

## STEM Engagement Network meeting

Date: 16/Jan/2018



Item	Discussion Points	Action
<b>Introductions</b>	<p>Welcome, from Carol Davenport (NUSTEM)                      Apologies received from: Andy Lloyd, Centre for Life; Elin Roberts, Centre for Life; Gill Hardy, Proctor and Gamble; Moira Shaftoe, Engineering UK; Roy Bearpark, Newcastle University; Pete Edwards, Durham University; Stuart Proctor, Cummins; Gemma Sayers, Campus North.</p> <p>Present:</p> <ul style="list-style-type: none"> <li>- Ellie Oakley, IoP regional coordinator</li> <li>- Jade Robson, ICE regional coordinator</li> <li>- Graham Jordan, Skills NE/Dynamo NE</li> <li>- Martin Edwards, Learn It Compute It</li> <li>- Andrew Stogdale, Inspire2Learn</li> <li>- Jo Edwards, Virgin Money</li> <li>- Elaine Roy, British Engines</li> <li>- Jen Lee, RTC North / STEM Ambassadors</li> <li>- Claire Yakoob, Northern Powergrid</li> <li>- Lisa Carson, senior HR officer Komatsu</li> <li>- Karen Marshall, Accenture</li> <li>- Carol Davenport, NUSTEM, Northumbria University</li> <li>- Jonathan Sanderson, NUSTEM, Northumbria University</li> </ul>	
<b>Rationale &amp; Terms of reference</b>	<p>With reference to document circulated at the meeting, the group was convened to share research findings and best practice. NUSTEM shared their rationale and the genesis of the initial meeting following their celebration event in October. It was felt that although there were a number of networks and small groupings of companies and organisations, there wasn't a more strategic community of</p>	<p><i>NUSTEM: review terms of reference document in</i></p>

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practice around STEM engagement within the North East. The aim of the first meeting was to see if there was an appetite for such a forum amongst those who are involved in planning STEM engagement in the North East. Discussion:

### Research

There was an interest in hearing about research and other evidence for STEM engagement, as this can provide reassurance for management/boards that the activities being undertaken are likely to be effective. However, access and time to follow research is challenging, so a forum where key ideas can be shared would be beneficial.

The Gatsby career benchmarks were mentioned as a useful hook for schools, but that whilst interesting, they were hard to internalise.

It was also suggested that having 'quick start' guides for companies and schools around STEM engagement would be helpful.

### Time pressures

There was consensus around the number of different activities that providers are invited to and that they each have limited resources. There is often overlap at events where there are multiple providers from one discipline, which was seen as wasteful. Would it be possible to share attendance between providers (e.g. one digital, one mechanical engineering, etc)? This is the model that the five universities use at pre-16 events – all fund the Raising Aspirations Partnership (RAP), and staff from this attend events, rather than 5 separate universities.

There was also a desire to know what is good/effective so that those type of activities can be the focus of efforts.

Schools can also inundate companies with requests, particularly during small windows of time e.g. Careers and Enterprise week. Work experience was also mentioned particularly: the challenge of schools tending to request the same few weeks for pupils to attend.

*light of discussion.*

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There was a suggestion that a single body to negotiate between schools and businesses would be helpful.

Schools NE have a clash diary which allows for some level of planning.

Jen Lee suggested that the STEM ambassadors hub (run by RTC North) could be a useful starting point to direct schools to with their requests. By signing up as a STEM ambassador, companies could then choose which requests to respond to. <https://www.stem.org.uk/STEM-ambassadors/become-stem-ambassador>. This has additional benefits such as providing DBS checks and PLI insurance whilst on STEM ambassador activities.

[Addendum: There are a number of organisations both nationally and locally that, as part of their work, aim to link businesses to school e.g. Careers and Enterprise company, STEM learning, NE1, Engineering UK, ESH added value, North Tyneside Learning Trust WOW programme]

Jonathan Sanderson also posed the question that the STEM engagement network added another box to the organisation chart, and if that would be useful or an additional burden.

Target audience

Many companies/organisations target pupils who are at 'decision points' – late KS3/GCSE. The timescale of working in primary may be seen as too long for recruitment needs or company priorities. However, there were some companies (Virgin Money as an example) who are working more with primary.

There was also comment that for some organisations the issue is not increasing applications per se, but in increasing the diversity of applications.

Themes here:

1. Quality, research, evidence.
2. Coordination, centralisation, calendaring.

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	<p>Another networking group of interest: NE Pie-Comm, which is a successor of sorts to the older North-East Science Alliance. It's a social group with no set agenda:  <a href="https://www.facebook.com/groups/988058184660818/">https://www.facebook.com/groups/988058184660818/</a></p>	
<b>Representation</b>	<p>Who's not represented here, who should be? Suggestions from those present:</p> <ul style="list-style-type: none"> <li>- NE1</li> <li>- Employers generally – some attendees expected to see more employers present.</li> <li>- Reece Group</li> <li>- Smaller businesses – onerous ask. So groups like Dynamo interesting.</li> <li>- Ford Aerospace / Automotive Alliance</li> <li>- TWAM (cultural sector)</li> <li>- Civic groups / mayoral development groups / etc.</li> <li>- NEPIC / SMMT / etc.</li> <li>- Schools NE, on behalf of teachers.</li> <li>- LEP</li> <li>- STEM learning</li> </ul> <p>What are the geographical boundaries of the group?</p> <ul style="list-style-type: none"> <li>- Discussion centred around how tricky this is, with a general consensus that leaving this vague for now is appropriate.</li> </ul>	<p><i>NUSTEM: pursue contacts with these organisations.</i></p> <p><i>ALL: Invite strategic contacts to next meeting.</i></p>
<b>Principles of STEM Engagement</b>	<p>A draft briefing paper, "Principles of STEM Interventions" was presented by NUSTEM. Comments from the group:</p>	<p><i>ALL: feed back comments and suggestions on</i></p>

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	<p>There is nothing in here specifically about gender. IOP's ongoing Gender Balance project may give us some evidence, but most work is being done in secondary, so hard to generalise to work in primary schools.</p> <p>The WISE Campaign's People Like Me programme, which focusses on looking at the characteristics of people who have STEM careers (as opposed to what they do in their career) presents a potentially promising approach. However, the evaluation work is not yet published.</p> <p>There was discussion around Science Capital ideas which are emerging from research work. Group noted that such ideas are now mainstream, but not yet universally-adopted, internalised, or applied. There was also discussion about the challenges of knowing how (if) science capital can actually be used to increase numbers of young people choosing STEM careers. The UCL group's own approach at secondary looks limited in scope from initial publications. Applying Science Capital ideas to primary-age contexts is very much where NUSTEM has been working, and we believe we're ahead of the sector in this regard – which was part of our reasoning for establishing this group, because we think there's an opportunity for the region.</p> <p>One comment led those attending to consider if a group like this should have policy-facing objectives? Is this a forum through which many voices can coalesce?</p>	<p><i>the briefing paper draft.</i></p> <p><i>NUSTEM: update and amend document.</i></p> <p><i>NUSTEM: map out further briefing papers, potentially including 'Science Capital with primary-age children'.</i></p>
<p><b>"Class of 30"</b></p>	<p>A draft presentation was given by Carol Davenport on a way of thinking about the problem which NUSTEM have been exploring recently. This recasts the employment challenge from thinking about bulk numbers at the point where individuals enter employment (eg. 'the engineering sector requires x thousand more technicians per year') to thinking about what that means to a typical class of 30 children in a primary school. The presentation draws on ONS data.</p> <p>Comments included:</p>	

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	<ul style="list-style-type: none"> <li>- Consider representing other employment sectors in the breakdown.</li> <li>- Very clear that ‘one child counts’ – there’s a strong message in here.</li> <li>- Considered by the group to be potentially useful. A video version mooted by NUSTEM was widely backed, and it was suggested that we could seek funding for such an effort from the LEP, with reference to the Gatsby work, and also potentially a version aimed at children, bringing future opportunities to their attention (Something similar to the World of a Hundred People <a href="#">website</a> and <a href="#">video</a>, perhaps).</li> </ul> <p>It was noted that Teeside University (used to?) be heavily involved in family and community activities. Film events, mock graduations from primary to secondary, etc. Wondered if they have data surrounding those efforts?</p> <p>Digital Skills: often, assumption is about higher-level skills. But there’s a range of opportunities and requirements, it’s not just programming, electronics technicians are needed too. Accenture research on jobs under threat was mentioned. Aware that their work will reduce employment in some high-risk areas. There may be need for an infographic work on tech-sector opportunities specifically.</p>	<p><i>NUSTEM: Draw up funding paper for presenting to LEP via K.Marshall</i></p> <p><i>NUSTEM: follow up Teeside link and find contact if possible.</i></p>
<p><b>Communication Channels</b></p>	<p>Schools North East hold a central calendar, which may be useful for checking collisions of dates, particularly if we can ensure our collective events are incorporated.</p> <p>The events calendar on the NUSTEM website attempts to collate information from a range of sources, but like all such efforts its coverage is patchy. Contributions are welcome.</p> <p>It was noted that Engineering UK have a mapping project underway, and a number of organisations have contributed their activity data to it. Perhaps a future meeting of this group could hear the current status of this project, and explore how (if) it could be used as a method of coordination as well as recording.</p>	<p><i>NUSTEM to explore with SchoolsNE.</i></p> <p><i>All: forward relevant opportunities to NUSTEM.</i></p>

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	<p>A concern around the challenges of more publicity to schools could make an already-challenging situation even more overwhelming.</p> <p>Jonathan Sanderson briefly demonstrated the primary careers database part of the NUSTEM website (<a href="https://nustem.uk/careers/primary/">https://nustem.uk/careers/primary/</a>), an experimental feature and part of a recently-initiated research project. There was general interest in how we might expand and enrich this, that we might conceivably link to companies and STEM Ambassadors, and thoughts about how editorial time might be funded.</p>	<p><i>Jonathan: explore web form submission for the NUSTEM calendar.</i></p>
Next Steps, dates.	Next meeting: 3pm – 5pm, 11 <sup>th</sup> July, Think Lab, 3 <sup>rd</sup> Floor, Ellison E Block.	