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Experimental Research and Society

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Experimental research has in some form been the driving force behind the development of human society ever since humanity began to look at the world around them, and question why the world worked.

The banner features the Explorable logo and the text "Quiz Time!". Below this are three quiz cards:

- Quiz: Psychology 101 Part 2 (Image: Red roller skates on a wooden deck)
- Quiz: Psychology 101 Part 2 (Image: A fan of colorful pencils)
- Quiz: Flags in Europe (Image: A Ferris wheel at sunset)

[See all quizzes =>](#)

History

Scientific ^[1] techniques have been refined over the years, from the simple observations of the ancient Greek philosophers and Persian astronomers, to the complex designs used in modern research.

Scientific research has changed how we look at things and how we shape the world around us. Each experiment ^[2] or piece of research ^[3] is not just an isolated piece of information, but a link in a long chain. Einstein's Theory of Relativity was not just a random idea, but carried on a line of research that existed long before Newton.

Relevancy to the World

The news is full of prisoner abuse and torture, dragging the famous Stanford Prison ^[4] and Milgram experiment ethics ^[5] into the 21st century.

Companies spend billions of dollars performing qualitative research ^[6] to help them design

products that will sell. Science answers questions about the universe but this only leads to more questions, in a never-ending process.



Experiment

^[7]Thinking of ideas and designing an experiment ^[8] are probably

the most important part of the process.

If there are any flaws in the design or concept, then the experimental research will fail, regardless of how much time and effort is invested. There are many different types of experiments but they all have to follow strict rules. Whether you are performing a case study ^[9] or a quantitative research design ^[10], the experimental design ^[11] must be thorough.

For many scientific fields, the ethical ^[12] consequences of any research must be taken into account. For example, many social experiments ^[13] performed over the years would not be permitted in the modern scientific community.

With the advent of human cloning and genetic engineering, the ethical ^[12] and social implications of science are once again being called into question.

Performing the experiment is the next stage in the process, making sure that there is no error ^[14] in your experiment, which could invalidate the results ^[15]. It is also important to perform statistical tests, to ensure that the results are tested mathematically, and are not open to personal interpretation.

Some experimental designs, such as quasi experimental designs ^[16], are more problematic to analyze in this way and so, whilst still useful, are open to debate and questioning.

Communicating Discoveries

After patiently gathering data and testing, the next stage is writing a report. If an experimental research paper ^[17] is poorly written, the experiment will never be taken seriously, however important the results.

Scientists are not expected to be great writers, so science has developed a series of guidelines for writing research papers ^[18]. If these are followed, then there will be no problem with others not understanding your work.

Links

- [1] <https://explorable.com/what-is-the-scientific-method>
- [2] <https://explorable.com/conducting-an-experiment>
- [3] <https://explorable.com/what-is-research>
- [4] <https://explorable.com/stanford-prison-experiment>
- [5] <https://explorable.com/milgram-experiment-ethics>
- [6] <https://explorable.com/qualitative-research-design>
- [7] <http://www.flickr.com/photos/restlessglobetrotter/2513014001/>
- [8] <https://explorable.com/research-designs>
- [9] <https://explorable.com/case-study-research-design>
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- [18] <https://explorable.com/research-paper-outline>