

# The research cycle

## Contents

Understanding the research cycle .....	2
The research cycle is on-going .....	2
Research is identifying and filling the gap in knowledge.....	2
Gaps in knowledge are identified in the literature.....	3
The research cycle can be illustrated thus: .....	4
References .....	4

## Understanding the research cycle

*“If I have seen further it is by standing on the shoulders of giants”*

*(Isaac Newton 1676)*

This phrase is often attributed to Isaac Newton but Newton is probably repeating something he has already heard and the phrase might well be traceable back to Bernard of Chartres in the 12th century. Nevertheless, this illustrates how incremental additions to the body of knowledge brings us to the state of knowledge we have today and will be laying the ground for the knowledge we will enjoy tomorrow.

## The research cycle is on-going

The research cycle is an intrinsic part of that process. As researchers, we first need to become familiar with the current state of understanding about a topic or a subject and from that we can then identify any gaps in that body of knowledge that can be filled by research. It is important to note that not all knowledge gaps can be filled by research, at least not at the moment.

For example, we do not have a clear picture of what is happening in real time in the brain when we go shopping or drive a car or when we eat different foods. We have a general idea, but at the moment, we do not have the technology to access real-time images of the activity within the brain while undertaking these activities so filling this knowledge gap is, at the moment, not possible.

## Research is identifying and filling the gap in knowledge

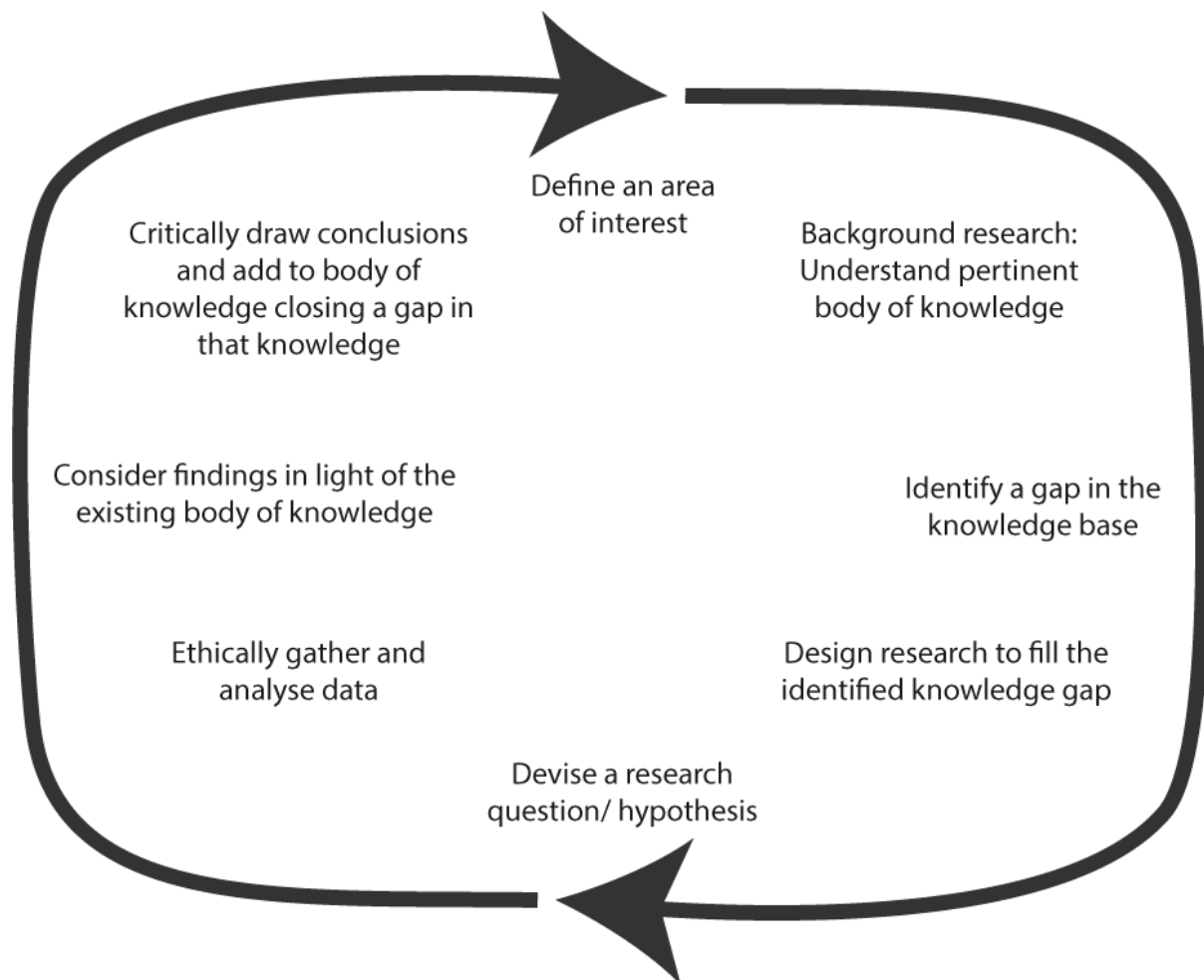
There are other gaps in knowledge that can be filled by research but this will be based upon previous research, some of which has been carried out by leaders in the topic of field and these researchers are Newton’s “giants”. A good example of a knowledge gap might be where we know that people who live in an urban setting engage in certain behaviours but we might not know whether people who live in a rural setting engage in the same or different behaviours. Thus, it is feasible to try and fill this knowledge gap by conducting the research in a rural setting to see if the results match those found in an urban setting. It is only by understanding the knowledge landscape that exists already that we can identify areas of the unknown.

## Gaps in knowledge are identified in the literature

The research cycle, then, is about understanding what is already known, identifying a knowledge gap and then designing a piece of research that can produce findings that will fill that gap. Researchers will then report their findings, usually by publicising them in a peer reviewed journal. At this point, the findings will become part of the body of knowledge. An important part of the report of findings will be a critical analysis of the existing knowledge base and the research that has been reported. In other words, the researchers will need to be critical of their own work and identify any shortcomings (and strengths) associated with their work. Beyond this, the researchers should note any gaps in knowledge that have not been filled by their research. This in effect is where they ask more questions or call for more research to be done in that particular area.

Of course, the vast majority of research findings will make a small incremental advance in knowledge but occasionally, findings of significant or profound importance are made that the body of knowledge either in relation to the topic or field, that a seismic shift in understanding is required. This is often a controversial process and has been known by the term coined by Kuhn (2012); “paradigm shift”.

The research cycle can be illustrated thus:



This is a relatively simple illustration that does not detail every aspect of the process. For example, the phase for designing a research question or hypothesis will be informed by the researcher's philosophical stance, or view of the world and the nature of reality. A reality out in the world that exists apart from humans is different from the reality of the experience of existence of humans.

In this sense, one can view reality as an objective form existing apart from human experience yet we can argue that only the experience of reality actually matters. This can become a very complex field of philosophy and is not something that can be examined in any great detail here.

## References

Kuhn, T. (2015). *The structure of scientific revolutions*. Chicago, Ill.: The University of Chicago Press.