

Research Methodology

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Peer review

- What? (scrutiny of/by others who are experts in the same field)
- (a filter to ensure trusted form of scientific communication/publication)
- Why?
- (maintaining high standards of discipline and to control the dissemination of research data to ensure that unwarranted claims, unacceptable interpretations or personal views are not published without prior expert review)
- (bringing/improving ethics in the system) – e.g. AI ML

Peer Review: Advantages

- provide suggestions to authors on how to improve the quality of their manuscripts, and also identify any errors that need correcting
- advantages
- (It helps ensure that papers published in scientific journals answer meaningful research questions and draw accurate conclusions based on professionally executed experimentation)

Peer review - Disadvantages

- (slowness of the process)
- (Humans control the quality) - Subjective
- (may not provide facts, more opinion and experience based)
- (perceived bias by the editors and/or reviewers)

Ethical Norms

- The following are the ethical norms that should guide scientific reasoning and conduct.

Ethical norms

Honesty

Scientists should practice honesty in research and publication, and in their interactions with peers, research sponsors, oversight agencies, and the public.

Objectivity

Scientists should strive for objectivity in research and publication, and in their interactions with peers, research sponsors, oversight agencies, and the public.

Openness

Scientists should share data, results, ideas, methods, tools, techniques, and resources.

Ethical norms

Freedom

Scientists should be free to conduct research without political or religious intimidation, coercion, or censorship

- This norm applies to institutions and organizations that support and oversee science, as well as the political systems in the countries where science is conducted.
- Freedom is vital to innovation, discovery, and criticism in science, since scientists need to be free to develop or pursue new ideas and to question old ones.