What comes to your mind at first speaking of physics? The mistakes struggling with the complicated equations? Or the famous physicist Albert Einstein? Today, I am here to show another relationship between the physicist and the subject, which is called the right mistakes. Right Mistakes played a crucial part in the history of physics, and I am going to explain this idea with two examples later.

Begin with the equation that Einstein created to explain gravity. At first, he tried to add the cosmological constant to describe the development of the universe. However, according to the precise calculation and the experiment of other scientists, the constant didn’t exist at all! What a shame on Einstein, right? However, the story hasn’t come to an end. With the further observation of outer space by modern scientists, the no-constant equation fails to give the results that matched the experiments, so nowadays people are trying to get the inspiration from once the greatest mistake of Einstein. Sometimes physicists are just like the curious children being fooled by the universe, you know.

You may think that’s only a coincidence. However, Einstein hasn’t made only one mistake! Here is the famous quotation from him: “I cannot believe that God plays dice with the universe.”, which means that he cannot believe that the lively world is full of uncertainty, and by no means we can take control over it. Somehow, this idea has been disproved by his ‘enemies’ – in academic terms I mean - the Copenhagen school led by other distinguished physicists, Bohr, Heisenberg and so on. And you can guess what happened – even now, some physicists couldn’t bear the uncertainty and are still trying to find out the evidence to ‘fight’ against it! Sounds impossible, u-uh?

According to the stories above, we know, at least for Einstein, Physics is something more than equations and calculations. The universe is the magician; physicists are the curious crowd trying to figure out how the magic works. The exploring part, so-called mistakes or even failure is something far more attractive than 'right answers'.