Teacher Industrial Partners' Scheme Evaluation Report

PREPARED FOR

NATIONAL SCIENCE LEARNING CENTRE

Dr Suzanne King

March 2015

To discuss the contents of this document contact:

Dr Suzanne King

Email: suzannehking@btinternet.com

Tel: +44 (0)7983433928

Contents

CONCLUSIONS, KEY FINDINGS AND RECOMMENDATIONS

Conclusions

Evaluation shows that, as a result of their participation in the Teacher Industry Partners' Scheme (TIPS):

- Techers feel confident to:
  - use engineering examples across all STEM subjects;
  - talk to students about careers in engineering; and
  - build a relationship with the Industry Partner (IP).
- Teachers' attitudes to engineering have been up-dated
- The extent to which teachers can contribute to industry's understanding of the issues and challenges of teaching science at school level depends on the IP's existing knowledge
- It is too early to judge whether long term partnerships between schools and IPs will develop and whether networks of schools in an area can share employer expertise
- Classroom teachers have limited contact with other secondary schools but may be able to work with feeder primary schools

Key findings

The placement programme

- The length and content of the placement programmes works well
- The follow-up session at the National Science Learning Centre (NSLC) was useful and appropriately timed to support the development of school activities arising from the placement. Teachers also valued the opportunity to meet other teachers involved with the scheme.
- The burden for the IP is in planning the programme, which makes hosting two to four teachers at once attractive
- There was agreement that TIPS should be open to non-STEM teachers to maximize cross-curricular opportunities and ensure that the wider industry and not just specifically engineering careers are highlighted in schools

Teachers

- The experience has enhanced the career opportunities of the teachers, with them being given more responsibility, experience of planning and opportunities to engage with projects that would otherwise not have arisen
- Teachers saw the TIPS experience as enabling them enthuse and engage their students and introduce subjects
- Teachers valued the apprenticeship route into work much more after the placement as they now understood that it can lead to a degree and/or to high level jobs and felt confident to promote apprenticeships to colleagues and parents
- Discussions of careers with students were largely informal
- Teachers were motivated by the experience and all have been given a clear and unique role within the science department and the wider school
- Relatively inexperienced teachers reported becoming more confident with students and with their colleagues

- Teachers developed skills that enable them to identify links across subjects to varying degrees
- Teachers developed managerial and leadership skills through planning and championing a STEM club
- Teachers have a better understanding and appreciation of how links with employers can be built to inspire students and guide career choices
- Teachers became aware of the influence they have on students
- The three teachers who experienced the programme as a group continue to support each other
- Awareness of the world of work has been raised and the teachers have become advocates for work placements more generally

Schools

- The biggest tangible impact has been the development of after school clubs
- The impact on classroom teaching through schemes of work will take longer to work through as these are planned a year in advance but some thought that the experience was more relevant to the D+T than the science curriculum. Others saw that engineering can be used to introduce topics across all subjects
- There has been limited dissemination to other teachers, especially those outside of Science but schools plan to do this as new schemes of work and extra-curricular clubs are developed
- Dissemination outside of Science has raised the profile of the Science department
- There was enthusiasm for cross-curricular working but in large schools with established ways of working this can be difficult to implement
- All the schools said that it was essential to select teachers with the right attitude and personality for the school to gain maximum benefit from TIPS
- TIPS was deliberately used to by schools to enhance the career of the teacher as well as to support the schools in developing their STEM offering
- Visits between IPs and schools are developing and are expected to increase as extra-curricular activities get underway

IPs

- IPs main reason for involvement was to encourage young people into engineering careers and the wider industry
- There is a danger that IPs see the relationship as one-way (transmitting information about STEM workplaces and careers to schools) and do not take the opportunity to learn more about how schools operate and what they can do to support them

Potential barriers to impact

- Length of the placement may deter some schools and teachers from taking part
- Loss of momentum on returning to school
- Lack of time for the teacher to develop and execute plans
- Lack of funding within the school to support extra-curricular activities
- Limited opportunities to disseminate to colleagues, especially on routes into engineering careers
- Delay in being able to re-draft schemes of work
- Opportunities to discuss careers with students was largely informal
- Placement teachers have limited contact with other schools

- Parental attitudes to apprenticeships

Recommendations

The placement programme

- Teachers should have more specific information about TIPS and its objectives before starting the placement
- Two weeks is the ideal length of time for the placement
- The time in the school year at which the placement occurs needs to be flexible to accommodate different school circumstances
- Given the length of the placement is seems unnecessary to take another half day from the teachers' timetable for induction but IPs should be made aware of the need for an induction session about the IP's business and organisational structure. If the session takes place, thought needs to be given to the content
- Placement teachers should have the opportunity to meet both graduate trainees and apprentices so that they can compare entry routes
- The objectives and audience for the final presentation at the end of the placement needs to be clarified for IPs and teachers
- Teachers should be encouraged to build relationships with individual staff (where the IP is amenable) to facilitate an on-going relationship
- More support is needed for some teachers to see links into all STEM subjects

Schools

- Some thought should be given to engaging non-STEM teachers. This would help other subjects to use engineering examples to introduce topics and encourage students to consider working in the sector in non-engineering occupations
- Schools should consider in advance how they will take the placement experience forward, in particular there should be a follow-up meeting in the school as soon as possible after the placement to maintain momentum
- Schools need to be proactive in building relationships with the IP post placement as they are better placed to identify how and when the IP can best support them
- There needs to be a balance between the need for a direct educational rationale and the desire to extend teachers' skills set beyond 'better delivery of lessons'.

Industrial Partners

- Future IPs should be provide with an outline programme and TIPS' objectives
- IPs might be encouraged to think about how they will work with the placement schools longer term as part of developing their initial placement programme. They should consider what resources they can regularly commit prior to the placement and during the placement work with the teachers on activities
- IPs might be encouraged to consider taking more than one teacher at a time, from different schools. This is time efficient for the IP and provides a richer environment for the teachers and may begin to build links across schools relatively close to the IP

NSLC

- Classroom resources should be provided by the NSLC to support teachers in the classroom and facilitate translation of their placement experience
- Additional channels of marketing, such as other organisations' newsletters should be explored