



**To/
Councillor Jen Raynor
Cabinet Member for Education
Improvement, Learning and Skills**

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BY EMAIL

Summary: This is a letter from the Schools Scrutiny Performance Panel to the Cabinet Member for Education Improvement, Learning and Skills following the meeting of the Panel on 7 June 2018. It is about the performance of science in schools in Swansea.

Dear Councillor Raynor,

Schools Scrutiny Performance Panel – 7 June 2018

On the 7 June 2018 we had a dedicated meeting to look at how we inspire and engage pupils in science in schools in Swansea. We chose to do this because we recognise that science should be exciting for young people, giving them the skills and opportunities to improve their futures.

We spoke to the Headteachers of two schools who are performing particularly well in their outcomes in Science subject areas, Bishopston Comprehensive School and Pontarddulais Comprehensive School. Also invited to participate were the Leaders of Learning for Science at ERW and the Head of Education Achievement and Partnership in Swansea. A number of issues were looked at including:

- Data on performance of schools across Swansea in Science, comparative data across ERW region and also the ERW region with other regions across Wales
- How pupils are encouraged and inspired to take up science subjects (particularly encouraging female take up)
- How we ensure that all pupils have high aspirations in science
- How we are learning, sharing and celebrating good practice in science subjects
- How do excellent schools engage and retain the interest of pupils in science
- How we advise young people about next steps in science after school
- How do schools link with 6th forms and colleges to ensure progression in science subjects

OVERVIEW & SCRUTINY / TROSOLWG A CHRAFFU

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We found this session to be not only informative but beneficial in identifying where some of the issues in relation to science education may lie and in establishing some learning points. We would therefore like to share our findings with you.

- Current performance across Swansea schools at KS4 shows that three quarters of learners gained a grade C or above at GCSE Level 2 Science. This performance places Swansea on a par with the national average and eleventh out of 22 local authorities in Wales. We heard that the rank position is an improvement on the previous year but overall performance has declined during the last two years. This is in line with a national decline in performance.
- Value added information indicates a varied picture of performance across schools in Swansea. We heard that performance may be varied because of the inclusion of the BTEC outcomes data and that from next year this will not be included in the figure, so should be a truer reflection. We also heard that the new science examination will come in this year.
- There does not seem to be gender gap in the take up of science subjects in schools with both boys and girls doing equally well. The issue arises when pupils move on to 16+ where it is much less likely that girls will choose science options. It was felt that schools could complete a sampling of exit interviews each year to understand why certain subjects are chosen when continuing in education post 16, which will help establish why pupils are choosing (or not choosing) certain career paths.
- That the main challenge that schools face in relation to science, as with other subjects, is the gap in performance between free and non-free school meal pupils. In 2016-2017 the difference was 23.6%. The panel will look at how schools are using their pupil deprivation grant to address this later in the year.
- Comprehensive schools working with their cluster primaries around early development of science is very positive. This way of working was exemplified at Pontarddulais Comprehensive School with their cluster primaries. We felt that it is important to invest in pupils' primary years so when they come through to Secondary they are much better prepared and would like to see more cluster working around Science.
- A good example of combining science and the transition from Primary to Secondary School was outlined by Bishopston Comprehensive. They have a project on flight that starts in the pupil's final year of Primary schools and continues into Secondary.
- The freeing up of laboratory time in the feeder Comprehensive School so it can be used by cluster primaries was also highlighted as an excellent use of limited facilities and should be considered by other comprehensive schools. We recognise that this will depend on a number of issues like for example the proximity of the primary schools and transport etc.
- When engaging and inspiring pupils in science contextual and practical activities are crucial.

- The University sector should have a clear role in supporting science in Swansea schools and they are currently working towards this aim.
- The use of role models from local industry was felt by the panel to be a positive way forward in inspiring young people to take up and continue in technology and science beyond school. The panel supported the idea of Careers Fayres, an inspiration event and a short 10 minute video for schools to use to inspire their pupils when they are beginning to think about their career paths.
- Currently very few schools use work experience as a tool inspire and develop young people, giving them a taster of the world of work. The panel recognise that this can be time consuming and difficult to arrange but can be beneficial to pupils.
- The development and support in schools of pupil's resilience skills is having a clear impact and this should be encouraged and continued.
- Support for schools and individual teachers is vital. The skills and knowledge of the teacher was seen as central to learning, ideally with classes being led by a subject specialist but if this is not possible then teachers are trained/developed to specifically teach science. We were pleased to hear that ERW offers this development option and also that University of Wales Trinity St David offers a conversion course for teachers to become science subject specialist. It was felt that the use of new technologies and digital activities were useful but it this does not replace the need for innovative and excellent teaching. High quality teaching and learning is absolutely the way forward in science.
- The overall focus of a school on science, the longer term planning and use of data were also seen as key elements in how well pupils engage and perform. The panel felt that the schools leadership and commitment to science and technology will ultimately reflect in pupil's enthusiasm and overall inspiration in those subjects.
- Science seems to have reduced in priority in the primary sector with the focus in being on literacy and numeracy. It was felt that literacy and numeracy are not separate to Science and can be learnt through the use of science subjects.
- The Panel have been keeping up with the new curriculum and are awaiting with interest to see the impact of these reforms. With a more cross-curricular approach and the new 'areas of learning' science might be better accommodated into the timetable particularly at primary level.

We did not have time to look further in Science as pupil's progress 16+ at this meeting but hope to look into this further this year.

We would welcome your thoughts on any issue within this letter but would particularly like you to give us your views on to the following:

1. Schools completing a sampling of exit interviews each year to understand why certain subjects are chosen when continuing in education post 16.
2. More cluster working around Science.
3. Schools using projects that cross the transition between primary and secondary schools at KS3.
4. More secondary schools making their laboratories available to their cluster primaries when they not in use.
5. That activities to inspire pupils into science careers be considered for example by the use of Careers Fayres, an inspiration event and a short 10 minute video for schools to use to inspire their pupils (in collaboration with local industries).
6. The panel would like to see the profile of science raised in primary schools with science used to develop literacy and numeracy more.

Could we please have your written response by 12 July 2018.

Yours sincerely,

COUNCILLOR MO SYKES

Convener, Schools Scrutiny Performance Panel

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