

Steps to transform your teaching

Madeleine Schultz and Gwendolyn A. Lawrie, 2016

It is surprising that science academics who place high levels of importance upon evidence-based practice for research do not consider the same evidence-base as being important in their teaching.

da Silva, K. B. (2008). *Raising the Profile of Teaching and Learning: Scientists Leading Scientists*. ALTC. p. 25

Classroom teaching practice is a personal skill that develops with experience and through reflective cycles. Teacher behaviour involves responding to a specific group of students in a particular class and so is impossible to completely plan in advance. However, steps towards the development of more effective teaching methods are possible even with limited time and resources.

1. Know your students

Find out who they are and be willing to adjust to their needs: students in tertiary classes are usually more diverse than you assume. Question the students –a show of hands gives you quick feedback.

2. Prepare

Quarantine 20-30 minutes before you teach to think about what you are aiming for students to learn in your class that day and how you will know whether they have understood you. Plan the strategies that you will use to address important concepts.

3. Reflect

Reflect on what you did after each teaching experience and make a note of what you could adjust. Did you feel that you communicated the essential concepts effectively? Did students engage with the material and the teaching strategies that you used? How many students grasped the concepts?

4. Observe your peers teaching and invite them to observe you

Invite colleagues to observe you and to give you feedback on your teaching, and also ask whether you can observe their teaching.

5. Use ChemPCK

The website <http://chemnet.edu.au/chem-pck/> contains teaching strategies and insights from a large number of tertiary chemistry teachers. You can search by topic that you are teaching to find specific strategies that have been successfully used by others.

6. Practice high impact teaching

- Flipping: move the bulk of the new content into resources that students access before class time, such as readings, videos or screen casts.
- Peer teaching (with or without flipping): During class, students work in small groups to discuss stimulus material or problem-solve.

7. Assess student learning and provide feedback

Assessment informs teachers of what their students know and can do, and this information is important when choosing teaching strategies.