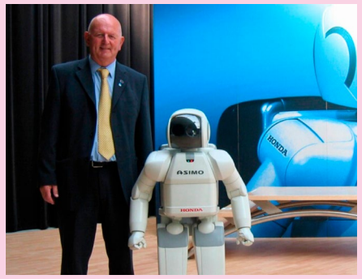
Day in the Life of a Health & Safety Consultant

Barry McGregor, Health & Safety Consultant for the Design & Technology Association

As a Health & Safety Consultant for the Design & Technology Association, Barry has seen the best and worst of school workshops, from well-maintained departments to dangerously neglected spaces. With years of experience in engineering and teaching, he remains committed to ensuring safer learning environments and equipping staff with the knowledge to prevent accidents.

European Commission in Brussels


Hamburg Conference



Meeting ASIMO

Leaving school with no intention of becoming an engineer, I found myself 'thrust', after being 'persuaded' by my parents into an engineering apprenticeship between 1968 – 1972. This resulted in an engineering career lasting thirteen years. Part of the time was spent gaining experiences of CAD/CAM and CNC machines which would prove to be of great use later!

Teaching Highlights

There have been many highlights in my teaching career which started in 1982. In 2001 an opportunity came to attend the first CAD in Schools Conference at Warwick University where ProDESKTOP CAD software was launched. I was selected to be one of twenty five national CAD in schools Support Centers and we became one of fifty five pilot schools. This was the start of five consecutive years of successful CAD/CAM North East Conferences.

Walbottle School became involved with Starchaser Industries 'Engineering Cool for Kids' project in 2002 and a space rocket came to the school. Also in 2002, Specialist Schools and Academies Trust, (they administered the governments specialist schools system) visited Walbottle School. By 2004 I was working full time as the National Specialism Co-ordinator Engineering Colleges. We started with four Engineering Colleges (schools) and ended with eighty.

An area which brought great success was the development of Engineering College links with international schools. This resulted from an engineering conference in Hamburg working with the Hamburg Technical University, as well as a conference in Barcelona, where over twenty schools were involved.

One of my most inspiring experiences was with both Honda Europe and Honda Japan regarding ASIMO. At the time, ASIMO was the world's most advanced humanoid robot built by Honda Japan at a cost of over £20 million.

In 2005 I was asked by Honda Japan to speak at the European Commission in Brussels on the benefits of developing ASIMO into the D&T and Engineering curriculums in England. Here was I, a working lad from Hebburn on the banks of the River Tyne who had served an engineering apprenticeship speaking to over two thousand delegates! I started my Examination Board work in 1996 with NEA. I worked as a Moderator for GCSE Resistant Materials until 2003 where I became a Team Leader. Later I became a Moderator for GCSE Product Design and later again a Team Leader.

Awards

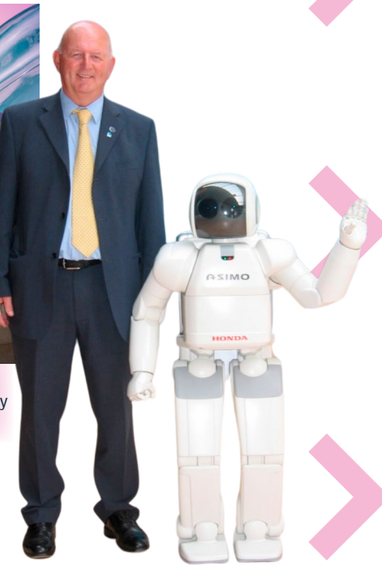
Throughout my teaching career, I have been fortunate to be honoured with recognition of my work. In 2004 I was awarded a Gatsby Teacher Fellowship, and this was followed in 2005 by a Subject Leader Award from the Design & Technology Association.

Perhaps the pinnacle of my career in education was in 2024 when I received The Institution of Engineering and Technology Award for Outstanding Contribution to Design and Technology (Awarded by the Design & Technology Association Board of Trustees). This I can safely say was a very proud moment.

Health and Safety Consultant

However, my links with Design and Technology continue being a Registered Design and Technology Health and Safety Consultant. No two days training are the same and I see many variations in departments. I joined the Association in May 1996 and became a Consultant in 2002 and then a Health & Safety Consultant in 2010.





Barry McGregor winning the Subject Leader Award in 2005 and the The Institution of Engineering and Technology Award for Outstanding Contribution to Design and Technology in 2024 at the Design & Technology Association Excellence Awards.

Design and Technology has changed dramatically since I first entered the teaching profession in 1982. For a start, the subject title has changed so many times! I was pleased I was involved with D&T in the 'heady' days of Technology and Engineering Colleges where D&T was compulsory. It felt like everyone who taught D&T was a specialist.

Health and Safety Examples

These are examples of the Good, the Bad and the Ugly!

The Good

A well-managed D&T department starts with a positive atmosphere and a sense of organisation. It often starts with a positive environment, where safety and maintenance are clearly priorities. Machines are regularly serviced, and Local Exhaust Ventilation (LEV) checks have been completed within the required timeframe. Essential safety measures, such as correctly positioned guards on drilling machines, sanding machines, bandsaws, and circular saws, are in place.

Further indicators of good practice include proper attachment of the Riving Knife to prevent unsafe cutting techniques. Staff are engaged in discussions, have access to key safety guidelines such as BS4163:2021, and are open to professional advice. Training sessions run smoothly, with all accreditation sheets signed and necessary documentation completed, ensuring a safe and effective learning environment for students.

The Bad

Training sessions may be impacted by logistical issues, such as staff being occupied with morning duties, leading to delays in starting. Essential documentation might not be readily available, requiring time to produce and distribute. Safety awareness is another key area of focus. For example, when discussing emergency stop signs, there may be uncertainty about their function. Activating emergency stops may unintentionally shut down computers along with workshop equipment. Additionally, fixed and portable equipment may not have undergone the correct electrical installation, sometimes due to factors beyond staff control. Machine guards, such as those on drilling machines, may also require adjustments to ensure they fully cover drill bits, maintaining a safe working environment for students.

The Ugly

Emergency stop systems may be interconnected in ways that cause unintended disruptions, such as shutting down equipment in both the main workshop and technician's area simultaneously. Regular machine servicing and Local Exhaust Ventilation (LEV) checks may be overdue, leading to dust accumulation in various areas.

Basic maintenance tasks, such as emptying dust trays on sanding machines, may be overlooked, and may not have a structured maintenance program in place. These can be accessed via CLEAPPS.

In some cases, essential safety features, such as the Riving Knife on circular saws, may not be in use. Additionally, some scroll saws may lack proper extraction, and certain models might have missing parts but remain in operation.

The 'Good', 'Bad' and 'Ugly' examples highlight the best practice for routine maintenance, adherence to safety protocols, and ensuring that training can take place in a secure and well-maintained D&T environment with the intention of trying to prevent accidents.

Although I have been involved with education more years than I was in engineering, I still class myself as an engineer. So, to finish:

"To the scientist, the glass is half full.

To the mathematician, the glass is half empty.

To the engineer, the glass is twice as big as it should be!"