

The impact Design and Technology has on pupils with ASD

Summary and Recommendations of the Project



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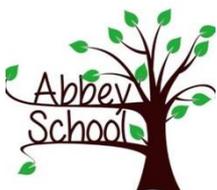
Introduction

Insert an overview of why you chose the project- link this to the SIP:

Design and Technology is currently evolving with the refurbishment of the old D&T room well on its way. The core of D&T is creativity and imagination. Students learn to design and make products that solve problems within different contexts whilst considering their own and others' needs, wants and values. To do this effectively, they will acquire a broad range of subject knowledge and draw on additional disciplines such as mathematics, science, engineering, computing and art.

It is important to ensure the delivery of the subject is engaging and up to date in terms of technology uses and processes. Therefore I shall visit a number of different schools to magpie ideas and capitalize on skills and knowledge that can be then transferred into the classroom.

My aim is to develop a stimulating DT curriculum to Abbey school starting from L3-Post 16 as identified in the school SIP -**1.2 To deliver a clear curriculum developing living classrooms, life skills, vocational qualifications and employment. Meaningful and relevant vocational qualifications.**



Summary of the Project

Insert a summary of your project here. What was your initial plan? What did you do each term? Did your project change from your original idea?

(Use your termly planning and impact reports here)

Initial plan was to get DT established within Abbey School and become part of the curriculum. In order to achieve this I needed to prepare the workshop as it was in a run down and unloved state. Unused for many years As identified in the images below



Priority was to clear the old workshop to create an open and inviting space. This involved working with the electrician to relocate power supply's that had originally been installed floor to ceiling, meaning movement around the room was restricted. From my knowledge of newer DT Classrooms I had taught in and visited, power supply's had been positioned on the ceiling and were retractable. This created more space and were easily accessible if and when required. so I decided to include this into the design by removing the original e as it was that was bright and bring it into the 21st century. The focus then needed to include the impact it would have on learners with ASD

In order to provide a DT workshop that would meet the needs of all learners particularly those with ASD I needed to see how other schools where set out their learning environments so I set about visiting a number of different schools

Pennine view is a school within the Nexus Trust that is also a MLD School. Its DT department is well established and has Specialist teaching staff. Previously the DT offer appeared to be a little old school and predominantly woodwork based which wasn't the route I wanted to go down, project ideas and however I was able see the type of equipment he had and used as well magpie ideas regarding room layout and what worked well for learners with ASD. I wanted a more creative and engaging curriculum that allowed learners to use a variety of materials and focus on upcycling, allowing learners to develop skills that could be transferred and used at home.

Already visited and spoken with the gentleman in charge of D&T regarding equipment needed ect (photographic evidence of the learning environment, tools and equipment. To give me some ideas)

I would like to revisit for CPD, training on how to use the 3d printer and also work the laser cutter.

Training for the 3D printer has since been sorted with the introduction of 'STEAM' (Science Technology, engineering, art and maths) due to take place in September.



Park Academy – Main stream secondary

I wanted to visit to gather resources, ideas and inspiration for new and creative projects that will engage and inspire the learners. I had also been informed that they had recently closed down one of their DT rooms due to decrease in numbers and potentially had lots of tools and equipment that could be of some use to me. Upon contacting the technician, he informed me that a lot of the equipment was in poor state and that I would be better off buying new

Unfortunately I didn't get to visit this school however I am in touch with one of the DT teachers who currently teaches Textiles. I would like to arrange a visit and form more positive links with the department. I'd focus particularly on up to date projects that utilise smart technology and look at ways in which they could be incorporated into Projects here at Abbey School.

A PRU in Doncaster –

To see how they manage both health and safety along with behaviour. The learning environment and how it has been set up. I'm also keen to find out what projects they deliver and the qualifications they offer. Very little DT was taught as there were no facilities within the school, however learners were currently creating a comic book that incorporated graphic design skills using both CAD and free hand skills which they really enjoyed. The setting was very much that of a primary school

We've come a long way and still get better!.....



Ordering relevant equipment was essential in order to create a DT room that could specialise and offer practical based activities that would inspire and engage learners

This included Basic equipment such as

Graphics equipment- scissors, pencils pens, rulers etc, Cottons, needles, fabric scissors. 3 new sewing machines, bringing the total number up to 6 as this allows learners to pair up and up skill, supporting one another if needed. An over locker to improve quality and finish of products

Laser cutter

2 new power drills

I have Created a warm stimulating environment where all learners feel safe. By playing Soft/ easy listening music in the background I found helped calm learners particularly those with ASD. It appeared learners were much more relaxed and demonstrated a more positive work ethic.

I also introduced a more focused based tasks, where the emphasis was practical based to capture the attention and engagement of the learners. Visual aids to promote independence and confidence in carrying out a task. Visual emotions cards for learners who have limited speech or whom are none verbal. This worked particularly well for pupils in upper school, as I was able to identify instantly where there or not they were able to do the task, not quite understanding the task or if they need support. These cards are RAG and identify Green I can do this, Amber- I'm getting there and Red I need help.

I have ensured that those whom have sensory issues are supported effectively by offering items such as gloves, alternative materials, Ear defenders, lights are dimmed by not switching all of them on as this has affected one particular learner who was refusing to come into my lesson due to the fact that the lights were too bright. This has since been resolved simply by switching them off.

Networking and forming links with fellow partnership schools has allowed me to form positive working relationships where ideas and support can be shared. There is also potential to work together and possibly pair up on projects.

I have spent time researching possible avenues and forming links with the community and local businesses. Resource gathering and building of resources sourced from local business/ community and have registered with a Waste exemption services which are part of the government environment scheme where businesses donate waste that can then be utilised, upcycled and reused.

This has provided the DT department with an abundance of resources that can be utilised in a creative an effect way that has had no impact on my budget due to the fact it was all donated free!

Having gained greater knowledge and understanding of how to meet the needs of learners with ASD I am able to apply this my teaching and learning and provide a fully inclusive and accessible classroom

Design and Technology provides particular opportunities such as;

- Practical learning experiences problems which promote success and raise attainment.
- Focuses on real scenarios and design problems that are meaningful to learners
- Uses appropriate different materials to suit students of different abilities and needs
- Use arrange of methods to communicate –avoiding over reliance on the written word
- Using ICT as a way for students to realise develop and enhance their work.
- Support learning in other subjects such as; mathematics, science, art ,ICT etc
- Work on personally motivated design tasks where learners take ownership of their work and of their own learning

- Working in a flexible range of contexts and topics that can be adapted to suit the individual interests and motivation.

The class room has been zoned into areas and equipment has been labelled with supporting images that allow learners to identify and collect appropriate equipment and become more independent.

Keywords are displayed in and around the classroom and are linked to specific areas of each topic and project. These are referred to frequently extending learners vocabulary and understanding. (Design, Aesthetics, Evaluate, Develop, Process, Making, Analyse, Inspiration, Research, Motivate, Creative, Imaginative, Unique etc

Big question to provoke ore and wonder – why is design important to our future?

Abbey School has been given an opportunity whereby they will be given a 3D printer and 3D pens to use in schools. Young ambassadors will be trained up to use the equipment that can then be pass on and shared with fellow learners. Therefore providing a culture whereby learners take ownership and have a sense of responsibility. They Feel valued and are willing to participate, learn and share.

Technology and Science have joined forces and embarked on the STEAM initiative (Science, Technology, Engineering and Art, Maths). STEAM believes that it is essential to include design and creativity with science, technology, engineering and maths, to allow children to innovate and create amazing things! This allows learners to think of the beautiful mathematical spirals in nature, or the fusion of creativity and precision in architecture. Engineering uses design and physics to create beautifully useful things. Science, technology, engineering and maths are playing an increasingly important role in future careers, but we must fuse these with creative thought to help young people flourish so they can play a part in making the future.

This is where my BIG question derived from – Why is design important in our future?

By joining forces with MakerED UK, Abbeys DT will be equipping Children with Creative Skills for the Digital Age with the addition of a free 3D Printer to use in class and a set of 3D pens!

MakerEd UK is a national initiative designed to raise the profile of Maker Education in the UK and help schools and communities to provide makerspaces and learning opportunities to help prepare the next generation for the Digital Age through creative making. It approaches teaching creativity and problem solving using tools and technology such as 3D printing, electronics, robotics, computing and materials. It is about nurturing learners who can take personal ownership of a problem, explore ways to solve that problem, make something and share their experience. This is a great opportunity for our Learners here at Abbey!

Pearsons BTEC Level 1/ Level 2 Tech Award in Art and Design Practice

BTECS will be delivered as of September in DT. This will allow learners to develop skills in and acquire knowledge related to investigating, exploring and creating art and design work as part of their KS4 learning. Learners will gain knowledge, understanding and skills that underpin practical activities in assessment and this will complement their GCSE's. It will also broaden learner's experiences and understanding of varied progression options available to them.

Study of the qualification as part of Key Stage 4 learning will help learners to make more informed choices for further learning, either generally or in this sector. The choices that learners can make post-16 will depend on their overall level of attainment and their performance in the qualification.

Learners who achieve at Level 2 across their Key Stage 4 learning have the option to progress to:

- A Levels as preparation for entry to higher education in a range of subjects
- study of a vocational qualification at Level 3, such as a BTEC National in Art and Design, which prepares learners to enter employment or apprenticeships, or to move on to higher education by studying a degree in the art and design areas.

Learners who generally achieve at Level 1 across their Key Stage 4 learning might consider progression to:

- study at Level 2 post-16 in a range of technical routes designed to lead to work, to progression to employment, apprenticeships or to further study at Level 3. For these learners, the attitudes and the reflective and communication skills covered in the qualification will help them achieve
- study of art and design post-16 e.g. through a Technical Diploma in Design Production. Learners who perform strongly in this qualification compared to their overall performance should consider this progression route as it can lead to employment in the art and design sector.

Recommendation 2

What will be the first recommendation for practice across school and why?

To ensure that health and safety is at the forefront in the DT workshop all learners and staff are aware and understand

New equipment to fitted with emergency stop buttons

Dust extraction to be fitted to the disc/belt sander. This needs to be effective from September 2018

What will be the second recommendation for practice across school and why?

Lion leaders to be utilised in class and trainer up to become Learning mentors on specific specialist equipment and up skill fellow learners

Further links with partnership schools to share and collaborate

Individual negotiated targets between the teacher and learner that can be reviewed as required-
Students who need to work at



How the project has impacted on practice:

This project has allowed me time to visit and form positive working relationships with colleagues from other schools and organisations. The knowledge I have gained along the way has allowed me to evaluate and reassess my own teaching and learning practice for the better.

I have a far greater understanding of the needs and support that can be provided to learners with ASD and feel I can support and teach them in more constructive and creative way.

The DT room has developed into a learning environment that is learner friendly and accessible to all. It is warm and welcoming and a place where learners feel safe. Equipment and technology is up to date and exciting to both the learners and the staff therefore it engages and captures attention.

Behaviour issues are minimal in DT due to the changes that have been made. Learners are eager and engaged. This is due to the fact I have developed more focused based tasks and stations where learners can choose and rotate if they wish.



Next Steps

Insert the next steps for the project; it may be that this is to see the recommendations take place or it may also be that the next steps be the focus of your new project related to the SIP.

Learning mentors (embassadors) to be selected and trained up -
3D Printer



References

- <http://theconversation.com/supporting-students-with-autism-in-the-classroom-what-teachers-need-to-know-64814>

<http://asdteacher.com/setting-up-a-classroom-for-pupils-with-autism/>

