Scenario 1

On presenting your module marks to the examination board for the Brain Function & Disorder module it is noted that the question on deep white matter nuclei has been particularly poorly answered. A quick look at marks for previous years shows this topic area has been a persistent problem with questions consistently poorly answered for the past 8 years. Curious as to why this may be you apply (and get!) a £10, 000 grant to investigate the student understanding of brain structure and function. How would you go about investigating student understanding on this topic? (Feel free to substitute for a 'difficult' topic in your subject area)

This scenario is intended to represent an investigation into a 'difficult' topic (hence the 8 years of poor results). It is based on the following paper

Cahyadi, M. V., & Butler, P. H. (2004). Undergraduate students' understanding of falling bodies in idealized and real-world situations. *Journal of Research in Science Teaching*, **41**(6), 569-583.

Here the authors investigated student understanding in an area where students come with incorrect preconceptions. The study was based around a carefully designed written questionnaire (designed to investigate a particular hypothesis about student learning), augmented with a smaller number of follow up interviews to get more details of student understanding.

The £10,000 was added to reflect that for most bioscience academics any educational research they do will be with little or no funding and this restricts the methodologies available.