

November Diary Entry

Paras Gonzales- Team Leader

I had the opportunity to visit Rolls Royce in Derby and then attend the 2018 Award Ceremony at the Science Museum in London. It made me realise how fortunate we are to be part of this whole experience. I met this year's finalists and the finalists for next year. It made me realise there is a world beyond the classroom. The tour of the Rolls Royce was a particular interest of mine as it put the work I teach my GCSE D&T and A level student into context. All I could think of was it would be amazing for my students to be here. However my enthusiasm came through the next day when I returned to school and describe my experience of my visit. My invitation to Rolls Royce and the Award Ceremony made me realise how our role as teachers is pivotal in nurturing our future generations in following a pathway within the STEM subjects. Not only that, how valued we are in industry.

This month has been used as a time of reflection and improvements of our curriculum. Mikyla and I had to make the decision to not deliver Robotics to our first cohort of year 8 because we had a setback on the delivery of additional Robots. Decision to use our current robots with the Robotics club as we didn't want to lose momentum and enthusiasm of the students we currently have selected. The positive with this is that we have had a chance to evaluate the teaching and learning of Robotics. We received feedback from the year 10 students about what they had learnt and key comments included:

'It helped me understand the theory I have learnt'

'It links to what I have learnt in Physics'

'I liked that it wasn't just reading from a textbook and I was able to use my hands'

'It was hard working in teams as we always argue, but with the deadlines Miss put on us it made us try harder to find a solution to meet the deadlines'

'Wished we had more time to experiment with the Robots we made, as I start to get figure out what I needed to do and then the unit was done'

Reviewing what has been taught

In further developing the KS3 Curriculum Plans for January 2018, we have decided to look a discussing with the Science and Geography teacher to discuss natural disaster, 3rd World poverty, global warming etc and identifying how students could problem solve and develop a concept with the use of their knowledge of robotics and simple mechanics. This could be a end of unit team project that consolidates their learning

Robotics Club- Engaging Girls into STEM

We have had two session of the club so far. Of the 24-30 students selected we have only had 7 girls wanting to join the club. It has been very boy heavy. Reflecting on this, Mikyla and myself have decided to identify key girls in year to invite to Robotics as we will have an additional Robot that can be used. We have specifically identified year 7 cohort as we had no prior knowledge or relationships with the student to encourage them to pick the after school club.

Ms Mikyla Warr

The feedback I received from my year 10 class was invaluable and quite honest. I could see their understanding as I watched them discuss in detail practical solutions using correct terminology. It was interesting to see how different student took lead on different parts of the designing process. Fortunately for myself I have student in the groups that are currently studying Computing and are top set Physics and

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Maths students and were able to answer questions that I was unable to answer. This is all foreign to me and it's been hard for me to clarify my understanding whilst trying to teach it at the same time. Having said this, I now know and would feel comfortable in delivering it next time round.

I had an opportunity to have some CPD at National STEM Centre this month on the Robots we have in school. The 2 day course has been fantastic as its given me the chance to speak to specialists in using these Robots and providing me with ways that we could deliver part of our curriculum. Next steps would be to review this with Paras and work out how we could implement it further in our year 8 curriculum.

Current Challenges	Moving Forward
<p>How do we attract additional girls into Robotics and programming?- How can we promote and encourage this moving forward?</p>	<p>Speak to leadership with the potential of having a KS3 'Girls into Engineering/Coding Day'.</p> <p>Possibly look at opportunities to attend trips or have women engineers come in and discuss what they are currently working on.</p>
<p>How can we make the curriculum more real life/problem solving?</p>	<p>Arrange a meeting to discuss what Science, Maths and Geography teach and how we could extend this further with the use of Robotic</p>



These images are of year 8 and year 9 students participation in the 'blind challenge' where the driver (who is blindfolded) is instructed by their peers to drive the robot around the cones- Initial steps prior to programming the robots.

Expenditure: Currently we have placed our order in for the additional Robots and now awaiting for confirmation.

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