

Storytelling in science *Making research meaningful*

Science is fundamentally about discovery, but discovery alone is not enough. The value of scientific research depends on our ability to communicate ideas, evidence, and significance to others. While data, methods, and results form the foundation of scientific presentations, storytelling provides the structure that helps audiences understand and remember them. In this sense, storytelling is not about simplifying science or sacrificing accuracy. Rather, it is about organising information into a coherent narrative that guides listeners through a scientific journey.

Humans naturally make sense of the world through stories. A well-crafted scientific story presents a clear problem, explains why it matters, describes the approach taken to investigate it, and reveals what was discovered. This narrative structure helps audiences connect individual pieces of information, transforming a collection of facts into a meaningful sequence of events. For postgraduate biology students, who often work with complex datasets, specialised terminology, and intricate experimental designs, storytelling can be a powerful tool for making research more accessible and engaging.

Effective scientific storytelling also highlights the broader context of research. Biological studies rarely exist in isolation; they contribute to larger questions about life, health, ecosystems, evolution, or biotechnology. By framing research within these wider challenges, presenters can help audiences appreciate both the motivation behind the work and its potential impact. Storytelling encourages scientists to move beyond simply reporting results and instead explain why those results matter.

Importantly, storytelling complements scientific rigour rather than replacing it. Strong scientific stories are built on evidence, transparency, and critical thinking. The narrative serves as a framework that connects hypotheses, methods, results, and conclusions in a logical and memorable way. As a result, audiences are more likely to follow complex arguments, retain key messages, and engage with the research being presented.

In an era where scientists increasingly communicate with interdisciplinary colleagues, policymakers, and the public, storytelling has become an essential skill. By combining robust evidence with compelling narratives, scientists can ensure that their research informs, inspires, and creates lasting impact.

Example storytelling narrative

Completely made up example, may not be factually correct

The search for a silent threat

1. The challenge (why should we care?)

Imagine walking through a native forest that appears healthy, yet beneath the surface a pathogen is slowly spreading through the soil. Tree deaths are increasing, but the cause remains unclear. Understanding this threat is critical for protecting biodiversity and ecosystem resilience.

2. The question (what did we want to know?)

Our research asked: How is this pathogen spreading, and which environmental factors influence its survival and transmission?

3. The investigation (how did we study it?)

To answer this question, we collected soil samples from multiple forest sites, analysed pathogen abundance using molecular techniques, and compared infection rates with environmental variables such as moisture, temperature, and soil composition.

4. The discovery (what did we find?)

We found that pathogen prevalence was strongly associated with soil moisture, suggesting that wetter conditions may facilitate its spread. Unexpectedly, some sites with high pathogen loads showed few visible symptoms, indicating that infections may remain undetected for extended periods.

5. The meaning (why does it matter?)

These findings improve our understanding of disease dynamics in forest ecosystems and identify potential targets for monitoring and management.

6. The next chapter (what comes next?)

Future research will investigate whether changing climate conditions could further increase disease risk and how management interventions might slow pathogen spread.

Key message: By understanding how this hidden threat moves through ecosystems, we can make more informed decisions to protect vulnerable species and habitats.

The Annual Biology Conference (ABC) is a single day symposium, organised by the School of Biological Sciences, to provide an opportunity for our postgraduate research students to present their findings to colleagues, peers and to the wider scientific community.

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