

Designing a better tomorrow - How the QE Design and Technology Department are helping to fight the coronavirus Pandemic

By Sean Kelly, Technology teacher

The QE Design and Technology Department believe that it is possible to design a better tomorrow. To use our design and engineering skills to confront and overcome the big challenges that we face in our lives is a belief that is central to the teaching methodologies employed in the day-to-day practice of the department. So when the Coronavirus Pandemic hit the department asked themselves what they could do to help.

The original message from Mr. Noonan, Head of Department, to other teachers in the department, and to teachers in other schools read "If we are going to be in school ourselves over the coming weeks and months, we as teachers of this specialist subject have skills which we can use to help this crisis. Using our now idle 3D printers and laser cutters we can produce the ventilator components and specialist masks that are in such short supply and such great demand from the NHS".

On the back of this Mr. Noonan set up the Facebook and Twitter page "Design and Technology Education – Helping to fight the spread of coronavirus", and began 3Dprinting prototype designs for the ventilators and face shields. Interest grew rapidly and it became clear that Design and Technology departments should focus on the face shields due to the hygiene standards required to produce the ventilators. Teachers all over the country tooled up and to date just under 200 Design and Technology teachers have joined the Facebook group and are 3Dprinting face shields for our frontline health workers.

The next issue was urgent distribution to the areas of the country that need it most. Through the publicity garnered on the Facebook group, Mr. Noonan, was able to make contact with the 3dcrowd, a crowd-funded crowd sourced volunteer group who are coordinating the creation, collection and distribution of the face shields from people's home and schools to the NHS. The 3dcrowd began as 6 volunteers on March the 24th and had grown to over 800 individuals 4 days later. As Mr. Noonan was one of the very first to get in touch with the 3dcrowd he is coordinating most of the distribution effort around London.

"The idea is simple", says Mr. Noonan. "Individuals or schools use their 3D printers to print the visors using one of the many files that have been developed by teachers and designers around the country. They then fill in the google doc. spreadsheet, which pairs them with a hospital close to them. I was one of the first London people involved so I just kind of fell into coordinating. The 3dcrowd will then pick up your visors at a pre arranged time and distribute them to hospitals. So far we here at QE have printed 20 visors but now that we have the design finalised we are hoping to ramp up production to about 50 per day. In all we are aiming for 80,000 to be created across the country next week. We even

have some of our wonderful QE students who have 3D printers at home helping as out. It's a wonderful example of how design and innovation can help solve some of the big problems we face in the world."

The QE Design and Technology department plan on continuing to supply protective face shields to the NHS for as long as health workers need them.