

19. What counts as a good justification for a claim?(Knowledge and Technology)

Word count: 937

1. Titration Experiment(Malenga, 2017)



Experiments have been used by humanity for the last hundreds of years as the checking part and proof for their claims in the form of hypotheses and theories. This titration experiment is also an accurate way to identify concentrations of different substances in compounds and colour them to separate from each other. I chose it, because this experiment is widely recognized by chemistry scientists as justification for claims in stoichiometry.

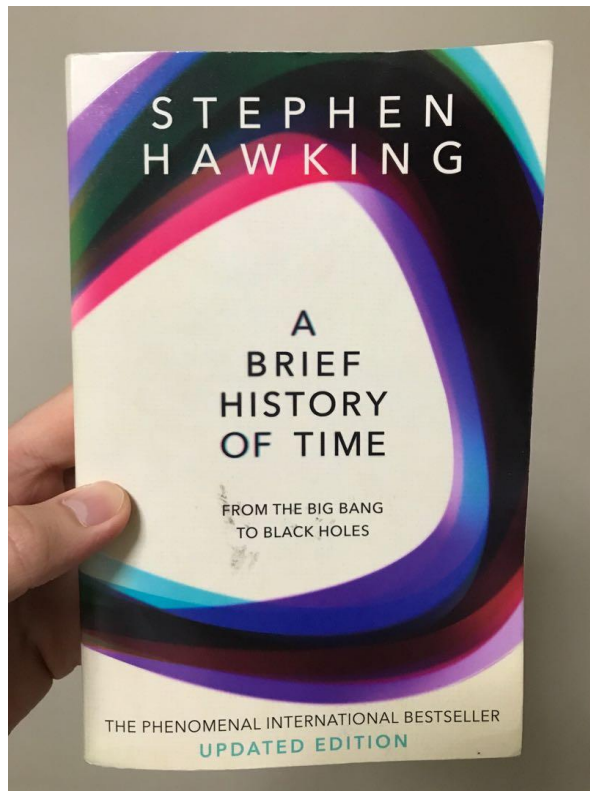
For the last 500 years experiments have been the one kind of objective proof for scientific claims, hypotheses and theories in terms of scientists. Their advantage is the full objectivity of data, according to scientists. In addition,

experiment considers probable uncertainties, which helps to identify objective and very precise data, which can be tested for unlimited times. Because of this scientific society recognized experiments as the most precise way to justify scientific claims. Titration experiment is often used for the justification of scientific claims, that a substance contains some concentration of another substance.

Personally, I studied titration experiments during Chemistry SL classes and we used this experiment to prove our hypothesis about the amount of concentration of one substance in another one. I justified my hypothesis that the substance contains some concentration of other material. It was the justification for my first claim and I was right in hypothesis. We studied that titration experiment is very important for scientists, who are studying stoichiometry, but I can't use it for my own justification fully, because I know only one way to conduct this experiment and only for few specific substances, while scientists are using it for justification of their claims in other spheres, because use it as the some step of huge justification for their specific scientific justification, for example the research of reactivity of all elements of periodic table.

So, the titration experiment can be counted as a good justification, because it is specific and can be proved with the analysis of methodology, in addition it's fully recognized by scientific society. .

2. "A Brief history of time" book - Astronomy book, Stephen Hawking (Personal photo)



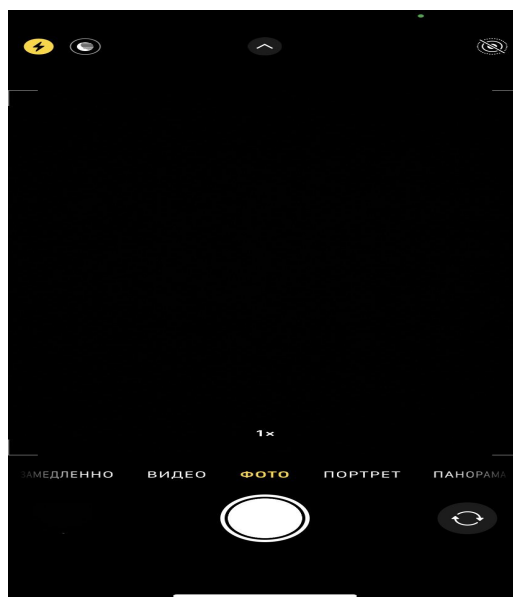
Stephen Hawking is considered as the expert in astrophysics and physics. His theories and hypotheses are justified by a lot of scientific books and articles. Hawking's books consist of all his knowledge and theories. So, I took his book "A Brief History of Time" as a good justification for the claim, because it is directly connected to the prompt.

Personally, I have this book and I use knowledge and a lot of graphs from this book as the justification and support for my claims during some debates. Actually, it is useful, because justification from this kind of book and expert author is very strong and can not be challenged by others. Also this book is considered as the justification by astrophysicists, because knowledge about astrophysics is very clear and precise, so it can be used as the good justification of astrophysical claims. Mainly, it can be used by the astrophysicist

amateurs, because for professional scientists there is too much general information.

Nowadays there are a lot of theories and hypotheses about astrophysics. A lot of them are proved and justified by accurate experiments, books and other tools. For example, this “A Brief history of time” book is the perfect example of the knowledge, which is designed by the expert. This book can be considered as a good justification because the author is the expert, who studied this sphere properly and made some discoveries. There is the properly described astrophysical models, systems and basic knowledge about it. In addition, astrophysics is natural science, which is precise and based only on neutral facts. Book consists of explanations and descriptions of the basic history of our universe, matter, planets and other objects. In addition it consists of a lot of easy and understandable graphics and schemes, which are related to the topic. Book is also written in easy form, so it will be a perfect justification for the claim.

Camera of my iPhone(Personal photo)



I chose this object, because it is a good example of a good justification for a claim. It is connected with the human's psychological and natural features, which makes this object a very good justification.

When a person needs to prove some claim, he needs some justification and evidence. Without them his claim will be invalid and weak, nobody will trust it and there is some secret. People trust only when they see this claim and it's justification with their eyes, for their own. It depends on the knowledge that 80% of information is taken by visual sense, so cameras can help there. It can be used in order to take photos or videos of evidence or something, which can justify the claim so clearly and effectively, because people will trust things with visual evidence and representation, which will prove the reality of justification.

Personally, I used this camera to take photos and videos of things, which interested me for different reasons and often to justify my claim, ironically for every case of justification of my claim. It worked for any object, which could justify my claim. My friends and the whole world, including scientists, are using this kind of justification to prove their claims, because this kind of evidence is very effective due to the representation of some situations, objects and theories. Even in courts there is the high trust for claims with justification in form of photo or video, which are taken by camera and oftenly it is checked and used in order to prove something.

So, a camera counts as a good justification for a claim, because it can provide visual representation of any evidence and argument for the claim and it is trusted by everyone.

#### Bibliography:

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URL:

<https://edu.rsc.org/resources/titration/2258.article>