

Combining practical and academic learning to cultivate confident, courageous, and empathetic young people

Ely College, Ely



www.elycollege.com

Compiled with the help of:

Dave Bausor, Trust Lead for Design & Technology and Lead Practitioner for D&T at Ely College

Lee Mawby, GPUAC Academy Council (formerly Ely College Vice-Principal and D&T/Engineering teacher at the time of the interview)

Students in Year 10



Headlines

- Interdisciplinary learning
- PLEDGES Award
- Autonomous learners



About the school

Ely College is an 11–18 secondary academy located in Ely, Cambridgeshire. Bishop Laney Sixth Form provides post-16 provision. The College has been a member of Cambridge Meridian Academies Trust since 2016, now known as Meridian Trust, having merged with Cambridge Primary Education Trust (CPET).



Making learning whole

Ely College believes in providing a whole education in which academic excellence co-exists with an exceptional commitment to activity beyond school¹. Within this all-round education, students engage in a high-quality academic experience. It is one in which they are offered a range of character-building opportunities that enhance their learning and development.

The purpose of practical learning at Ely College and Meridian Trust from Year 7 to Year 13 is to enable students to be ready for the next part of their learning experience in life. Practical learning should be valued.

'Real-life, hands-on experience builds confidence, it builds a braveness and a sense of courage that you wouldn't necessarily gain, for example, when you're going through a calculation in engineering on a white board.'

Lee Mawby

Ely's framework of shared teaching values, called Ely Expects², sets out five principles that underpin teaching and learning for a high-quality education. These include Pride, Challenge, Knowledge, Dialogue and Standards.

'Teachers in the school across all subjects are always trying to look at different and innovative ways of curriculum delivery and obviously, practical is a part of that.' Dave Bausor

One of the Trust's core values is extending the boundaries of learning. This is reflected in the teaching value Challenge, in which students 'are challenged to extend their learning beyond the classroom'. All Ely students are expected to demonstrate how they are doing this through the PLEDGES Award³. This is social reward system that supports students to develop confidence, life skills, and leadership through additional opportunities and experiences. These are key to them becoming confident, successful and responsible citizens of the future.



Embedding practical learning in the curriculum

Ely College values practical learning, as shown through its championing of subjects such as D&T, engineering, arts and music, all of which are held in high regard. Lee Mawby claims that this valuing of practical learning is one of the hallmarks of a high performing school, along with its good academic results and

student behaviour. He describes an 'embedded appreciation for these subjects at Ely' that is evidenced by the high take-up of options including engineering, product design, textiles, food and beauty in Key Stage 4 as a positive option choice, not as a 'last resort' option. Take-up is continuing to expand since the end of the Covid pandemic.

Within D&T, teaching is a process where students are introduced to theoretical knowledge through a rich hands-on experience. They are physically interacting with objects, materials, equipment, activities, processes and techniques. Students are encouraged to take ownership of their learning by thinking of it as a journey of discovery. Dave Bausor uses the terms 'accidental design' and 'accidental discovery' to ensure that students celebrate events such as materials not performing as expected when manipulated and that they record the process to reflect on what happened. This supports them becoming all-round learners.

'Because they're taking more ownership, they're becoming more independent. It isn't just about 'this is what you need to know', it's about, 'yes, I need to know this, but I can take this forward and manipulate it in this way'. It opens up lots more avenues in terms of their learning.'

Dave Bausor

Students agree that opportunities to apply their knowledge help develop their understanding.

'I think it gets our minds more invested, rather than just sitting down like this [in a classroom]. We actually put it into perspective, and it helps us to learn more.'

Year 10 student

While progress towards developing more practical applied learning was curtailed during the COVID-19 pandemic, innovative use of technology during this time did lead to an exciting event. A Michelin starred chef led a remote live streamed D&T event, with around 90 students across the Trust following the chef's instructions to create dishes⁴. Engaging students with professional practice at this high level is one example of how Ely College teachers encourage students to 'dream big', to have them experience learning alongside professionals and inspire them to eventually work at that level.

'You've always got to think about how you can hook a young person into their learning and make it more interesting. Make it so they want to learn more, something that's driven by them, because if you can light that little spark, you've got them hooked.'

Lee Mawby



Learning for the real world

Practical learning in D&T helps students develop skills important to success in the real-world. Year 10 students articulate their thinking in as many ways as possible. They develop communication skills and ability to offer constructive critique, by using:

'...sketching, noting, but also discussing, suggesting and removing barriers about saying 'that's not very good, that won't work'; it's more about, 'well, why don't you say it out loud and talk about it and discuss it together?'

Dave Bausor

Students are more frequently recognising that practical expertise developed in one subject can be applied in other subjects.

'I would argue that they are able to bring in skills from other subjects that, perhaps in the past, they might not have done.'

Dave Bausor

Ely College students agree with the suggestion that practical skills developed through D&T are useful more broadly. Although some chose D&T or food technology because it had been 'fun' in Years 7 and 8, others chose D&T as an option in preference to other subjects because of the practical work:

'I chose subjects with a lot more focus on writing, like French and geography, and I was definitely going to take history at one point, but I decided I wanted to do D&T, the actual reason being more hands-on work and doing something practical.'

Year 10 student

The real-world experiences are helping students recognise that the skills they are gaining through D&T are valuable beyond school, and, consequently, are:

'...helping them to make better informed choices. There are more students considering D&T, which is really good.' Dave Bausor

Empathy, the ability to understand different needs, is a core disposition required for designing in D&T, and for working in many other professional areas. After an inspiring talk by John Willis from Power2Inspire, the Year 10 D&T students were set a challenge to design products for people with disabilities, John was impressed by the empathy they displayed in developing their designs⁵. You can hear Dave Bausor discussing the importance of empathetic design in Alison Hardy's *Talking D&T* podcast, where he gives further examples of his Year 11 students excelling with their deep understanding of empathy. He also argues that enhanced empathy leads to better D&T outcomes more

broadly, as it makes students more flexible in their design thinking⁶.

Finally, students also recognise that D&T develops their creativity and rapid problem solving, which is valuable for keeping career path options open:

'Product design and DT open up that extra path, in case you decide to do something involving engineering or something creative. And talking about creativity, I think product design has vastly improved my ability to quickly think what I need to do.'

Year 10 student

Using a full range of teaching methods

Ely College teachers and students are guided by the five teaching values expressed in Ely Expects. All teachers collectively developed this framework, to ensure that they share the same meaning for each value, such as the Challenge one. The framework is used in planning and delivering teaching as well as conversations with students and parents.

One of the characteristics of Challenge is being 'supported to take risks and challenge ourselves to try new approaches'. That might be difficult for some teachers new to the profession to get right. In his role as mentor to newly qualified D&T teachers and teacher trainees, Dave Bausor finds that helping to build up their subject knowledge gives them

confidence to take risks with their teaching. His teachers are provided with schemes of learning with core learning outcomes, and as long as these are achieved, they are given a degree of flexibility and autonomy.

'Our teachers within our team can play to their strengths and expertise... to enable them to take the teaching in a direction that perhaps nobody else thought of, and for me, that keeps it fresh.'

Dave Bausor

Furthermore, as Trust Lead for D&T, Dave Bausor has a key role in promoting his subject across the Trust, considering the nature of D&T, its impact on students and how best to prepare students on leaving school. Since D&T as a subject is continually evolving, he welcomes the fact that, in his current role:

'I've got an opportunity to inspire and inform others to then take it where we want it to go.'

Dave Bausor

Cultivating learner agency

Developing students' ability to make their own choices and to justify them by using theory to inform their decisions, is a core aim when the students are doing a project with few design constraints. They need to be:

'...dipping in and out of that theoretical knowledge in order to support their design and make journey. When they're making, when they're manipulating

ideas...they're applying that understanding and that theoretical knowledge.'

Dave Bausor

The right practical learning space exerts a powerful influence on students' engagement with learning.

'Just being in that space after a while, your brain recognises that I'm in a DT room, or I'm in a science room, or a maths room. So you focus on that and become more integrated into working in that specific subject.'

Year 10 student

Teachers also recognise the importance of students being immersed in an appropriate space, where they can observe demonstrations of techniques, handle and manipulate materials and apply their theoretical knowledge in hands-on activities.

'I know that if I ask them a question about it, they're able to articulate an appropriate answer, because they're sort of living and breathing it all the time.'

Dave Bausor

Students make sense of the knowledge in their own terms.

'Being able to use the ideas provided but also being able to put it into your own sense, which helps with your understanding specifically to you.'

Year 10 student

Their confidence in their own ability to tackle new problems is increased.

'You can see how things actually get done, you can do the same things yourself and see that it's not actually this complicated process that you don't know anything about, you could actually do it yourself.'

Year 10 student

Students' independence and confidence in learning has been increasing in this mixed-ability school, in part due to the mix of support and challenge given to each individual.

'I have noticed over the last few years, there is much more autonomy, much more independence, much more confidence being shown by the students. Where those students lack confidence, with very subtle coaching and encouragement, they soon come out of their shell and they're able to articulate and work independently.'

Dave Bausor

Practical learning that includes collaboration between students and learning from others is valued because it increases understanding. When students work in pairs in maths to solve problems and then present their solutions in class, they develop confidence in speaking out, but also gain deeper knowledge and alternative perspectives.

'I find that a way to better understand something is to teach other people it, and then you seem to be teaching yourself at the same time.'

Year 10 student

'Other people's way of presenting stuff may be different to yours, so it could help you increase your knowledge.'

Year 10 student

These are all strategies that develop students' critical thinking, their ability to solve problems and their confidence to express their opinion:

'Teaching young people to have the confidence to say 'I don't like that' and to justify why they don't like it, or say, 'I really like that for these reasons', and getting to that level of dialogue and discourse, gives you confidence as young person.'

Lee Mawby

Finally, completing a practical activity and having a product to show for it at the end, generates a sense of pride and accomplishment in students.

'You come away so satisfied with what you've done, you want to show your mum and dad and be like, I've made this myself, and it's really cool, and you've actually completed something that has the physical form that you can present to others.'

Year 10 student

Tracking learner progression

The PLEDGES Award is viewed by Meridian as much more than an 'extra' curricular offer, describing it as a parallel curriculum that offers all children the opportunity to 'benefit from both excellent academic and personal development.'⁷

PLEDGES offers students the opportunity to gain recognition for their activities during their time at school, through which they have displayed seven important qualities: Participation, Leadership, Excellence, Diversity, Giving, Environment and Service. The Award can act a skills tracking system as students gather evidence of these qualities at three levels, Bronze, Silver and Gold. Many PLEDGES criteria are aligned with British Values. Year 10 students contributing to this case study gained PLEDGES points for their involvement for the Participation element.



ELY EXPECTS...



PRIDE

- We are **proud of what we do** and want to share it widely
- Students **take responsibility** for their work and recognise its value
- The learning environment is **orderly and inspiring**
- Our explanations and modelling of work are clear and **exemplify high standards**



CHALLENGE

- We are supported to **take risks and challenge ourselves** to try new approaches
- Students expect to find work difficult - **we don't sit in our comfort zone!**
- Students are challenged to extend their learning **beyond the classroom**
- We actively use student information to **meet their needs** and inform teaching



KNOWLEDGE

- We strive towards **mastery in all aspects** of our practice
- We are **explicit about the knowledge and understanding** we want our students to gain
- We are all **reflective** practitioners, **committed** to professional growth
- We **research, collaborate** and confidently **share** our expertise



DIALOGUE

- **Feedback** in all its forms is valued and acted upon
- Students can **confidently articulate their learning** and progress
- We **don't waste time** on feedback that has no impact
- Academic mentoring and **communication with parents is clear**, helpful and focused



STANDARDS

- Expected **progress and outcomes** in a lesson are **clear** to students
- We have established and widely understood **classroom routines**
- We communicate an **expectation of excellence** from students
- We are **excellent role models** and ensure we uphold the standards of the profession

Our shared teaching values



Endnotes

1. www.elycollege.com/page/?title=About+Us&pid=6
2. www.elycollege.com/page/?title=Our+Values&pid=171
3. www.elycollege.com/page/?title=PLEDGES&pid=322
4. www.elycollege.com/news/?pid=3&nid=1&storyid=1240
5. www.elycollege.com/news/?pid=3&nid=1&storyid=1182
6. dralisonhardy.com/tdt091-talking-about-empathetic-design
7. www.meridiantrust.co.uk/about-us/place-pledge