

Let's talk significant people in Chemistry

In this article Ross and Verity consider how we can bring significant scientists to life in our teaching and learning.

Gaining knowledge about the amazing work of people in Chemistry is a great way to get children engaged and enthusiastic about the field. We've found that just asking children to 'find out' about someone to develop knowledge and or research skills can be a dry task. Creating a fact sheet isn't that much more exciting. However, when you ask children to bring their scientists to life using digital technology, eyes widen and classes tend to take notice.

The activity we present here takes a digital image of a Chemist and allows the children to bring it to life and make them talk about their life and work. This relies on schools having access to tablets. We use the free App called Talkr (this App is available for iOS, other photo talk Apps are available for iOS and Android). We've found that Talkr is an easy to use App for pupils and teachers. As with any tech' we highly recommend testing out the App before the lesson to make sure you are familiar with it. In fact, we recommend making a talking Chemist of your own on Talkr so you can use it as a model (as you'll see below). If you need help, there are some really useful short clips on YouTube made by other teachers (see resources below).

Step 1: What's the purpose?

We find that quality learning needs a purpose, and the children need to know what that purpose is. Consider whether the knowledge children find out about a significant Chemist might be used in an Assembly, or perhaps be shared with another class or visitor. Once you've shared the purpose, show your own talking image on the App. It might be useful to use the face of someone familiar to the children – perhaps a sports person, politician or member of staff! Seeing the App in action helps the children visualise what their end product will be. This modelling is also useful if you want to show the expectation in quality, content and length.

Step 2: Find me a Chemist

In pairs or small groups challenge the class to find out about a Chemist. You may want to provide pre-prepared information sheets or a list of names for pupils to use as search terms. Remember to think about the diversity of representation in these lists. Here are four possibilities to get you started:

- Rosalind Franklin (UK 1920–1958) was the first to use x-ray crystallography to see the structure of DNA. Watson and Crick used her data in their proposal for the double-stranded helical structure of the DNA molecule. Unfortunately, Nobel Prizes are only awarded to living persons, so she wasn't recognised in 1962 when they received the prize in medicine or physiology.
- Today, Henry Cavendish (UK 1731-1810) would be recognised as neurodiverse. He's famous for his identification of Hydrogen (though he called it inflammable air).
- Black American, Patricia Bath (US 1942-2019) developed the Cataract Laser Probe that was able to painlessly remove cataracts. She also founded the American Institute for the Prevention of Blindness.

- Edwin Krebs (US 1918 - 2009) didn't let his hearing impairment stop him. He was a biochemist who made monumental discoveries about cell activity to help us understand why the body rejects transplanted organs.

Pupils can be challenged to find out specific information (such as date of birth, where the scientist lived and worked, what projects they worked on, what difficulties they had to overcome etc). Ability and time are key here – it's up to you as the teacher to work out who might find a pre-prepared table to fill in useful, or whether to let the group have more freedom to explore and develop their own ideas.

Step 3: Put words in the Chemist's mouth

This is the stage where we draw on English skills and consider writing in the first person. The children will be writing a speech, as if they are their Chemist. Children should practice their oracy skills and rehearse their speeches so when it comes to recording they are delivered with fluency and expression.

Step 4: Find me a photo of your Chemist

Before pupils can go any further they will need a photo of their Chemist (a painting will also do, as long as the face is clear). The image needs to be head on – side profiles won't work. These need to be saved onto the tablets the children will be working on.

Step 5: Make your Chemist talk

Using the Talkr App, upload the photo of the Chemist and record their speech. You'll need quiet spaces to do this if you don't want recordings to be mixed up with a lot of background noise. Once recorded, hit play and watch your Chemist come to life, telling you all about their life and work.

Step 6: Share and celebrate

Sharing the children's work and the work of great scientists is always worth celebrating. Reflect on what the children have learned and the importance of Chemists to our everyday life. The video files can also be shared on school's digital platforms and shared with parents.

This activity allows students to use scientific understanding in a new way. Using Apps creatively in the classroom offers exciting learning opportunities and space to embed digital literacy. For some teachers this can be daunting. Many children in our classrooms can be more digitally literate than the adults. We suggest that such digital agility should be embraced. If you are keen to have a go at using new technology then consider asking a few children to explore the activity beforehand. They can quickly work out the stumbling blocks and can then support others as class assistants when a larger group are working on the project.

Top tips for working with tablets:

- Double check that all tablets are fully charged
- Double check that all the devices have the App you need downloaded
- Check that there is space on the photo reel for images to be saved
- Try out mirroring your screen onto the interactive whiteboard so that you can model what you are doing on screen with the whole class

- Always re-enforce classroom expectations when using and putting away tablets with the children. This will make for smoother transitions through different stages of the lesson.

Resources:

Useful YouTube video on how to use Talkr: <https://www.youtube.com/watch?v=t5YieVWzCXo>

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