

Seminar preparation assignment 4

Theory and Methodology of Science

AK2034

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Exercise 1 What is the difference between fabrication of data falsification of data?

Solution. Both are considered as misconduct

Fabrication Making up results and recording or reporting them.

Falsification Changing or omitting results or manipulating equipment or process.

Exercise 2 Give at least 3 reasons (besides avoiding plagiarism) why you should cite other's work in you research?

Solution. Directly from the paper On being a scientist "They acknowledge the work of other scientist, direct the reader toward additional sources of information, acknowledge conflicts with other results, and provide support for the views expressed in the paper."

Exercise 3 Are there any ethical problems with pseudoscience (such as homeopathy or intelligent design)? And if so, which are they? (In your answer, repeat also the criteria for something to be considered to be pseudoscience).

Solution. Pseudoscience is belief or practice which is presented as scientific but are missing a valid scientific method, lacks evidence or cannot be reliably tested. The ethical problem is that it gets hard for average Joe to distinguish between science and pseudoscience which results in that many of the bad parts about certain pseudoscience subjects gets spilled over to distrust science. But it can also have direct problems by directing people to do really stupid and sometimes even dangerous things for personal profit, note that homeopathy is a million dollar industry and I bet that some people have a big reason to spread this pseudoscience.