ASE Annual Conference: An early career teacher's view

■ Michal Kempinski

Amongst the many professional learning opportunities offered by ASE is the Annual Conference, hosting more than 300 workshops, talks and drop-ins over a 4-day period in January each year.

London Region ASE decided that this event creates such great opportunities for teachers that they offered sponsorship for early career teachers to attend. They believed that attending would help new teachers engage with the enthusiastic of the science education community and give them opportunities to enrich their classroom teaching. One teacher who took advantage of this sponsorship was Michal Kempinski, who works in a London comprehensive school.

Michal writes:

I currently work as a newly qualified science teacher at the Lilian Baylis Technology School in London. I heard about the ASE Annual Conference from my mentor, Roni Malek and was encouraged to apply for a sponsorship scheme in my ASE region, which funded me to attend the Conference for one day.

The Conference is an event that should not be missed by any science teacher. It offers sessions on topics from behaviour management though to running a department; from specialism-specific sessions to how to run cheap practicals. Wanting to make the most of my time in Liverpool, I planned which sessions I should attend – not easy with so many interesting events throughout the day. I decided to be pragmatic and focus on areas of classroom practice that I wanted to improve: pace, challenge and questioning.

I asked myself two questions: 'Is a busy classroom a good learning space?' and 'Should all students be constantly answering questions?' The session I attended on pace and challenge gave me insight into how one should balance these to allow deeper learning to take place. One might think that a busy classroom filled with students working through endless booklets of questions is perfectly acceptable, with students providing a huge volume of completed work. However, this is not an indicator of progress in understanding or learning and may be misleading. Research (Diwas Singh *et al*, 2017) shows that too many easy tasks can be detrimental to long-term progress. In other words, task completion may boost pupils' confidence, but lack of challenge is proven to undermine progress because it limits the amount of deep learning achieved. Getting the challenge into activities and helping learners to persevere and raise their level of understanding, rather than simply breadth of knowledge, is key for successful learning.

Before the event, I was not sure what deep learning was and how to maximise this process in a classroom environment. The most common tool I used to promote deep learning was pre-prepared questions. A well-phrased question can facilitate discussion and engage learners. However, if the question is constructed poorly, it can lead to confusion and limit creative thinking (Tofade *et al*, 2013). I attended a session on *Questioning in Science,* led by Dr. John Oversby. We were given sheets containing four pieces of information about certain topics: for example, *trees gain their mass by absorbing nutrients*. We had to compose as many questions about these statements as possible. This strategy solved my problem: students write their own questions, which reflect their knowledge and expertise in that topic. The process of creating questions leads to discussions that allow the teacher to tap into student thinking and also allows students to think about and challenge their own ideas and compare them with those of peers in the safe environment of the classroom. Misconceptions or different interpretations come out into the open and this allows some to be sorted out immediately, while others can be parked and worked on more rigorously later.

Now, I ask my students to produce and rank questions depending on difficulty and these become a stimulus for learning. Sometimes I re-use these questions for different purposes, such as revision or introducing more differentiation into classroom activities. For example, I use easier questions for retrieval practice (knowledge tests) and more advanced questions to stretch and challenge. It is sometimes better to get students to write challenging questions. The process of creating questions draws students into discussions and promotes individuality and deep learning.

These sessions helped me to find a good balance between pace, challenge and questioning. However, ASE also promotes educational research and other sessions I attended were aimed at this, packed with information on how to start your own educational research and to 'close the gap between researchers and classroom teachers'. This inspired me to learn more about cognitive load theory and I have started to simplify diagrams and worksheets given to students in order to maximise learning.

I believe that the Annual Conference inspires teachers and gives them the tools they need to further improve their practice. If you are a new teacher, sign up for the next Conference and plan your day around those areas you wish to improve. You won't regret it!

References and further reading

Diwas Singh KC *et al* (2017) 'Task Selection and Workload: A Focus on Completing Easy Tasks Hurts Long-Term Performance', *SSRN Electronic Journal,* (17), 112

Toyin Tofade *et al* (2013) 'Best Practice Strategies for Effective Use of Questions as a Teaching Tool', *American Journal of Pharmaceutical Education.* Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3776909/.