

STEM Applications and Apprenticeships Review

4th November, 2014

PRESENT:

Councillors Crudass, Lister, Kelley, T. Richmond and C. Taylor; Dr. Mike Leddra, STEM Enrichment and Enhancement Coordinator, Durham and Tees Valley, STEMNET; Paul Richardson, Head of 11-19 (Learning and Skills); Owen McAteer, Foundation for Jobs Co-ordinator; Calvin Kipling, Chair of the 11-19 Partnership and Head of DSMS; Jenni Cooke, Service Director for Children, Families and Learning; and Allison Hill, Democratic Officer.

PURPOSE OF REVIEW:

To examine what is being done to enable young people to understand the applications of STEM (Science, Technology, Engineering and Maths) subjects and the opportunities that are available for apprenticeships and careers.

DISCUSSION POINTS:

STEMNET

- Dr. Mike Leddra attended the meeting and gave Members an overview of his work with STEMNET, which is a national network which seeks to stimulate the interests of young people in STEM subjects and in pursuing careers related to them.
- STEMNET work closely with schools to provide information and encourage career choices in STEM and has been established for ten years.
- It was reported that a quarter of the country's engineers are due to retire and 20 per cent of the country's scientists likewise so there will be shortage in future years unless young people are encouraged to follow these career paths.
- STEMNET also work with various organisations and there are STEM Ambassadors working in Industry/Commerce and Universities who give up their time to work with schools.
- It was suggested that larger industries in Engineering and Science are no longer providing apprenticeships although it was pointed out that Cummins, a large Engineering Company within Darlington have a number of STEM Ambassadors and feedback from students to the ambassadors they speak with is always positive.

- Employers are struggling to find skilled local people to employ. Jobs are available but there is a skills gap.
- It was reported that the Biochemical Industry in Teesside were particularly good at promoting their work and encouraging teachers to visit the site.
- Darlington has a good record of creating apprenticeships.
- There is also a concern that as apprenticeships become more popular it is encouraging students who may have gone on to University to now apply for an apprenticeship so other, less academic pupils are missing out.
- There is a view that as Engineering is not a core subject and schools follow a science/mathematical based curriculum, this is being overlooked by students, however, Dr. Leddra advised the Members that at a recent event attended by 72 secondary schools recently, 60 per cent of school were teaching engineering as part of their curriculum.

Data and Statistics for the Uptake of STEM subjects:

- Paul Richardson, Head of 11-19 (Learning and Skills) provided data for 2011/12, 2012/13 and part data for 2013/14 for courses by sector subject area.
- Data shows that there is an increase in subjects for Mathematics, Science and ICT.
- There is also an increase in pupils taking Ebac (English Baccalaureate) which requires a minimum of 2 science subjects.
- STEMNET and Stem Ambassadors provide a valuable source of information for career advisors in schools but the key is to engage employers.
- There is a new National Campaign being launched to get employers to take on more Apprentices www.greatbusiness.gov.uk/taking-on-an-apprentice
- Tees Valley Local Enterprise are looking to support Small Medium Enterprises (SME's) and making funding available to support the Foundation for Jobs Programmes.
- SME's make up a large proportion of the number of available apprenticeships.
- Members discussed what encouragement is there for basic trades apprenticeships and it was reported that there were a range of private and college providers.

- Apprenticeships are available to anyone over 16 years and once a young person is 18, there is an expectation that an employer will make a contribution. There is a small wage subsidy for smaller companies. There is a broad range of apprenticeships with a general requirement to have maths and English. There are also vocational courses available. Apprenticeships are for a minimum of one year and engineering apprenticeships are for 3 years.
- Dr. Leddra advised that in his opinion Darlington were ahead of other authorities in work with schools.

Foundation for Jobs

- Owen McAteer, Foundation for Jobs Co-ordinator advised the group that Foundation for Jobs has worked with 3,600 young people since its launch in 2012. 388 new apprenticeships have been created, primarily in smaller businesses. 384 internships and work placements. 2822 young people in Darlington schools have been advised about the Stem agenda.
- Aim of Foundation for Jobs is to increase young people's understanding of how to access careers in STEM and guiding them on the best route to their chosen career.
- Foundation for Jobs is a joint initiative between Darlington Borough Council, The Northern Echo and the Darlington Partnership.
- It was reported that the message from Companies is that there is no shortage of jobs but a lack of skills to fill the vacant jobs.
- Companies are therefore having to recruit from outside the region to fill engineering vacancies.
- Foundation for Jobs work very closely with Companies to deliver activities for schools to participate in. It is felt that practicable activities are a better way of engaging young people rather than just giving 'talks'. Practical activities have included bridge building, creating hovercrafts and undersea robots.
- A yearly engineering event is held for primarily Year 9 students including AMEC, Cummins, STEMNET, and Subsea.
- All events and activities rely on companies and their employees, who work with the project to deliver these sessions for young people and help to inspire the young people with GCSE options, guidance and ideas for further education, training and employment.
- Companies are also encouraged to send their younger members of staff to these events.

- A study in the Tees Valley has found that companies are not working at progression of their employees within the company.
- Foundation for Jobs seen themselves as a 'go between' the schools and the companies trying to recruit young people into careers in STEM.
- Schools part fund Foundation for Jobs.

Darlington 11-19 Partnership

- Calvin Kipling the Chair of the Darlington 11-19 Partnership and Head of Darlington School of Mathematics and Science (DSMS) gave an outline of the partnership and some of the work they do.
- The Darlington 11-19 Partnership supports the work of STEMNET and Foundation for Jobs events and works together with educational professionals and institutions of the town in the interests of young people to deliver fantastic outcomes.
- Mr Kipling commented that in his opinion teachers were not the best placed to offer career advice and the education of parents, in particular is difficult.
- Some parents have fixed views and aspirations for their children which can sometimes be borne out of ignorance.
- Mr. Kipling confirmed that engineering was being taught in a majority of schools but accepted that schools were not that good at promotion.
- Year 9 is critical for students with their GCSE choices and the schools aim is to give a broad an education as possible to provide students with as many opportunities as possible.
- There is a proposal for the University Technical College (UTC), a specialist engineering centre of excellence for the region, which is hoped to open at Aycliffe Business Park in 2015, to work with the 11-19 Partnership and a process of engagement has commenced.

FUTURE ACTIONS:

1. To examine the help and support available for smaller SME's and the creation of apprenticeship places for young people (Owen McAteer and Suzanne Clark).
2. To examine the link between education and employment away from the University route, including NEET, and the work of the ESH Group which is compiled of business organisations working with schools across the North East showcasing employability skills in fun, interactive sessions (Paul Richardson)