Teaching and Learning Link

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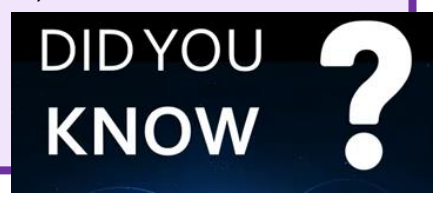
Knowledge: Sarah Goodey, VP

When I started teaching, I thought about knowledge in terms of subject knowledge, obsessively ensuring my own subject knowledge was sound, so I could accurately answer the 'curve ball' questions students would ask me. This approach made me feel like I was working harder than the students during my lessons and that their knowledge was being acquired due to rote learning. I believed that learning was occurring due to "memorising operations with no understating of underlaying meaning" (Arslan 2010). Instead, I wanted to promote conceptual understanding, aiming for my students to gain an "explicit or implicit understanding of the principles that governed a domain and of the interrelations between pieces of knowledge." (Johnson and Wagner 1999).

To undertake the transition from a procedural to conceptual approach I reassessed and consequently refined the tasks and questions I presented to the students. I was determined that my lessons would operate in the analysing, evaluating and creating stages of Blooms Taxonomy (1956). 'Why?' became my new favourite question. Tasks such as 'spot the mistake', 'mark my homework' and 'which one is the odd one out?' were regular features in my lessons. I believed I had created an environment which was engaging and promoted active participation in the acquisition of knowledge. Then came that dreaded student questions 'why do I have to do this? I am never going to use this in my life'. My argument about going into a maths specific job role wasn't convincing!

This led me to think about what I was preparing student for. I watched that year's Did You Know? Video, which comes out every year (here is the latest one https://www.youtube.com/watch?v=u_7G8Xy61zs). This transformed my thinking about the knowledge students needed to be successful. I was preparing them for jobs that had yet to be invented! Yes, they needed to be numerate, but arguably and I think more importantly they also needed to have a skills set where they could be successful in the 21st Century. For me this meant they should be great team players, have enviable work ethics and understand their responsibilities as global citizens. This led me to a belief that the knowledge I wish to impart looks like a double helix: the first strand promotes a love of my subject, while the second promotes a skills set needed for adulthood.



What is your favourite topic to teach and why?

Rebecca Coombs, Biology

My favourite science to teach is Biology, not only because it's my specialism, but also it is less abstract than Physics and Chemistry so students find it easier to relate it to their everyday lives. Also, who doesn't love cutting up organs and showing pictures of diseases (with prior warning of course)?

This term I have enjoyed teaching photosynthesis and respiration to Year 8. Although this contains more abstract ideas than the other topics, I have been able to really enhance how I taught it this year to help the students gain a deeper understanding. I went to the Meridian training on interventions, and they emphasized the use of diagnostic questioning throughout your scheme of work. I focused on using these questions, finding that my personal favourite was "tell me why this is a wrong answer". This really helped me to address misconceptions but also check for understanding. It was a nice oracy activity too.

Holly Greenwood, PE

My favourite topic to teach is Athletics. The reason for this is that it allows the students to participate in something different, something that they probably have not done before, especially for Year 7s.

Doing events such as Javelin and Shotput which many students have not even heard of before can also really build student engagement. Athletics also allows for peer and self-assessment to happen often, using resource cards to work together to assess each other. Students enjoy this and it brings out another side of sport in terms of talking to each other and analysing performance, instead of just being physical.

Rebecca Leatherland, D & T

At the moment my favourite topic to teach is Year 7 fibres and fabrics and where they come from. I found showing examples to be the best way of teaching it.

I also found some videos about the production of silk (from silk worms) for making saris. The Year 7s really enjoy it, always remember it (funnily enough because silk is made from worms) and it is giving them some cultural awareness of different types of outfits worn around the world and different availability of fabric. I then set a homework to get them to research a cultural outfit of their choice and to think about the fabrics, fibres, why it is worn and where. There are usually some really excellent results which the class share with each other and I can then use as examples for the following year.

What's it like to engage with specialists in other areas of the Trust?

Jonathan Newsome, Music CL and ST

Since joining Ely College, the Music Department has developed a Music primary partnership provision with both Downham Feoffees (DFPA) and Lantern (LPA). Through this partnership, I have developed strong working relationships with the music leads at both respective feeder schools to offer curriculum, pedagogical and logistical support to the delivery of Music within both schools. The Music Department staff have also supported specific extra-curricular opportunities for both schools: Katherine Arnold, Ryan Higgins and myself have all led and accompanied DFPA class choirs at the Ely Schools Music Festival at The Maltings, and I accompanied the Lantern's Christmas Concert on piano at Ely Cathedral in December 2023. We have also been able to extend our partnership with Cambridgeshire Music to include both primary schools: we have been fortunate to secure the free loan of music equipment in both schools to support practical music delivery, as well as establish some whole-class violin teaching in both schools for KS2, led by our very own violin teacher, to further upskill students, and support the growth of string players and instrumental performance at Ely College and in the wider Ely area.

As a result of this partnership, the Music Department staff have gained an insight into the Trust primary music curriculum in order to help plan and develop appropriate schemes of work for incoming Yr.7 students, as we are aware of the specific subject knowledge and skill acquisition that has taken place at both of these feeder schools. In addition, the opportunity to consistently deliver primary music sessions is a fantastic CPD opportunity to further develop our pedagogical approach as a department for future student cohorts. There have been some logistical challenges along the way to develop this partnership to what it currently looks like, but having built these relationships and established this provision, we continue to look forward to further developing and introducing new opportunities over the upcoming years and working with staff in both schools to continue improving the musical experience in all contexts of students in both primary schools.

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What's it like to teach beyond your subject specialism?

Harmoney Hennessy, PE

I was apprehensive about teaching GCSE Health and Social Care at first and knew there was a lot to learn, including learning new content and the marking process of coursework. From summer, I started looking at the existing resources for the course, finding Google Drives, Facebook groups and WhatsApp chats - all which are so much more useful than the Sports Studies ones I'm on! With the January series of coursework submissions, I tried marking all 30 within a two week window, but I learned my lesson from this and the summer submissions have been easier since I've been able to mark tasks as and when they have been completing them, spreading the load. For the January series of the exam unit, the teaching was delivered using resources from OCR - for which there were some useful and not so useful elements. When it came to reteaching for the June series, my editing of resources has been useful and the students have been more engaged with their learning.

A key challenge has been keeping the Year 10 students engaged for their lengthy pieces of coursework, given they are learning the same content as delivered in Year 9. This is definitely something I will be changing for next year's cohort. Positivity and praise go a long way, as does regular contact with parents, though sometimes this can cause some dismay among students!

Although I started the year a bit unsure as to the requirements of the course and a bit apprehensive regarding the teaching of it, it has been good to reflect on my practice and is surprising even to me that my H&S classes are actually a couple of my favourites as we come to the end of the year.

Samantha Manning, Science

By nature of being a Science teacher we teach subjects which aren't our specialism although there is some crossover with language and skills. As we are all in the same department we have easy access to specialist teachers. This isn't the case when we are teaching outside the department. I have taught Maths several times over the years. I feel more comfortable with Maths than other subjects, as it is an area of strength for many Science teachers. It is very different though when delivering a curriculum. I feel more comfortable teaching lower ability groups outside of specialism as I struggle with coming up with extension work and knowing the curriculum further up the school to reference.

Resources from the department are key as making resources outside of specialism takes time and I feel they are best talked through with a specialist teacher. Teaching Maths this year I have found resources are excellent, making lesson planning quick and easy. The resources have clear explanations and answers to problems.

Whilst I find it easier to teach my specialism, I do enjoy thinking about different subjects as I believe it makes me able to reference these subjects when problem-solving. I also have a better understanding of what is expected of students in other areas.

What are the benefits of subject associations?

Sam Craven, AP, Science

First, and easiest to access, will be quality assured resources. These often come with design choice explanations and guides for how to use them in lessons. Second is access to subject knowledge enhancement opportunities, from live conferences to articles to asynchronous CPD. Third is increased opportunities for networking with other subject specialists, locally and globally. Finally, these subject associations are often looking for article contributions for their journals and websites, giving you the chance to share your brilliant ideas with a supportive and encouraging audience.

What's it like to build networks outside the Trust?

Dave Bausor, D&T

I'm a member of the Cambridge and Peterborough D&T Network Group. Although the group has not met face-to-face since before Covid, we have a termly meeting in different schools where colleagues came together to discuss issues, and to showcase activities and ideas. Having the sessions at different schools enables the host school to do tours of their facilities.
This has also evolved into a Facebook group so all schools in the local area can contribute anytime, ask questions, post job adverts and seek advice and guidance. This has been a lot easier to manage and enabled it to be easier for colleagues to gain support and advice much more quickly – almost like a sounding board.

I'm also a member of the National D&T Association Consultation group, which meets once a year. Colleagues meet across the D&T fields to talk about current issues and plans moving forwards, including lobbying the government and the development of supporting resources for members. I have been lucky enough to be involved in writing resources for the association and part of this process was linked to the subject group meetings.

In my experience, building networks like this can be incredibly rewarding, supportive and most importantly helps to keep you ahead of the curve with new initiatives, pedagogy and resources.

As a next step, I have also recently been invited to be part of new stakeholder sessions for both AQA and CLEAPPS (an advisory service for Science and Technology). Watch this space!

Can social media help with networking?

Sam Craven, AP, Science

Social media is, for the most part, a giant cesspit of vile comments populated by trolls, BUT there are some pockets of brilliant people collaborating and sharing fantastic ideas. Over the past few years I have used Twitter to build a network of teachers, both science and not science, who have been incredibly supportive and encouraging. This support goes beyond sharing resources, best practice and laughs, and I now claim a number of real "virtual" friends.

If you are looking to build such a network I would suggest searching for community accounts (for example, I'm a member of the group @chatbiology) and participating in some of the group discussions, creating a network of people to follow and engage with. Beyond imposters and offence-merchants, one of the biggest risks of social media is believing that you need to get involved in every discussions/squabble out there, but if you are judicious in the accounts you engage with (and the time you spend on it), this can be a really great way to engage with other subject experts.

NEXT TIME…
Join in too!
Showcase **your amazing practice** and contribute to the vibrant T and L culture around college!

The next edition will be on Pride. We need YOUR EXPERT ANSWERS to these questions:

How can we make Ely College students proud of their school?

How can we best celebrate the achievements of staff?

Do you have any low workload tips for communicating achievements to students and parents?

What are you most proud of this year?

What are you looking forward to teaching next year?

Keen to contribute? Good!
Contact **Sam Craven** or **Charity Novick** with ideas, articles, tips, book reviews, questions etc.