



# Talking Teaching

**Edited by Birgit Loch\* and Sid Morris\*\***

*The opinions expressed here are those of the author and not necessarily of the Editors of this column or the Editors of the Gazette or the Australian Mathematical Society.*

In his first article for this column, Sid brought up the story of the Deakin lecturer who in his first class of semester 2 was staring down the aisles of an empty classroom and complained bitterly about the attitude of his students to study as nobody had bothered to turn up. This made the news all over the world. I would like to approach lecture attendance from a different angle, by adding my own story, leading to a few questions that I believe we should try to find the answers to.

Recently, I started to teach for the first time at a new university. I had met the students in the first lecture, and arrived at the allocated teaching room for my next lecture two days later. There was only one student in the room, and it didn't look like anyone else was going to join us. After talking to him, we established that he had been hoping to learn computer science, while I had been planning to teach mathematics. Everyone else seemed to have picked up on the timetable change apart from the two of us. I found my class in the end, and I hope so did the computer science student. My students had waited for me to arrive (despite the 10-minute delay). I apologized and thanked them for this. Most of those who were present in the first week are still turning up, in week 6 of semester.

Let me go back to my own experiences as a student in Germany in the 1990s, majoring in mathematics with a minor in informatics. On Friday mornings in our first year, we had our weekly Fundamentals of Informatics lecture with Professor Dr Mueller-Clostermann. It was the only class we had that day, so it didn't take us long to form a study group that allocated one student to turn up and take very detailed notes, to make photocopies of these, and be prepared to teach all others who had stayed at home that day. Although we were highly motivated students, there was a limit to how much effort we would go to for just one class. What we implemented, without having a name for it back then, is peer-learning, where we helped each other, rather than learning only from the lecturer; and where one of us would become the teacher. It worked very well for us. I don't know what the professor was thinking though, as from his point of view, it would have appeared that we couldn't be bothered to turn up. In a way, this was correct.

Here is a second example. I remember being enrolled in Funktionentheorie (Complex Analysis), a subject that was taught over two semesters, in my third of five years of my studies. Both two-hour lectures were scheduled in the 2–4pm time slot, the optimal digestion time after lunch, in a room that was overheated both

---

\*Email: [B.Loch@latrobe.edu.au](mailto:B.Loch@latrobe.edu.au)

\*\*Email: [morris.sidney@gmail.com](mailto:morris.sidney@gmail.com)

in summer and in winter. It made it impossible to concentrate. I would desperately try to stay awake as the content really interested me, and awake with a start as I would nod off without fail in every class. This was highly embarrassing and outside my control. I decided to stop attending, and at the end of semester copied notes from a fellow student who had stayed awake. I didn't need to pass as I had accumulated enough credits. At the end of the year, I approached the professor to ask if he would allow me to choose his subject for my final oral exams. He accepted me, although he must have been surprised that someone who had not bothered to turn up was interested in specialising in his subject. My friend's notes were the basis for me to gain a very good understanding of the topic.

But yes, you may point out that this was in a different era, on a different continent, and I'm talking about students who were there for the love of the discipline. We accepted that it was our responsibility to study and keep up. We also accepted the several degrees of separation between the student and the professor, who often would not be available for consultation with first or second year students as he delegated this to his PhD student. While access to a mathematics degree was open to anyone who completed the senior high school certificate, the expectation was that natural selection would result in no more than a third of starters finishing their degree. Here is an anecdote from my first Analysis lecture, where the professor said: "Look to the left, then to the right, only one of the three of you will finish this degree". What a welcome to your first semester of study.

Switching back to today, there is no longer a need to send a delegate to class to take notes, nor to ask a fellow student for their notes, as live lectures are often recorded. In some cases, and I believe this has started to become the norm at universities such as Deakin, lectures are live-streamed. Students can access the lectures on demand, from wherever they are, to consume one at a time or binge-view, like Netflix. Lecture recordings are not interactive, in the sense that you won't receive a response to questions that may arise, but this is not different to the copied notes from a friend. Both are simply a record of what was covered in class.

This semester, the largest proportion of students that have attended my lectures has been around a third of those that are enrolled, and this was in week 1. This is lower than I've ever seen it at previous universities. This is a bit skewed, as there are timetable clashes. I've also had international students turn up for their first class in week 4. So before I would feel comfortable to make the statement that two thirds of my students couldn't be bothered to turn up, I would feel obliged to work with my students to find answers to the following questions:

- Is it the student's free choice not to turn up (in which case, they couldn't be bothered)? Are there factors that impact on their attendance? If so, what are they? (e.g. timetable clashes, distance to campus, no money for fuel, part-time work, carer's commitments, the only class for the day)
- What material are students using for study if they are not attending classes and not looking at lecture recordings?
- Have the students formed their own study group, and are they supporting each other?

- Are there students who go directly to the assessment and try to complete this without study, and if so, do they succeed? Strong anecdotal evidence indicates that this is how academics approach online compliance training modules.

In addition, I would ask myself

- What can I do to help these students be successful in their studies?
- What is the success rate of students who do not attend classes, versus those who do?
- What is the success rate of students who do not access lecture recordings, versus those who do?
- How do students who attend classes compare with students who instead watch the recording?
- Is the above different when we compare mathematics major students to service students?
- Does everything revolve around me as the lecturer and should I insist on teaching every student in person, or are students fully capable of self-regulating their learning and finding their own pathways, the way we did as students?

If anyone has undertaken studies to answer the above questions, I would love to hear more.

Of course, there is much more one may write on this topic. In a future column, I intend to write about learning mathematics from videos, active learning, the role of the lecture in mathematics and how this differs from other disciplines, open educational resources, as well as blended learning.



Birgit Loch has taught first and second year mathematics mostly to service students at four universities, in traditional, blended as well as online modes for the last 13 years. She has won numerous teaching awards for her use of technologies to engage students, and for convincing her colleagues to reconsider their practice. Her research interests are in technology approaches to teaching mathematics and supporting students in the learning of mathematics, including learning from video, blended learning, and teaching with tablet technology. She has held leadership roles in learning and teaching at three universities. Earlier this year she commenced as the Teaching Chair in the College of Science, Health and Engineering at La Trobe University.