

No Barriers in the Workshop

John Walker, Subject Leader for Technology at Bradfields Academy

Teaching Design and Technology in a SEND setting brings unique challenges and opportunities for innovation. John Walker, a D&T teacher from a specialist SEND provision in Kent, shares how they have adapted tools, equipment, and teaching strategies to meet the diverse needs of their students.

Teaching Design and Technology at a SEND provision can be challenging, but also very rewarding. I have worked in my current school for 16 years. I am passionate about my subject, I want to ensure that all students are able to access the learning and thrive.

Bradfields Academy is a specialist SEND provision in Chatham, Kent that supports students whose special educational needs are not typically met in mainstream provision. The academy is an all through provision for students in Year R to Year 14 students. The academy is arranged into a variety of communities dependent on students' abilities and needs. The adult-to-student ratio in practical lessons is around 2:8 currently, although some of the groups have a significantly higher staff to student ratio.

Preparing for Life Beyond the Workshop

As a department we do not have a technician so we must work on preparing all the resources ourselves on a limited range of machinery. As a result, we take a very on hands on approach, with an eye on skills that they can use throughout their life, recognising that only around 6% of the students leaving SEND specialist schools gain 'meaningful employment' (inspringthefuture.org). As an academy trust, we have decided to push supported internships to enable more students with

EHCP's to gain the confidence in the workplace and help prepare them for future employment.

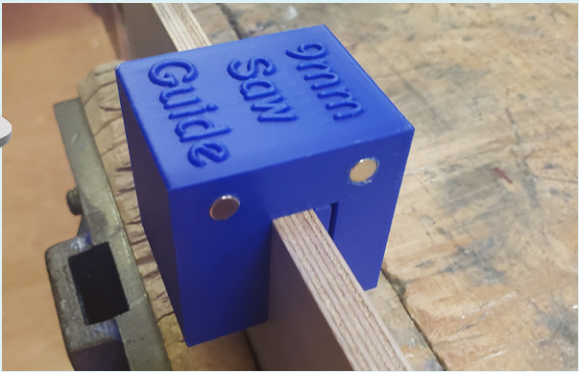
Adapting Tools for Independence

My department work with students to identify what they find difficult in school and design solutions to remove barriers to their learning and success. As a result, we have developed numerous ways to adapt and support learners in workshop tasks, from designing and marking out, to cutting and constructing their work.

Adapted Saw Handles

One of the most challenging tasks is supporting the students with using saws. To accommodate these physical needs, we often have to hold the saw with the students to build their confidence, but also to demonstrate how to gently slide the saws forwards and backwards to cut the different materials.

It can be difficult to hold the saw with the students, and it can limit their participation and enjoyment of the activities. To address this, we have fitted all our coping saws with optional handle extensions by adding a M8 insert screw into the end of the coping saw handles, then attaching file handles with M8 threaded bar epoxied into the handle. This allows us to walk around the room and quickly screw on an extension handle



into the end of the coping saw and give the students the support that they need. Once we have supported the students to cut their work, we can quickly unscrew the handle and work our way around the group. We've already expanded this idea and added extra handles to tenon saws and seen more positive results in student confidence and skills.

In a small department with limited power tools, we have to be creative with all of our hand finishing processes. With no power sanding in the workshop, students need to be accurate with their cutting as they know they we will need to remove the waste by hand.

Colour Coding

To help them with this we use colour coded sandpaper for the different grades, fixed to coloured wooden blocks. Additionally, I intentionally buy green, red and yellow rolls of sandpaper and have made holders that are also coded for the different grades.

The staff and students can easily see what grade they need for different jobs. Furthermore, the blocks themselves can be put into a vice to enable students to sand their work and accommodate a wider range of physical abilities.

A handle can also be added to the sanding blocks, providing access to the tools for students who may struggle with the grip of a standard block. The colour coding

aids the students visual and conceptual understanding the difference between sandpaper grades.

Another system we have employed in the workshop is the use of colour coding of a wide range of tools. This allow the students to be able to select the tools and equipment based on the colours rather than type or style. This could mean the students are asked to get a red handled chisel rather than a 12mm (½") one, this enables them to find the tools quickly and independently.

3D Printed Support Blocks

The latest area that I am exploring is the use of 3D printed support blocks to help guide tenon saws when cutting in straight lines as this is still a challenge for many of our students, even with the extra handles.

These have got magnets glued into them to hold the saw straight and will clamp on to the work. They can either be used by themselves or in pairs sandwiching the saw blade to keep it straight.

Designing Access

A crucial message that I hope emerges from this little snapshot into my department, is use your creativity in your approach to making the workshop accessible to learners. I strongly believe in finding ways to include all learners in the workshop, and D&T teachers are well placed to experiment with ideas and 'McGyvered' solutions to achieve this for our students.

