DESIGN & TECHNOLOGY ASSOCIATION

D&T Association. Helping to set a ‘Vision’ for the future of the subject in English Schools

PATT40 CONFERENCE

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Name: Tony Ryan
Position: Chief Executive Officer

designtechnology.org.uk

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A GOOD PLACE TO START…

Richard Joseph –
Co-Founder and Creative Director
Joseph Joseph

HOW WE GOT HERE

Nearly 3 years ago, our journey began with the identification of a crucial need.

The EPI paper - **'A Spotlight on Design and Technology Study in England'** (March 2022) was published.

This pivotal paper set a baseline and laid the foundations to move forward.

Next Phase: We held a series of Round Table Events engaging stakeholders from diverse sectors.

Outcome: Our ‘Reimagining’ draft paper was published last summer in response to our findings. Further testing resulted in the final ‘Vision’ launch this July

Consultations with teachers across 9 UK cities also helped shaped this direction.

Learning from Teacher Consultations and other valuable inputs our vision was refined and strengthened.

Our vision has been tested (in-person) with over 500 teachers nationwide.

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THE NEED FOR CHANGE AND SUBJECT REFORM

- The 2014 NC document now has significant gaps in required knowledge (e.g., no mention of circular economy or sustainability at Key Stages 1 and 2 and only a line at KS3).
- The Government has “lost confidence” in the current subject. We need to reset and *‘rebrand’* if we are to be taken seriously.
- A need to concentrate on progress and continuity across Key Stages.
- A need to clearly identify and magnify the subject’s epistemology (theory of knowledge).
- At KS3, we need to refocus learning around process alongside associated outcomes.
- We need to investigate reducing and clarifying subject knowledge content at KS4 and GCSE.
- We need a better established and understood relationship between A Level and FE/HE courses

OUR VISION FOR THE FUTURE OF DESIGN AND TECHNOLOGY

The published vision represents a Staging Post and not a Destination.

Our Intent
- To share our vision for the future of design and technology across key stages.
- To garner full support from the D&T community and key stakeholders.

Next Steps
- Engage all stakeholders
- Rally all stakeholders behind our plans.
- Encourage collaboration and feedback.

Adding Detail
- Incorporate insights and suggestions from the community.

Research & Development
- Conduct further research to enrich our strategies and add evidence where required

Implementing Key Actions
- Work towards realising our vision ‘from words into action’.
- Set timelines and milestones for progress.

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PRIMARY SECTOR, VISION AND KEY ACTIONS

Growing Influence

- Primary D&T is experiencing growth in numbers and reputation.
- Secondary teachers are beginning to witness the impact of this growth.
- The full impact is to be felt in a couple more years, providing secondary teachers some time to prepare and adjust.

Ensuring a Rich Curriculum

- Students have a right to a broad and rich curriculum at Key Stages 1 and 2 (and beyond).
- Ofsted's framework strongly supports this, which is driving positive change.

Primary teachers lack subject experience, but generally, their enthusiasm for the subject is contagious.

PRIMARY SECTOR, VISION AND KEY ACTIONS

Strengthening Teacher Training

- Collaboration among industry, academia, and government to provide relevant professional training for primary teachers in design, technology, and engineering. (Cost estimate £3.3M per year).

CAD/CAM National Initiative

- Strong support across sectors for a CAD/CAM initiative at primary level, building on our trial over the last sixteen months.
- Implementing this initiative could be a 'game changer' if successful.

Fostering Sustainability Goals

- Universal agreement to incorporate green economy, circularity, and design for global sustainability in KS1 and KS2 curricula.

Developing Engineering Habits of Mind

- Scope for fostering 'engineering habits of mind' in the primary curriculum.(Reference: Thinking Like an Engineer).

- We would like to see a greater emphasis on design thinking, empathetic design, iteration of design, teamwork and pupil presentation of design ideas.

D&TA COMMITMENT TO THE PRIMARY SECTOR

- We will push hard for a protected budget to support teacher CPD, starting with D&T Coordinators and building year on year from this point.
- We are committed to further developing ‘Projects on a Page’ by adding new areas of curriculum coverage and digitizing this popular resource for all D&TA members.
- We will seek funding to extend our CAD/CAM trial of thirty-six primary schools to 100 schools over the next eighteen months. This extended trial to be the subject of a focused research programme to identify success and impact.
- Over the course of the next two years, we will extend our ‘Inspired by Industry’ curriculum programme into KS2.

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SEAMLESS KS2/KS3 TRANSITION IN DESIGN & TECHNOLOGY

Importance of Transition
- Primary students benefit from a higher quality D&T education.
- Ensuring continuity and progression between KS2 and KS3 is crucial and will become more so as primary practice continues to grow.
- This ensures building on prior knowledge and skills in KS3.

Structured Transition Processes
- Essential to have structured transition processes in place.
- Enables a seamless shift to KS3 D&T.

Our Commitment
- Over the next twelve months, The Association will focus on supporting this area with resources and training.
- Highlighting best practices for effective transition.

Collaboration
- Schools, educators, and parents working together.
- Promotes a shared understanding and support during the transition period.
- Equipping students with the confidence to embrace the next level.
- Inspiring them to explore and excel in D&T.

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FOOD AND NUTRITION STUDIES

This currently sits within D&T studies at Key stages 1,2 and 3 (Ages 5-14). We are led to believe the DfE is minded to remove this from the design and technology curriculum and place this as a core aspect of study for all students. The recent document released by the Food Teacher's Centre suggests that 75% of all responding teachers (over 500) wish to be separated from D&T.

This makes some sense if it means all young people in England will receive basic food preparation and nutritional education, but at the same time, we need to ensure that this important educational curriculum area is not marginalised.

Most D&T teachers consulted want the Association to support food teachers desire to teach from their own set of orders across key stages.

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KS3 PROBLEMS AND OUR SOLUTION TO THESE PROBLEMS

Current Challenges
- Many schools focus on 'making things' with insufficient emphasis on process, building student knowledge, skills and understanding and curriculum order and progression.

Curriculum Time Constraints
- Reduced curriculum time in many schools is affecting content coverage.
- Impacts the depth of knowledge teachers can impart.

Addressing the Carousel Curriculum
- Carousel system is common in secondary schools and will continue to be so; this is not the problem. Lateral thinking is needed to overcome timetable constraints.

Building on Primary Foundations
- KS3 should build on primary school foundations and not ‘start over’.
- Focus on helping students understand the benefits of D&T academically, societally and personally.

Developing 'Human Skills'
- D&T imparts essential 'human skills’ such as problem-solving and creativity.
- Enhance the curriculum to include these ‘attributes’ vital for success in life and work.

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KS3 PROBLEMS AND OUR SOLUTION TO THESE PROBLEMS

Promoting Progression

- Emphasise progression at KS3 to avoid repetitive tasks across year groups.
- Foster iterative design processes rather than task-orientation.

Changing Pedagogical Practice

- Universal support from the D&T teaching community for pedagogical change.
- Excitement for contextually led problems **‘Inspired by Industry’** to be released in September

Supporting Teachers

- Acknowledgement that some KS3 teachers may lack deeper subject knowledge and will need additional support.
- CPD and coaching to support teachers' growth without compromising the curriculum (skill up, don’t dumb down the offer).

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THE FIRST ‘INSPIRED BY INDUSTRY’ RESOURCES ARE NOW LIVE

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www.inspiredbyindustry.org.uk

KS4 THOUGHTS AND OBSERVATIONS

NEA
- Teachers and students comfortable with the NEA as a core part of KS4 assessment. Few have voiced concern about its inclusion as part of the overall GCSE assessment.

Broadening the Context Panel
- Suggest broadening the panel setting GCSE contexts for the NEA. Inclusion of a more diverse and informed sector, including industry.

Streamlining KS4 Syllabi Content
- Proposal to reduce content overload in the KS4 syllabi.
- Heavy content load should not compromise teachers professionally.

In-depth Content Review
- Planned review of content over the next twelve months.
- Determine what content to retain, remove, and add to ensure clarity and effectiveness in teaching.

Retaining and Attracting Teachers
- Addressing concerns of losing teachers to Art & Design and other subjects.
- Adjusting assessment methodology to more accurately assess student capability.

KS4 THOUGHTS AND OBSERVATIONS

Early Release of Design Contexts
- Teachers have consistently requested earlier release of Design Contexts by Awarding Organisations. This would enhance preparation and teaching efficiency.

Balancing Year Eleven Focus
- Acknowledging the overwhelming focus on NEA and written exams in Year Eleven. Strive to obtain a more balanced approach to attract students to the subject.

Exploring Alternative Assessment Methods
- The Association's proposal for alternative assessment methods at KS4 to be explored with AOs over coming months.

Collaborative Reform Efforts
- Working with teachers, awarding organizations, Ofqual, and other stakeholders.
- Proposing alternative assessment methods for the remaining 50% of qualifications outside the NEA.

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KS5 THOUGHTS AND OBSERVATIONS

Understanding FE/HE Opinion
- Urgent need to determine FE/HE opinion of D&T A Level qualification.
- Identify who values the qualification and how it aligns with business requirements.

Positive Teacher Feedback
- Limited negative feedback from teachers on KS5 syllabus structure and knowledge content to date.

Empowering Pathways
- Strengthening D&T education to create seamless pathways from KS5

Collaboration and Engagement
- Collaborate with FE/HE institutions, industry partners, and teachers.
- Foster engagement to ensure D&T qualifications align with future education and career needs.

Future-focused Curriculum

Strive for a curriculum that empowers students with the skills and knowledge required in:
- Higher Education
- Apprenticeship Programs and FE Courses
- Career Opportunities

CROSS STAGE OBSERVATIONS / ACTIONS

Name Rebranding
- Most teachers agree that a Reimagined D&T would require a 'rebrand' with a name change.
- 'Design and Innovation' emerged during consultations as a potential new name. Many schools have already added “Engineering’ to the faculty name, with positive feedback.

Establishing an Agreed Orthodoxy
- The Association aims to build on existing research on the subject's core epistemology.
- Establish and promote an agreed orthodoxy for D&T's core knowledge, understanding, skills and values.

Navigating the "Food and Nutrition" Transition
- Some reluctance to remove "Food and Nutrition" from the D&T suite.
- The Association will support food teachers to pursue their path, even with potential reductions in D&T teachers and curriculum time in some schools.

Design Studio Classroom of the Future
- Collaboration with DfE, CLEAPSS, and other key stakeholders to envision the design studio classroom of the future.
- Building on existing work, including CLEAPSS's efforts, and widely sharing outcomes with the D&T community.

REQUESTS TO GOVERNMENT

Equal Bursary Support
- Advocate for D&T to receive the same level of bursary as Chemistry, Physics, Computer Science, and Mathematics (currently £27K).

D&T Focused Recruitment Schemes
- Implement D&T-focused recruitment schemes to facilitate professionals from business and industry transitioning into D&T teaching.
- Modelled after successful schemes such as the **"Engineers Teach Physics"** initiative recently funded by the Government.

Government-Funded CPD
- Urgent need for Government-funded CPD for all D&T teachers, specialists and non-specialists.
- Address the teacher recruitment crisis and support educators in delivering high-quality subject based education.

Extended KS2 CAD/CAM Initiative
- Request Government funding for an extended trial of the KS2 CAM (additive manufacturing initiative) conducted over the last eighteen months with Create Education.
- Initiate the trial in one hundred schools initially, scaling up by the end of 2025.
- If successful, roll out the CAD/CAM initiative to all primary schools from 2026.

Independent Research Project
- Seek DfE funding for this research project to ensure a comprehensive evaluation of the above trial.

Active Engagement with the Association
- Encourage the DfE to actively engage with the Design and Technology Association to collaborate on advancing these recommendations into working projects and trials.
- Seek input and feedback from the workforce throughout the progress of this work.

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NEXT STEPS, TIMELINE AND INTENDED OUTCOMES

Key Stages 1 and 2

- Projects on a Page to be further developed and digitised in 2024
- CAD/CAM Pilot to be funded and run in 100 schools across 2024
- Pilot ‘Inspired by Industry’ KS2 units released in the first half of 2024
- Build partnerships with other key organisations to further enhance KS1/2 delivery

Primary/Secondary Transition

- Transition best practice showcased
- Transition contexts developed and released over 2024

Key Stage 3

- The first nine ‘Inspired by Industry’ units of work are now live
- Addition of a further three units Dec 23
- Funded research programme initiated in pilot schools in 2024
- Twelve additional units are planned for 2024 and each year thereafter
- ‘Pull’ not ‘Push’

Key Stage 4

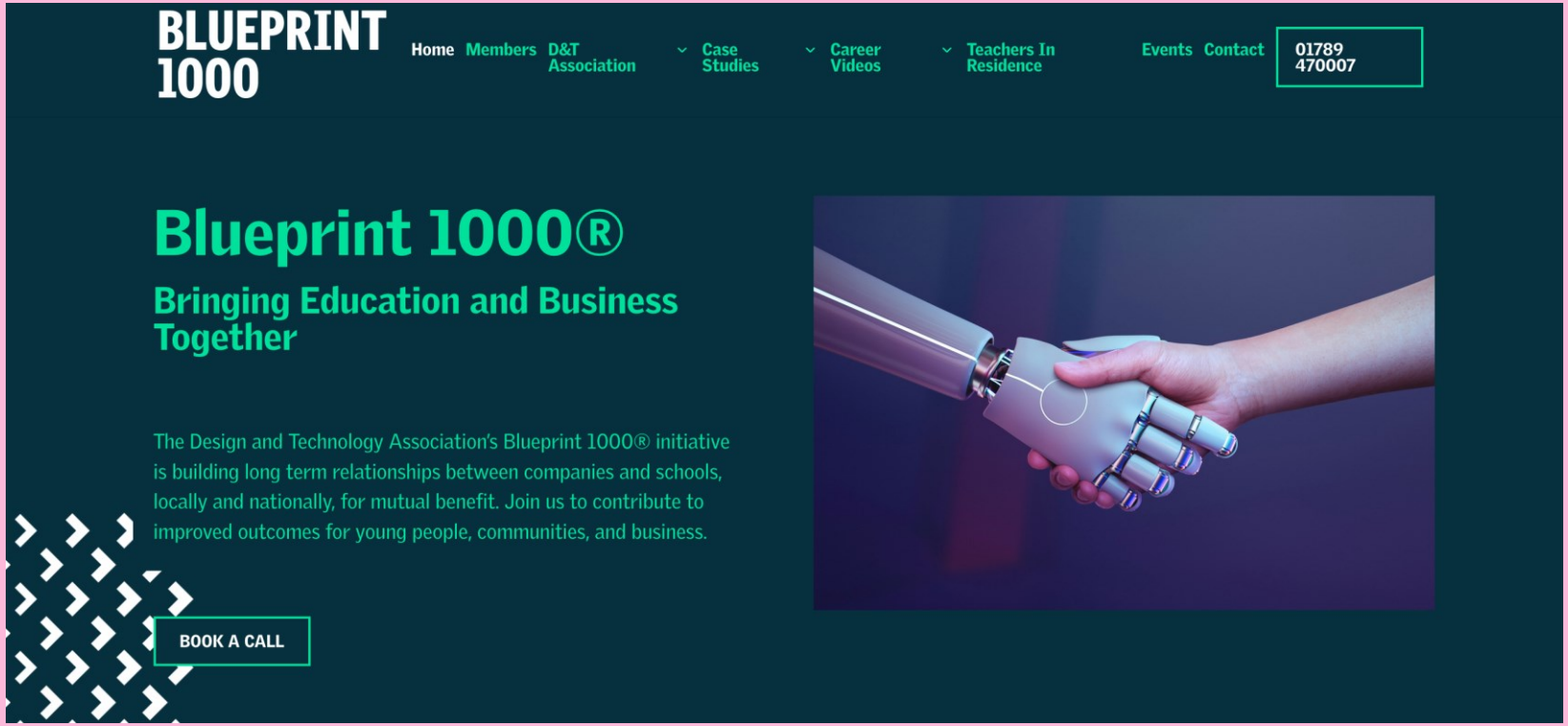
- Open consultation with Ofqual and Awarding Organisations 2024/25
- Teacher work groups to explore options 2024
- Proposals presented to Ofqual and DfE by end of 2024

Key Stage 5

- Research into how much our current A-Level is valued by HE/FE 2023/24
- Findings from above to influence A Level development late 2024/25

BLUEPRINT 1000 AND TEACHERS IN RESIDENCE

Embedding industry learning into the curriculum



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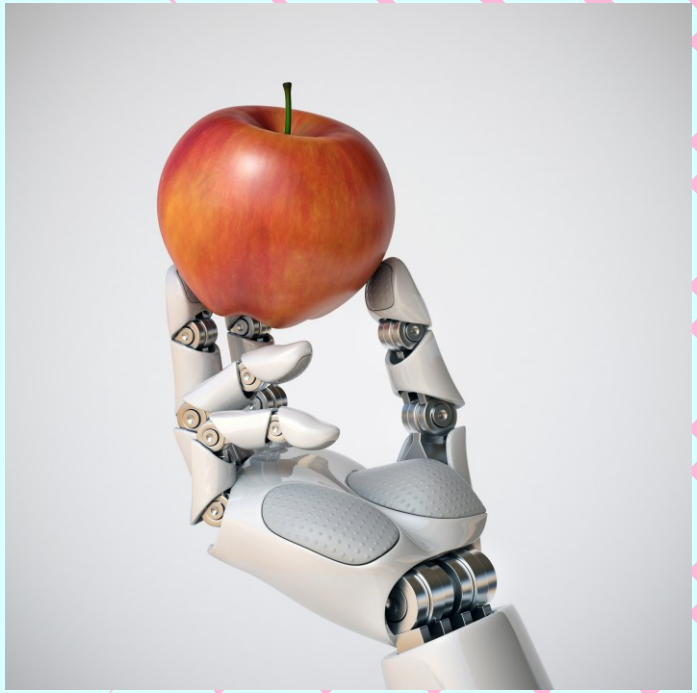
FINAL OBSERVATIONS

We live in a complex and fast-moving society. We believe education's role is to adequately prepare our young people to confidently take their place within this society. We need to prepare them for life and employment, both of which are changing rapidly. At a minimum, our subject empowers young people to understand the world they live in and the positive role they can play. We can empower our young people to question and, where relevant, embrace technology and the positive role that it can play in their lives.

At the other extreme, our subject prepares and creates the problem solvers, lateral thinkers, team players, and innovators that business and industry will need to solve the complex problems that the unbridled use of certain technologies has inflicted on the world. We are literally preparing the engineers, designers, manufacturers and innovators of the future.

We need all interested and decision-making parties to now gather behind these recommendations as we seek to adapt and improve our subject into one that sits rightfully at the very core of the school curriculum.



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THANK YOU FOR LISTENING.

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