passive observation and active experimentation together. Psychology is a soft science that can be seen to use both observation and experimentation to produce the most reliable knowledge. One example of a continuum of both these is a field experiment done by Rosenhan (1973). This study was done to test the reliability of psychiatric diagnoses. Rosenhan took eight healthy participants — five men and three women — to try and get admitted and diagnosed into a psychiatric hospital. These participants had to use passive observation to observe the nurses and doctors, as well as active experimentation with themselves by saying they were hearing voices to get into the hospitals, then act normally to get out as fast as possible. This study was able to support the efficiency of the continuum of both observation and experimentation together. Without one or the other this experiment couldn't be done to show the experimenters and researchers point of view, of how hard it really is to diagnose someone insane as well as resulting in this experiment not being concise in their eyes.

Seen in areas of knowledge such as art, chemistry and psychology, one can support the claim that there is a degree of passive and active and observation or experimentation in a continuum which produces the most reliable data. Contradicting art as only using passive observation, active experimentation can also be seen when the artists would have to try different techniques and styles before they are satisfied with their art works message so it can effectively be portrayed. As well as in the Banksy example the fact that he goes out and strategically places his art work knowing a certain audience will see and react to it supports the definition of active experimentation. Chemistry can be seen to use passive observation for the simple reason as one has to pay close attention to the experiment to watch if a reaction occurs. One main requirement for chemistry labs in high school is that there needs to be qualitative data, which is what is observed from the experiment. These areas of knowledge often might be seen as just passive or active observation or active experimentation but when taking a closer look most areas of knowledge produce more reliable knowledge when a continuum of observation and experimentation is used.

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