

**Alex Pilkington** *Queen Elizabeth High School,  
EESW Student of the Year Runner-up 2016*

Alex Pilkington, from Queen Elizabeth High School, was a team leader on the EESW project. His team were given the brief to identify a construction, environmental or engineering issue within their school, researching possible solutions, and designing a prototype to solve the problem. Alex remarked, *"This was a broad brief and allowed a lot of room to focus on what we wanted from the project. Our chosen issue concerned the ventilation of a room containing a hydrotherapy pool in the school's special needs department. There was some evidence that the chlorine in the expelled air from the room was having adverse effects, and so we worked on researching and designing a wall-mounted filter to absorb the chlorine."*

When reflecting on the project, Alex explained how putting himself forward for team leader allowed him to gain so much valuable experience. When describing the role, Alex said, *"This was definitely out of my comfort zone, but as a result, I learnt a lot about how to encourage and support different members of my team. I also got to practice less obvious skills, such as writing appropriate emails to stakeholders and thanking those who helped. There were many other challenges, especially at the beginning when the direction was so unclear, but I found that the more I put into the project, the more I got out of it"*.

Alex told us how the project gave him his first taste of 3D design, which he thoroughly enjoyed. He was also tasked to develop a formula to calculate the required size of the filter, whilst also considering the filtering medium's efficiency. He explained how *"It was refreshing to derive my formula based on real-world information and to come up with a practical number we could use"*.

Alex believes the project's practical side was the most rewarding, getting a chance to apply what he learned in Science and Maths to real-world problems! Following sixth form, he enrolled at The Dyson Institute of Engineering and Technology on a brand-new pioneering degree apprenticeship course partnered with the University of Warwick.



*Alex Pilkington at the EESW  
Student of the Year Award Event*

*"The course is general engineering, with some specialisation available in the latter two years. I chose a software engineering specialisation because I love the nature of constant problem solving and the sense of wonder I get at software - it just seems like magic to me, and I love learning more about how it works".*

In the future, Alex hopes to continue with a career in software engineering, specialising in machine learning. He doesn't have a particular destination in mind, as long as he continues to be challenged and learns some new things along the way!

Alex wanted to take the opportunity to thank EESW, describing the process as *"hugely influential to my thinking about career and options after Sixth Form, and is still one of the most positive influences of my education so far."*



**Alex Pilkington** Ysgol Uwchradd y Frenhines Elizabeth,  
Ail yng nghystadleuaeth Myfyriwr y Flwyddyn StemCymru 2016

Roedd Alex Pilkington, o Ysgol Uwchradd y Frenhines Elizabeth, yn arweinydd tîm ar gyfer prosiect EESW. Tasg tîm Alex oedd nodi problem adeiladu, amgylcheddol neu beirianeg yn yr ysgol, ymchwilio i atebion posibl, a dylunio prototeip i ddatrys y broblem. Meddai Alex, "Roedd y briff yn eang iawn ac yn rhoi digon o hyblygrwydd i ni ganolbwyntio ar beth roedden ni'n awyddus i'r prosiect ei gyflawni. Fe wnaethom ni ddewis problem yn ymwneud ag awyru ystafell a oedd yn cynnwys pwll hydrotherapi yn adran anghenion arbennig yr ysgol. Roedd rhywfaint o dystiolaeth bod y clorin yn yr aer a oedd yn cael ei gyrru allan o'r ystafell ac yn cael effeithiau andwyol, felly aethom ati i ymchwilio a dylunio hidlydd ar y wal i amsugno'r clorin."

Wrth fyfyrion ar y prosiect, eglurodd Alex ei fod wedi cael profiad gwerthfawr iawn trwy wirfoddoli i fod yn arweinydd tîm. Wrth ddisgrifio'r rôl, meddai Alex, "Roedd angen i mi fentro allan o'm cylch cysur, ond o ganlyniad, fe ddysgais lawer am sut i annog a chefnogi aelodau gwahanol o'r tîm. Hefyd, fe ges i gyfle i ymarfer sgiliau llai amlwg, fel ysgrifennu negeseuon e-bost priodol at randdeiliaid a negeseuon i ddiolch i'r rhai a oedd wedi helpu. Roeddem wedi wynebu llawer o heriau eraill, yn enwedig ar y cychwyn pan oedd cyfeiriad y prosiect mor aneglur, ond fe wnes i elwa o roi cant y cant i'r gwaith".

Dywedodd Alex wrthym fod y prosiect wedi rhoi ei flas cyntaf iddo o waith dylunio 3D, a'i fod wedi mwynhau'r profiad yn fawr. Hefyd, fe gafodd y dasg o ddatblygu fformiwla i gyfrifo maint gofynnol yr hidlydd, gan ystyried effeithlonrwydd y cyfrwng hidlo. Eglurodd Alex: "Roedd yn braf bod fy fformiwla yn seiliedig ar wybodaeth o'r byd go iawn, a mod i wedi meddwl am rif ymarferol i'w ddefnyddio".

Roedd Alex wedi mwynhau elfen ymarferol y prosiect yn bennaf, gan fod hynny'n gyfle iddo ddefnyddio beth roedd wedi'i ddysgu mewn Gwyddoniaeth a Mathemateg i ddatrys problemau'r byd go iawn! Ar ôl gadael y chweched dosbarth, ymrestrodd Alex yn Sefydliad Peirianeg a



Alex Pilkington yn ystod Digwyddiad Gwobrau Myfyriwr y Flwyddyn EESW

Thechnoleg Dyson i ddilyn cwrs gradd-brentisiaeth arloesol newydd mewn partneriaeth â Phrifysgol Warwick.

*"Mae'r cwrs yn canolbwyntio ar beirianeg gyffredinol, ond mae modd arbenigo rhywfaint yn ystod y ddwy flynedd olaf. Fe ddewisais arbenigedd peirianeg meddalwedd gan fy mod wrth fy modd â natur datrys problemau'n gyson a'r ymdeimlad o ryfeddod wrth ymdrin â meddalwedd - mae'r holl beth yn fy swyno, a dwi'n mwynhau dysgu mwy am sut mae'n gweithio".*

Yn y dyfodol, mae Alex yn gobeithio parhau gyda gyrfa mewn peirianeg meddalwedd, gan arbenigo mewn dysgu peirianyddol. Does ganddo ddim cyrchfan benodol mewn golwg, cyn belled â'i fod yn parhau i gael ei herio a'i fod yn dysgu pethau newydd ar y daith!

Roedd Alex am fanteisio ar y cyfle i ddiolch i EESW, gan nodi bod y broses wedi cael *"dylanwad enfawr ar fy syniadau am yrfaeodd ac opsiynau ar ôl y Chweched Dosbarth, ac mae'n dal i fod yn un o ddylanwadau mwyaf cadarnhaol fy addysg hyd yma.*

