

Lessons Not Learned at University #2

There is no such thing as a silly question

The Young Graduate was working under *The Doyen* and was completely in awe of him. *The Doyen* would answer any question and would spend hours explaining various aspects of forest resources management planning. *The Young Graduate* was indeed very lucky.

He was given a task to develop a model to predict the increment of radiata pine to various top diameter limits. Historically the organisation had determined the standing volume to 10 cm and also to other assortments like 20 or 25 cm, had predicted the increment to 10 cm and then had used the ratio of the volume to the higher diameter limits to the volume to 10 cm to predict the increment to larger sizes such as 20 cm, and so on. *The Young Graduate* was told “see if you can improve the model, it seems to underestimate”.

The Young Graduate looked at some permanent plot data and calculated the volume to various top diameter limits as well as he could, did this for a number of plots at different ages, and found that the simple ratio underestimated increment to larger top diameter limits in every case. More surprisingly the calculations showed that increment to 20 and 25 cm on some plots was greater than the increment to 10 cm. Why was this so? The initial conclusion was that the calculations must be wrong but try as he might *The Young Graduate* couldn't find any errors.

He tried to explain what was happening to *The Doyen*. He was listened to for quite some time before *The Doyen* said “it doesn't make sense. After all the volume to 20 cm top diameter must always be less than the volume to 10 cm”. This was actually mildly encouraging. He was not told “you are being stupid, go away”. Instead, he was told to “go away and see if you can work out what is happening and come back when you think you have the answer”.

Now the challenge all younger staff members had with *The Doyen* was that you could always ask a question, as long as you hadn't asked the same question the day before, and *The Doyen* would push his hat towards the back of his head and give a well-considered reply. The more challenging the question the closer the hat came to being pushed off the top of *The Doyen's* head. Real success was when the hat fell right off.

A few months later *The Young Graduate* tried again. He had better data, he could even develop a vague sort of model for the effect, but he still couldn't explain it. Again he tried his thoughts out on *The Doyen* and again he failed. Same response, “think again”.

Later *The Young Graduate* suddenly realised that trees, being approximately a second degree paraboloid in shape, the height at which the tree diameter was 20 or 25 cm was rising over time much more than the height to 10 cm. It was now possible to explain the apparently inexplicable. This time *The Doyen* quickly accepted the explanation and the new model was incorporated into management planning models, improving the prediction of future volumes to various top diameter limits.

The Doyen had often said that there is no such thing as a silly question, only silly answers. *The Young Graduate* learned this lesson, and also learned that it was necessary to understand why data are showing different trends, as then, and only then, would he understand the basics of resource management.

Ah, but did *The Doyen* understand the issue all along and was merely trying to train *The Young Graduate*?

Lesson: Just because data show something that seems impossible does not mean that it is impossible. Well, it may actually be impossible, but equally it may just be that the understanding of the process is flawed and the data may be indicating that there is an alternative way of looking at the world.

Jerry Leech

jleech@ozemail.com.au