London Schools Excellence Fund

Self-Evaluation Toolkit

Final report

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Evaluation Final Report Template

Introduction

The London Schools Excellence Fund (LSEF) is based on the hypothesis that investing in teaching, subject knowledge and subject-specific teaching methods and pedagogy will lead to improved outcomes for pupils in terms of attainment, subject participation and aspiration. The GLA is supporting London schools to continue to be the best in the country, with the best teachers and securing the best results for young Londoners. The evaluation will gather information on the impact of the Fund on teachers, students and the wider system.

This report is designed for you to demonstrate the impact of your project on teachers, pupils and the wider school system and reflect on lessons learnt. It allows you to highlight the strengths and weaknesses of your project methodology and could be used to secure future funding to sustain the project from other sources. All final reports will feed into the programme wide meta-evaluation of the LSEF being undertaken by SQW. Please read in conjunction with Project Oracle's **'Guidance to completing the Evaluation Final Report'**.

Project Oracle: Level 2
Report Submission Deadline: English for Integration - 9 June 2015 / Round 1 and Round 2 - 30 September 2015 *(delete as appropriate)*
Report Submission: Final Report to the GLA / Rocket Science *(delete as appropriate)*

Project Name: Waltham Forest Post-16 Partnership Science Project
Lead Delivery Organisation: Leyton Sixth Form College
London Schools Excellence Fund Reference: LSEF 025
Author of the Self-Evaluation: Dawn Hamilton Barrett/Hayder Khan
Total LSEF grant funding for project: £92,000
Total Lifetime cost of the project (inc. match funding): £102,000
Actual Project Start Date: Autumn Term 2013
Actual Project End Date: Summer Term 2015

1. Executive Summary

This should be a brief summary of what information is included in the report, the evaluation methods and analysis used and a summary of the key findings from your project evaluation. (maximum 500 words)

- The Waltham Forest Post-16 Science project aimed to raise the profile and improve both the teacher and student experience of Science subjects across the four institutions of the Partnership where science is offered. The institutions involved were Leyton Sixth Form College, Sir George Monoux College, Heathcote School and Science College and Holy Family Catholic School. The desired outcome was an enhanced awareness of the importance of Science-based teaching in schools and colleges, a re-energised enthusiasm amongst teachers and students and improved attainment in student outcomes on AS, A Level and BTEC courses. The project aimed to deliver these outcomes through a number of separate exciting initiatives including a peer observation scheme, student master classes and workshops, a residential field trip in the UK, a visit to the CERN Laboratory in Geneva, Switzerland, a student-focussed Science Expo event and a large-scale staff-focussed STEM Conference.
- Early findings indicated that peer observations and sharing of good practice with Partnership institutional Science teams led to an improvement in subject specific knowledge through staff development opportunities provided. Activities undertaken to improve Science students' experiences appeared to result in enhanced enthusiasm within subjects, something that has been reflected in improved results in some, if not all, of the participating schools/colleges.
- Impact was largely evaluated through an analysis of institutional results for 2014/15, comparing these with 2013/14 and 2012/13, but also through an analysis of Science teacher lesson observation reports across the two year life of the project.
- Some of the challenges faced during the lifespan of the project were the result of attempting to work across several institutions. Unplanned changes in project leadership staffing part-way through the project also resulted in some significant communication and handover difficulties.
- Two stand-out successes of the project include the STEM Conference hosted by Leyton Sixth Form College in June 2015 which saw over 150 delegates from 50+ institutions attend a day of presentations and talks from high-profile speakers from industry and academia and the student visit to the CERN facility in Geneva.
- If raising the profile of Science teaching within the four partnership institutions was the aim, then the pinnacle of this project's success was the decision to enter the process to become STEM-Assured. Administered by NEF The Innovation Institute, the process involved a comprehensive application stage focusing on six key themes: STEM strategy and planning, collaboration and consultation, innovation, STEM design, delivery and finally, impact. A comprehensive application process culminated in a full day of on-site assessments at each of the four partnership institutions. This process resulted in the awarding of STEM-Assured status for the Partnership and for the individual institutions. NEF have confirmed that we are the first partnership to receive this prestigious national award. The resulting validation report and action plan will provide a vital framework for the development of STEM-based provision within the four institutions for at least the next three years, and hopefully, beyond.

2. Project Description

Much of the detail for this section can be drawn from your Stage 2 funding application. Please note that if you do copy this information from your original application, funding agreement, or interim report, be sure to update it as appropriate (e.g. including tense change).

Provide a full project description (approximately one side of A4), in particular:

- *Why was the project set up? / What need was it seeking to address? (e.g. because teachers lacked confidence in their subject knowledge? Because pupil attainment was lower in this subject area in this borough/cluster/school/than in other boroughs/clusters/schools?).*
- *What were the circumstances into which it was introduced (e.g. existing networks of schools/ expert partner offering a new approach etc.)?*
- *What project activities have been put in place?*
- *Where has the project been delivered geographically?*
- *Who delivered the project?*
- *Who were the target beneficiary groups of the project and why?*

This project was the result of an existing collaborative venture between post-16 education providers within the London Borough of Waltham Forest. Comprising six institutions – Leyton Sixth Form College, Sir George Monoux College, Waltham Forest College, Holy Family Catholic School, Heathcote School and Science College and Kelmscott School, the Waltham Forest Post-16 Partnership was established in 2012 in the belief that collective, collaborative effort is usually more fruitful than work undertaken in a spirit of isolation or competitiveness. When the imperative to improve results year on year with a diminishing financial resources to draw upon remains pressing, the prospective benefits of sharing expertise and energy and suspending institutional rivalries are surely worth pursuing.

The case for co-operation and support between individual schools and colleges is more powerful than ever. The London Borough of Waltham Forest is placed within the bottom eight boroughs in London's Poverty Profile 2015. Low pay is prevalent in the area with over a third – 35% (the second highest rate in London) - of jobs in Waltham Forest paid below the London Living Wage. At a population of 258,000, its relatively small size makes Waltham Forest the second most densely populated area in greater London.

The four Partnership institutions where Science is taught draw their students from some of the most disadvantaged areas of the country. Prior attainment of students entering at 16 is lower than in many typical post-16 institutions nationally. The ethnic origin of the four partnership institutions' student bodies is extremely diverse, the predominant groups being of African, Pakistani and Bangladeshi heritage. The two sixth-form colleges within the partnership also draw a significant number of students from surrounding London boroughs such as Newham, Hackney, Haringey and Tower Hamlets which themselves have similar ethnic profiles and social and environmental conditions.

For students choosing to study Science subjects at 16, this can represent the start of an aspirational pathway, a dream of a career in medicine, engineering, healthcare and many others. All four institutions aim to provide an inclusive and high quality educational experience which will broaden the horizons and secure better life chances for our diverse student populations. Study programmes are designed to be flexible and responsive to student needs and at all four institutions, STEM subjects are a vital part of the curriculum offer. At Leyton Sixth Form College, for example, STEM subjects account for 28% of all enrolments.

One key aim of the project was to improve teaching and learning outcomes within the range of Science courses delivered at the four Partnership institutions. In this way, it was envisaged that the whole Science cohort of each institution would benefit from the activities undertaken by staff and those made available for students such as trips to the CERN facility in Geneva and field trips here in the UK.

Whilst there has historically been no shortage of local young people wishing to study Science, academic outcomes have been variable, with some subjects achieving below national benchmarks. Our aims in setting up the Waltham Forest Post-16 Partnership Science Project were to improve the higher education and employment prospects of students by targeting attainment on AS, A-Level and BTEC Science courses.

The project aimed to do this via supporting improved teacher subject knowledge, igniting student and teacher enthusiasm for Science and extending the collaborative work already undertaken by the Partnership. The logic for focussing project activities on the continuing professional development of Science teaching staff was based on research into the effect of educational leadership on student outcomes described by Professor Viviane Robinson in her 2011 work, *Student Centred Leadership* (2011). In this meta-analysis, Robinson concludes that the leadership dimension with the single most statistically significant impact on student outcomes is the leading of teacher learning and development.

An overall aim was to raise the profile of Science to local young people both in and outside of the participating institutions. Specific teacher professional development opportunities were included across the lifespan of the project including the opportunity to observe a range of Science lessons across the Partnership, attendance at joint team meetings, various educational trips and enrichment activities, including a trip to the CERN facility in Geneva and a large-scale STEM Conference hosted by Leyton Sixth Form College and attended by 150 teachers and academic staff from the four Partnership institutions and beyond.

The LSEF funded project also provided an opportunity for the Partnership to engage with a leading body in the field of STEM - NEF The Innovation Institute. Through NEF, the Partnership was able to apply for STEM-Assured status and, in fact, became the first partnership to be awarded this prestigious accreditation. The STEM Assured application process will hopefully be the beginning of a new phase in the development of STEM provision at the four individual institutions with the awarding of STEM Assured status being subject to regular external monitoring and a comprehensive action plan.

As a direct result of the Partnership's LSEF project, some significant long term projects have already commenced. These include a £90k iPad e-learning project and the appointment of a STEM Co-ordinator. Further work remains to be done on sharing good practice beyond the Partnership institutions to more local schools and colleges.

Project activities were led and delivered largely by colleagues from Leyton Sixth Form College and Sir George Monoux College, but with participation by all members of the Waltham Forest Post-16 Partnership. The project was overseen by the Partnership's Steering Group which comprised representatives from all five Partnership institutions.

2.1 Does your project support transition to the new national curriculum? Yes/No

Not specifically - this project is aimed at young people aged 16-19 and studying Science subjects at Key Stage 5.

If **Yes**, what does it address?

2.2 Please list any materials produced and/or web links and state where the materials can be found. Projects should promote and share resources and include them on the LondonEd website.

3. Theory of Change and Evaluation Methodology

Please attach a copy of your validated Theory of Change and Evaluation Framework.

Throughout the report it would be useful if you make reference to these documents. Where appropriate we would also encourage you to include any assumptions you have made from previous research.

3.1 Please list **all** outcomes from your evaluation framework in Table 1. If you have made any changes to your intended outcomes after your Theory of Change was validated please include revised outcomes and the reason for change.

Table 1- Outcomes

Description	Original Target Outcomes	Revised Target Outcomes	Reason for change
Teacher Outcome 1	Increased subject knowledge and greater awareness of subject specific and generic teaching methods for A-levels Biology, Chemistry and Physics and Level 3 Vocational Science.		
Teacher Outcome 2	Increased teacher confidence as measured by observations and staff surveys.	A smaller lesson observation sample than was originally planned	Unplanned staff changes in project leadership mid-way through the project.
Teacher Outcome 3	Delivery of higher quality teaching including subject-focused and teaching methods including the use of ILT, differentiation, AFL and better use of practical work		
Teacher Outcome 4	Use of better subject-specific resources		
Pupil outcome 1	Increased educational attainment and progress of Year 12 and 13 students (AS, A2 and BTEC)		
Pupil outcome 2	Increased take up of specific subjects		
Pupil outcome 3	Heightened long term ambition		

Wider system outcome 1	Teachers/ schools **involved in intervention** making greater use of networks, other schools and colleagues to improve subject knowledge and teaching practice		
Wider system outcome 2	Programme activities/ model is embedded in participating institutions and in borough schools **beyond the intervention group**	This remained the target outcome and was been partly addressed through activities such as the STEM Conference and separate Science Expo event in Summer 2015. Further work is needed to fully embed.	Time limitations
Wider system outcome 3	Use of new resources by teachers/ schools **outside the intervention group**	This remained the target outcome but has yet to be fully realised.	Time limitations
Wider system outcome 4	Teachers/ schools **outside the intervention group** have the opportunity to increase their subject knowledge through the programme	This remained the target outcome and was been partly addressed through activities such as the STEM Conference and separate Science Expo event in Summer 2015. Further work is needed to fully embed.	Time limitations
Enter additional Outcome Name add extra lines as necessary		The Partnership's teaching of STEM subjects is externally assessed, validated and accredited as STEM-Assured.	The Partnership was made aware of the NEF STEM-Assured process after the start of the project.

3.2 Did you make any changes to your project's activities after your Theory of Change was validated? Yes/No **YES**

If **Yes**, what were these changes (e.g. took on additional activities?)

- A change was necessary after our Theory of Change was validated because of unforeseen and sudden changes to the leadership of the project. As a result, the lesson observation scheme which was going to be used as an indicator of improved teacher performance was scaled back from the original 16 staff.

- Also, following a meeting with our LSEF Grants Manager, it was decided to apply for an extension to the final reporting deadline and to request an extension until 31.12.2015 for the use of unspent funds attached to the project.

- During the life of the project, the Partnership became aware of the work of NEF – Innovations Institute and their STEM-Assured accreditation programme for schools and colleges. It was decided to include the application for STEM-Assured status as part of the LSEF Project as the aims of NEF very closely matched those of both LSEF and the Waltham Forest Partnership.

3.3 Did you change your curriculum subject/s focus or key stage? Yes/No **NO**

If **Yes**, please explain what changes you made, why, and provide some commentary on how they affected delivery.

3.4 Did you evaluate your project in the way you had originally planned to, as reflected in your validated evaluation plan?

Consider changes to evaluation tools/methods, sample sizes, and anticipated outcomes. If applicable, please explain what changes you made and why, and provide some commentary on how they affected your evaluation.

The evaluation of the project varied in terms of the sample size of the lesson observation scheme which had been intended to demonstrate impact on teacher subject knowledge and performance. A reduced-scale lesson observation cohort did however meet the original target by demonstrating an improvement in at least 50% of cases across the two year life of the project.

A major element in the evaluation of this project was to review student attainment across the four Partnership institutions. Using data supplied by each institution, we were able to reach a conclusion about this as originally intended.

An evaluation of take up of Science subject across the Partnership institutions was also carried out.

An analysis of students progressing to higher education also formed part of our evaluation.

A planned staff survey did not take place because of previously-described staffing changes. A smaller-scale survey of teaching staff involved in the project is planned within the extended project time-frame.

4. Evaluation Methodological Limitations

4.1 What are the main methodological limitations, if any, of your evaluation?

This can include data limitations or difficulty in identifying a comparison group. In order to get a realistic idea of the strength of your evaluation, and identify possible improvements, it is essential that you reflect on the strengths and weaknesses of your evaluation.
You should address limitations of the evaluation only, not the project itself - *Every evaluation has limitations, so please be honest. This could include limitations relating to:*

- *The kinds of data you could/ could not collect (and the response rate for surveys)*
- *The size of the sample/ group you are evaluating*
- *The extent to which you felt able to assess the impact of activity on beneficiaries (what changes in attitudes/behaviours/attainment were caused by the intervention and what has been caused by other factors)*
- *Also include mitigating actions for methodological limitations where possible – e.g. alternative approaches or solutions and also how these limitations will affect the evaluation of the project (particularly pupil and teachers outcomes).*

One limitation in our evaluation was the small sample size in our Science teacher lesson observations. The complexities of organising lesson observation time slots, arranging observers and co-observers across 16 staff and four different organisations proved more difficult than we had originally anticipated. A change in staffing part-way through the project led to further difficulties in arranging the scale of lesson observations we had originally planned.

Evaluation of student outcomes, including progression details, proved more straightforward and a successful methods of evaluation as much of this data is readily available within institutions.

4.2 Are you planning to continue with the project, once this round of funding finishes?
Yes/No **YES**

If **yes**, will you (and how will you) evaluate impact going forward?

Future impact will be evaluated by seeking teacher feedback and via student Science focus groups. Student outcomes such as examination results and progression data will also be reviewed.

5. Project Costs and Funding

5.1 Please fill in Table 2 and Table 3 below:

Table 2 - Project Income

	Original[1] Budget	Additional Funding	Revised Budget [Original + any Additional Funding]	Actual Spend	Variance [Revised budget – Actual]
Total LSEF Funding	75,000	17,000			
Other Public Funding	10,000				
Other Private Funding					
In-kind support (e.g. by schools)					
Total Project Funding	85,000	17,000	102,000	95,000	7,000

List details in-kind support below and estimate value.

Table 3 - Project Expenditure

	Original Budget	Additional Funding	Revised Budget [Original + any Additional Funding]	Actual Spend	Variance Revised budget – Actual]
Direct Staff Costs (salaries/on costs)	21,000		21,000	15,850	5,150
Direct delivery costs e.g. consultants/HE (specify)		16,000	16,000	16,000	0
Management and Administration Costs	10,000		10,000	14,132	-4,132
Training Costs	50,000		50,000	54,421	-4,421
Participant Costs (e.g. Expenses for travelling to		1,000	1,000	1,000	0

[1] Please refer to the budget in your grant agreement

venues, etc.)					
Publicity and Marketing Costs	2,500		2,500	600	1,900
Teacher Supply / Cover Costs					
Other Participant Costs					
Evaluation Costs	1,500		1,500	None claimed	1,500
Others as Required – Please detail in full					
Total Costs	85,000	17,000	102,000	102,003	-3

5.2 Please provide a commentary on Project Expenditure
This section should include:

- *commentary on the spend profile*
- *budget changes that have occurred, including the rationale for any changes*

(Maximum 300 words)

Direct staff costs and management costs were affected by unplanned staff changes in project leadership part-way through the life of the project. Leadership of the project switched from one Partnership institution to another following the sudden departure of the previous project manager due to ill health. Direct staffing costs therefore show an under spend, with a corresponding overspend in Management and Administration costs incurred through the involvement of another Partnership institution. The direct costs of the STEM Assured application and validation process for each of the four Partnership institutions are shown separately. The bulk of the budget was spent, as planned, on training costs for both staff and students, including the fees for key speakers at the STEM Conference. Training costs also include student trips to the CERN facility in Switzerland and residential field trips in the UK and attendance at the ASE Annual Conference for a cohort of Science staff representing all four Partnership institutions. The bulk of publicity, marketing and evaluation costs have been absorbed by the lead institution, Leyton Sixth Form College.

6. Project Outputs

Please use the following table to report against agreed output indicators, these should be the same outputs that were agreed in schedule 3 of your Funding Agreement and those that were outlined in your evaluation framework.

Table 4 – Outputs

Description	Original Target Outputs	Revised Target Outputs (incl. 'Scaling Up' targets) *[Original + any Additional Funding/GLA agreed reduction]*	Actual Outputs	Variance [Revised Target - Actual]
No. of schools	5	5	15	-10
No. of teachers	10	30	190	-160
No. of pupils	400	800	1090	-290
Enter additional output name *add extra lines as necessary*	N/A	N/A	N/A	N/A

7. Key Beneficiary Data

Please use this section to provide a breakdown of teacher and pupil sub-groups involved in your project.

Data must be provided at project level. However, if you wish to disaggregate data by school then please add additional rows to the tables below. Please also confirm at what point this data was collected.

Please add columns to the tables if necessary but do not remove any. N.B. If your project is benefitting additional groups of teachers e.g. teaching assistants please add relevant columns to reflect this.

7.1 Teacher Sub-Groups (teachers directly benefitting counted once during the project)

Please provide your definition for number of benefitting teachers and when this was collected below *(maximum 100 words).*

Table 5 – Teachers benefitting from the programme

	No. teachers	**% NQTs** ***(in their 1st year of teaching when they became involved)***	**% Teaching 2 – 3 yrs** ***(in their 2nd and 3rd years of teaching when they became involved)***	**% Teaching 4 yrs +** ***(teaching over 4 years when they became involved)***	**% Primary (KS1 & 2)**	**% Secondary (KS3 - 5)**
Project Total	30	0	0	30	0	0
School 1						
School 2						
School 3						
School 4						

7.1.2 Please provide written commentary on teacher sub-groups e.g. how this compares to the wider school context or benchmark *(maximum 250 words)*

The teacher sub groups contained 30 teachers. None were in their first year of teaching. All 30 had been teaching for at least four years at the start of the project. This represents a slight difference to the general staff profile of the four institutions which shows an NQT percentage of between 0.5 and 2%.

7.2 Pupil Sub-Groups (these should be pupils who directly benefit from teachers trained)

Please provide your definition for number of benefitting pupils and when this data was collected below *(maximum 100 words)*

Students benefitting from the training received by teachers are defined as those students across the four Partnership institutions studying one or more Science subjects at Level 3 e.g. AS Level, A Level and BTEC Extended Diploma/Applied GCE. Data was collected at the end of year 2 of the project e.g. Summer term 2015.

Tables 6-8 – Pupil Sub-Groups benefitting from the programme

	No. pupils	% LAC	% FSM	% FSM last 6 yrs	% EAL	% SEN
Project Total	1090	1.0%	21%	n/a	1.0%	2.2%
School 1						
School 2						
School 3						
School 4						

	No. Male pupils	No. Female pupils	% Lower attaining	% Middle attaining	% Higher attaining
Project Total	47%	53%	Data not collected	Data not collected	Data not collected
School 1					
School 2					
School 3					
School 4					

	% Asian Indian	% Asian Pakistani	% Asian Bangladeshi	% Asian Any Other background	% Black Caribbean	% Black African	% Black Any Other Background	% Mixed White & Black Caribbean	% Mixed White & Black African	% Mixed White & Asian	% Mixed Any Other Background	% Chinese	% Any other ethnic group
Project Total	8%	28%	13%	6%	4%	21%	1%	1%	1%	1%	3%	1%	5 %
School 1													
School 2													
School 3													
School 4													

	% White British	% White Irish	% White Traveller of Irish heritage	% White Gypsy/Roma	% White Any Other Background
Project Total	2%				6%

School 1					
School 2					
School 3					
School 4					

7.2.1 Please provide a written commentary on your pupil data e.g. a comparison between the targeted groups and school level data, borough average and London average *(maximum 500 words)*

Useful links: London Data Store, DfE Schools Performance, DfE statistical releases

- The ethnic breakdown of the project group was largely representative of the ethnic mix of the four Partnership colleges and schools generally in that the largest ethnic groups – White Any Other White, Asian – Pakistani, Asian – Bangladeshi, Asian – Any Other Asian and Black African – are also the largest ethnic groups of the institutions generally.
- The pattern when compared with borough averages* and whole-London figures* is slightly different. The project group contained a disproportionate number of Asian students (all categories) when compared with the statistics for the local borough and London generally with Asian students accounting for well over 50% of the project group.
- Ethnic groups typically underrepresented in terms of the local area and London generally included White-British and Any Other White.
- Groups over-represented in the project cohort were Black-African, Asian Pakistani and Asian Bangladeshi.

*Source – datastore.com

8. Project Impact

You should reflect on the project's performance and impact and use **qualitative and quantitative** data to illustrate this.

- Please complete the tables below before providing a narrative explanation of the impact of your project.
- Please state how you have measured your outcomes (e.g. surveys) and if you are using scales please include details.
- Please add graphical analysis (e.g. bar charts) to further demonstrate project impact on each teachers, pupils, wider system outcomes etc. If you use graphs, please ensure that all charts are explained and have clear labels for the axes (numeric data or percentages, for example) and legends for the data.

Please add columns to the tables if necessary but do not remove any. N.B. If your project is collecting data at more than two points and may want to add additional data collection points.

8.1 Teacher Outcomes

Date teacher intervention started: September 2013

Table 9 – Teacher Outcomes: teachers benefitting from the project

The 1st Return will either be your baseline data collected before the start of your project, or may be historical trend data for the intervention group. Please specify what the data relates to.

Target Outcome	Research method/ data collection	Sample characteristics	Metric used	1st Return and date of collection	2nd Return and date of collection
e.g. Increased Teacher confidence	*e.g. E-survey*	*e.g. 100 respondents from a total of 200 invites.* *The profile of respondents was broadly representative of the population as a whole.*	*e.g. Mean score based on a 1-5 scale (1 – very confident, 2 – quite confident, 3 neither confident nor unconfident, 4 - quite unconfident, 5 – very unconfident)*	*e.g. Mean score- 3.7, collected September 2015*	*e.g. Mean score- 4.5, collected June 2015*
Increased subject knowledge	Data is yet to be collected to evaluate Teacher Outcomes. A project extension to 31st December 2015 has been applied for.				
Increased teacher confidence	Data is yet to be collected to evaluate Teacher Outcomes. A project extension to 31st December 2015 has been applied for.				
Higher quality teaching	Data is yet to be collected to evaluate Teacher Outcomes. A project extension to 31st December 2015 has been applied for.				

Use of better subject specific resources	Data is yet to be collected to evaluate Teacher Outcomes. A project extension to 31st December 2015 has been applied for.				

Table 10 – Comparison data outcomes for Teachers *[if available]*

Target Outcome	Research method/ data collection	Sample characteristics	Metric used	1st Return and date of collection	2nd Return and date of collection
e.g. Increased Teacher confidence	*e.g. E-survey*	*e.g. 100 respondents from a total of 200 invites.* *The profile of respondents was broadly representative of the population as a whole.*	*e.g. Mean score based on a 1-5 scale (1 – very confident, 2 – quite confident, 3 neither confident nor unconfident, 4 - quite unconfident, 5 – very unconfident)*	*e.g. Mean score*	*e.g. Mean score*
NOT COLLECTED					

8.1.1 Please provide information (for both the intervention group and comparison group where you have one) on:

- Sample size, sampling method, and whether the sample was representative or not
- Commentary on teacher impact (please also refer to table 5 re impact on different groups of teachers)
- Qualitative data to support quantitative evidence.
- Projects can also provide additional appendices where appropriate.

(Minimum 500 words)

The teacher outcomes specified in our self-evaluation toolkit centred on the increased subject knowledge, greater awareness of teaching methods, increased teacher confidence and better use of

practical work by the teachers involved in the project. The indicator of whether or not this outcome has been achieved was to be a series of lesson observations taking place at the beginning and end of the project's lifespan. Unfortunately, because of staffing changes in the project leadership, the full programme of lesson observations did not take place. A project extension has been applied for to 31.12.2015 and further lesson observations are currently taking place. A summary of these observations will be available from January 2016. At the end of the project, we also plan to conduct a survey of the 30 teachers in the core sub group to seek their views about the impact on key teacher outcomes as a result of participating in the project. This work is currently ongoing.

8.2 Pupil Outcomes

Date pupil intervention started: SEPTEMBER 2013

Table 11 – Pupil Outcomes for pupils benefitting from the project

The 1st Return will either be your baseline data collected before the start of your project, or may be historical trend data for the intervention group. Please specify what the data relates to.

Target Outcome	Research method/ data collection	Sample characteristics	Metric used	1st Return and date of collection	2nd Return and date of collection
e.g. Increased educational attainment and progress in Writing	*e.g. Pupil assessment data*	*e.g. Characteristics and assessment data collected for 97 of 100. The profile of respondents matches that initially targeted in the Theory of Change.*	*e.g. mean score or percentage at diff National Curriculum Levels or GCSE grades*	*e.g. Mean score- 3.7, collected September 2015*	*e.g. Mean score- 4.5, collected June 2015*
Increased educational attainment and progress of Year 12 and 13 students (AS, A2 and BTEC)	Student attainment data – results of public examinations and student retention percentages by course.	Data collected from all four Partnership institutions for the two years of the project (2014/15 and 2013/14) and compared with previous years' outcomes	A Level pass grades A*-E, BTEC pass grades D*, D, M, and P.	(2013/14 one year courses only, 2012/13 and 2011/2012)	AS course outcomes analysed after one year of intervention. A2 (A Level) and BTEC course outcomes analysed after two years' intervention.
Increased take up of specific	Recruitment to Science courses – Biology,	Recruitment data collected from all four	Student starts e.g. those students still	Data for 2014/15 and for	Data collected at the end of

subjects	Chemistry, Physics and BTEC Science analysed for the life span of the project	Partnership institutions.	retained on each Science course as at the 6 week census date.	2013/14 was compared with baseline data from 2012/13	Year 1 and Year 2 of the project.
Heightened long term ambition	Number of students progressing to higher or further education or higher level apprenticeships.	Destinations data collected from all four institutions	Destinations data collected from all four institutions	Data for 2014/15 and for 2013/14 was compared with baseline data from 2012/13	Data collected at the end of Year 2 of the project as all Level 3 Science courses span two academic years.

Table 12 - Pupil Outcomes for pupil comparison groups *[if available]*

Target Outcome	Research method/ data collection	Sample characteristics	*Metric used*	1st Return and date of collection	2nd Return and date of collection
e.g. Increased educational attainment and progress in Writing	*e.g. Pupil assessment data*	*e.g. Characteristics and assessment data collected for 97 of 100. The profile of respondents matches that initially targeted in the Theory of Change.* *Please find detailed analysis of the profile of respondents in Section 7.2*	*e.g. mean score or percentage at diff National Curriculum Levels or GCSE grades*	*e.g. Mean score- 3.7, collected September 2015*	*e.g. Mean score- 4.5, collected June 2015*
DATA NOT COLLECTED	DATA NOT COLLECTED	DATA NOT COLLECTED	DATA NOT COLLECTED	DATA NOT COLLECTED	DATA NOT COLLECTED

8.2.1 Please provide information (for both the intervention group and comparison group where you have one) on:

- Sample size, sampling method, and whether the sample was representative or not Commentary on pupil impact (please also refer to table 6-8 re impact on different groups of pupils)

- Qualitative data to support quantitative evidence.
- Projects can also provide additional appendices where appropriate.

(minimum 500 words)

Increased educational attainment

An analysis was carried out of success rates across all Science subjects taught by the four Partnership schools and colleges. Data for 2014/15 and for 2013/14 was compared with baseline data from 2012/13 as specified in the Theory of Change. Student outcomes for the four Science courses, Biology, Chemistry, Physics and BTEC Applied Science taught at the institutions were analysed after one year of intervention (AS Level) and two years (A Level). The metric used was school and college success rates. Success is a measurement which combines student retention (the percentage of students being retained on a course) with their actual achievement (exam results). It is expressed as a percentage.

Improvements in student outcomes were most marked when measured after one year of intervention, e.g. at AS Level. Within this, improvements were most significant for the two schools in involved in the project. At the schools, improvements of up to 48 percentage points were recorded with all except one AS Science subject showing a significant improvement in outcomes. At the two colleges (check against LSC), results improved in a majority of AS Science courses.

After 2 years of intervention, results in the two schools also showed an improvement in most Science subjects when compared with previous results. Improvements to results in the two colleges were less marked, but it should be noted that the baseline data was already at 100% in many cases.

ALPs (value added) data was used to analyse student progress. Data suggests that male students made better progress than female students in A Level Biology and Chemistry. A similar, although less marked trend was also observed in AS Chemistry. The reverse was true for AS Biology with female students showing a one point ALPs improvement compared with males. Female student numbers in Physics are too small to make any useful comparisons, reflecting an unfortunate national trend.

In AS Biology, 59% of students are female compared with 41% male. They generally out performed male students in this subject with 70% either meeting or exceeding their agreed minimum target grade compared with 51% of males. In 2014/15 this represented a change from the patterns observed in previous years. Recruitment differences for A Level Biology also show that this subject is more popular with female students with 63% females. Recruitment of female students to Physics courses has fallen across the lifespan of the project and, in line with the national picture, numbers are worryingly low.

Unlike AS and A Level subjects, there were no significant differences between make and female performance on the Level 3 BTEC Applied Science vocational course.

Supported students generally underachieved when compared with the Project cohort as a whole. Their individual needs included visual impairment and difficulties with comprehension where English was not the first language.

Increased take up of specific subjects

An analysis of recruitment in Science subjects was carried out using a baseline of student numbers as at the beginning of 2013/14 which represented the start of the project. A comparison was then

made with students recruited one year later in 2014/15 (mid-way through the project) and then at the beginning of 2015/16 - at the official end of the project.

Whilst there were variations between individual institutions, at the mid-point of the project, overall recruitment had increased in AS Biology, A2 Biology, AS Chemistry and A2 Physics. Smaller decreases were recorded in the number of students recruited to A2 Chemistry, As Physics and BTEC Applied Science meaning that overall, student recruitment to Science subjects across the Partnership increased between 2013/14 and 2014/15 from 1034 students to 1090 students.

The second part of the analysis looked at student recruitment in a Science at the start of the current academic year, 2015/16.

Comparing 2015/16 and 2014/15 recruitment in Science subjects with student numbers at the start of Year 1 of the project, the overall trend shows an increase. This is particularly noticeable in AS Biology which demonstrates a 160% increase in student numbers since 2013/14. Recruitment in AS Chemistry is similarly positive with a 149% increase and to AS Physics with a 157% increase over the two years of the project. Recruitment to vocational Science, the BTEC Applied Science course, has also shown steady increases in student numbers. In 2015/16 levels are 150% above the 2013/14 baseline.

Heightened long-term ambition

In analysing changes to the long-term ambition of students across the four Partnership institutions, we looked at numbers of students progressing to higher education and those progressing specifically to Russell Group universities. The trend for the two years of the project (2013/14 and 2014/15) when compared with the pre-intervention year of 2012/2013 shows an increase in both the overall numbers of students progressing to higher education and also those taking up places at Russell Group institutions. This increase was more marked in the two sixth form colleges rather than the two schools taking part with the percentage of students progressing to higher education increasing from 84% (2011/12) to 85% (2012/13 and 2013/14) to 90% (2014/15). One of the sixth form colleges, Sir George Monoux College recorded a 100% increase in offers from Russell Group universities over the life of the project. It should be noted that data regarding progression to Russell Group universities was positively affected by the inclusion of Queen Mary, University of London in the list of Russell Group institutions from August 2012. Queen Mary is a popular choice for local young people.

8.3 Wider System Outcomes

Table 13 – Wider System Outcomes

Target Outcome	Research method/ data collection	Sample characteristics	*Metric*	1st Return and date of collection	2nd Return and date of collection
e.g. Teachers/schools involved in intervention making greater use of networks, other schools and colleagues to improve subject knowledge and teaching	*e.g. Paper survey*	*e.g. Surveys completed by all participating teachers*	*e.g. average number of events attended per teacher per year before the*	*e.g. Average number of events attended in the academic year 2012-2013: 3.2*	*e.g. Average number of events attended in the academic year 2013-2014: 4.3* *Average*

practice			*project and over the course of the project*		*number of events attended in the academic year 2014-2015: 4.5*
Teachers/schools involved in intervention making greater use of networks, other schools and colleagues to improve subject knowledge and teaching practice	Attendance at and evaluation of STEM Conference activities Summer 2015		N/A	N/A	Summer 2015
Programme activities/model is embedded in participating institutions and in borough schools beyond the intervention group.	See Table 1 - Outcomes				
Use of new resources by teachers/schools outside the intervention group.	See Table 1 - Outcomes				
Teachers/schools outside the intervention group have the opportunity to increase their subject knowledge through the programme	See Table 1 - Outcomes				

8.3.1 Please provide information on *(minimum 500 words):*

- Sample size, sampling method, and whether the sample was representative or not
- Commentary on wider system impact qualitative data to support quantitative evidence.
- Projects can also provide additional appendices where appropriate.

8.4 Impact Timelines

Please provide information on impact timelines:

At what point during/after teacher CPD activity did you expect to see impact on teachers? Did this happen as expected?

Impact on individual teachers was, in many ways, in line with expectations. CPD activities served to ignite enthusiasm within the subject areas at an early stage. High profile activities such as the trip to the CERN facility in Geneva were 'talking points' within teams and presentations by the students and

staff involved upon their return spread this enthusiasm throughout the wider staff groups of each institution. The cross institution lesson observation element of the project was an effective way of bringing colleagues from the different partner institutions together to work collaboratively and it was indeed unfortunate that this scheme was not realised to its full extent within the project's initial timescale. Several initiatives took a little more time to demonstrate impact. They include teacher involvement in the Ecology Garden created at Leyton Sixth Form College where interest was slow at first, but has now grown so that a regular group of staff now maintain the garden. Plans are in place to incorporate practical sessions in the garden into the scheme of works for Biology and Applied Science.

At what point during/after teacher CPD activity did you expect to see impact on pupils? Did this happen as expected?

Impact on students was two-fold. Firstly, students were able to benefit from a series of master classes delivered across the Partnership and including events such as visits to the University of Westminster for a Biosciences day and an exhibition of lunar rocks held at Leyton Sixth Form College. Various items of specialist equipment were purchased and these had a very quick impact on student s through use in their regular lessons. For example, a high resolution solar telescope is now used in teaching a cosmology unit in A level Physics and A2 Chemistry students have benefitted from the use of a new rotary evaporator in re-crystallisation processes and organic compound synthesis. Secondly, of course, improvements in formal student outcomes have been observed across several subjects. These are described more fully in section 8.2.1

At what point did you expect to see wider school outcomes? Did this happen as expected?

It was anticipated that involvement in the project would generate a level of enthusiasm amongst Partnership science teaching staff. As a collaborative partnership, the Waltham Forest group had already been in existence for a year prior to the commencement of the LSEF project and this proved to be a natural advantage in terms of the practicalities of initiating many of the project activities. All of the activities were open to students and staff from each of the five Partnership institutions with key events, such as the Science Expo held at Sir George Monoux College, open to schools from across the London Borough of Waltham Forest. The STEM Conference held at Leyton sixth Form College in June 2015 attracted over 150 STEM based colleagues from a wide range of London schools, colleges and universities. This was a very successful day, with an opening address by Professor Sa'ad Medhat of the NEF Foundation and a carousel of over twenty workshops for colleagues to experience.

Reflect on any continuing impact anticipated.

Involvement in the LSEF project has only served to strengthen the collaborative relationship between partner institutions. Whilst the local political environment has recently changed somewhat so that borough schools are now working more formally together under the London Schools Challenge, the two sixth form colleges involved in the Partnership, Leyton Sixth Form College and Sir George Monoux College, have made a commitment to continue to work together to maintain and promote the teaching of high quality STEM subjects within the borough. At Leyton, this commitment to a sustained approach to Science and all STEM subjects is demonstrated in the creation of two key posts - eLearning Co-ordinator and STEM Coordinator. All four Partnership institutions where science is taught were awarded 'STEM-assured' status by NEF The Innovation Institute in 2015 - the first collaborative partnership to receive this accolade. The resulting three-

year action plan provides a useful and practical framework for continued and sustained improvement in the teaching of Science, Technology, Engineering and Mathematics across the Waltham Forest Post 16 Partnership institutions.

9. Reflection on overall project impact *(maximum 1,500 words)*

In this section we would like you to reflect on:

- The overall impact of your project
- The extent to which your theory of change proved accurate
- How your project has contributed to the overall aims of LSEF
- Whether your findings support the hypothesis of the LSEF
- What your findings say about the meta-evaluation theme that is most relevant to you

Please illustrate using the key points from the previous detailed analysis.

All the evidence should be brought together here (achievement of outputs and outcomes, and the assessment of project impact) to produce well informed findings, which can be used to inform policy development in a specific area as well as the meta-evaluation of the LSEF.

The London Schools Excellence Fund (LSEF) is based on the hypothesis that investing in teaching, subject knowledge and subject-specific teaching methods and pedagogy will lead to improved outcomes for pupils in terms of attainment, subject participation and aspiration.

The aims of the Fund:
I. Cultivate teaching excellence through investment in teaching and teachers so that attention is re-focused on knowledge-led teaching and curriculum.
II. Support self-sustaining school-to-school and peer-led activity, plus the creation of new resources and support for teachers, to raise achievement in priority subjects in primary and secondary schools (English, mathematics, biology, chemistry, computer science, physics, history, geography, languages).
III. Support the development of activity which has already been tested and has some evaluation (either internal or external), where further support is needed to develop the activity, take it to scale and undertake additional evaluation.
IV. In the longer term, create cultural change and raise expectations in the London school system, so that London is acknowledged as a centre of teaching excellence and its state schools are among the best in the world.

9. Reflection on overall project impact

The overall impact of the project:

The desired impact of the project focussed on increased teacher subject knowledge and confidence leading to improved teaching methods and ultimately increased educational attainment for students studying one or more Science subjects at the four Partnership institutions. It was also envisaged that, if successful, the project would lead to increased awareness of Science within the Partnership and, ultimately, beyond and that this might encompass improved recruitment to the core Science subjects of Biology, Chemistry, Physics and the Applied Science vocational courses. It was envisaged that the already-established networks in and around the Waltham Forest post16 Partnership would provide an efficient and ready-made platform for the administration and dissemination of the various project activities.

Analysis of student outcomes, recruitment and progression over the life of the project reveals positive indicators across all three measures of success, albeit with some variability between specific subjects. One aspect of the impact of the project that is perhaps harder to measure is how the profile of Science and STEM in general, has been raised within the participating schools and colleges. This is perhaps best encapsulated by the successful Partnership bid to become STEM-assured through the NEF Innovation Institute's educational programme. The comprehensive application process saw involvement and buy-in at all levels of each institution with initial presentations to senior leaders, learning walks and teams of teaching staff presenting to the validation panels over four separate days on site and the four schools and colleges. The resulting award has provided the four schools and colleges with an important marketing tool and an impetus to really reenergise Science teaching and learning. In at least one partnership institution, a specific STEM Co-ordinator post has now been created and a commitment undertaken to continued collaborative work acorns the Partnership.

The extent to which your theory of change proved accurate:

The theory of change argued that increased teacher subject knowledge, use of better subject-specific resources and improved use of practical work would combine to generate improved student outcomes. On the whole, this theory proved to be accurate. Student results, recruitment and progression have improved across many, if not all, Science subjects over the two year life of the project.

How your project contributed to the overall aim of the LSEF:

The aims of this project were very much in line with the overall aims of the LSEF. Participation in the various project activities enabled teachers and students to re-focus on the importance of subject knowledge and practical application of that knowledge. The project provided a platform and a focus for the four participating institutions and an opportunity for groups of staff to come together to share experiences and examples of good practice. The project provided a once-in-a-lifetime opportunity for a group of Science students to travel to Geneva, Switzerland to tour the CERN laboratories and attend advanced particle Physics and innovation in science workshops in the most inspirational of settings. Other groups experienced industry-standard workshops in genetics and DNA studies at the Life Sciences Centre in Cumbria and trips to Royal Society of Chemistry in London, the University of Westminster. Closer to home, Leyton Sixth Form College hosted a lunar rocks exhibition with rock samples on loan from NASA. It is important to note that all activities further contributed to the spirit of collaboration already fostered by the Waltham Forest Post 16 Partnership.

Whether your findings supported the hypothesis of the LSEF:

We feel that our findings support the hypothesis of the LSEF because we have evidenced improved student outcomes in terms of educational attainment, subject participation and aspiration following participating in the activities connected with this project.

What your findings say about the meta evaluation theme that is most relevant to you:

According to the *London Schools Excellence Fund Evaluation Briefing March 2015*, there are five thematic studies exploring the impact of subject based CPD. Our project falls within the first of these themes:

1) Use hub models of delivery (including those using inter-school networks, peer-to-peer support etc.)

This project was a natural extension of the collaborative work already carried out by the six members of the Waltham Forest Post-16 Partnership. The Waltham Forest post-16 partnership was formed in 2012 when Leyton Sixth Form College took the lead on the development of a body which would provide a collaborative platform for the post-16 providers of the borough. The partnership consisted of two sixth form colleges, three 11-18 schools and one FE college. Head-teachers and Principals of the member schools and colleges made up the executive committee of the partnership. The Partnership was set up in the belief that the benefits of professional collaboration outweigh the pressures of local competition for students. The six institutions had been working together for one year when the concept of the Science-based project came about. The collaborative partnership model was already a success, with most joint activities to date focusing on staff professional development.

The aim of the collaboration was to improve quality of provision and foster common approaches to the challenges faced across all institutions. In essence, the Partnership constituted an attempt to transplant the philosophies and priorities established within Leyton Sixth Form College into a larger body – to extend the bands of the professional learning community and spread good practice as widely as possible.

Most partnership activity to date has focused on staff development as a vehicle for improvement – and specifically on improvements in teaching and learning. This was achieved through inter-institution lesson observation, mentoring programmes, workshops and training. Productive relationships have been formed between corresponding teams across the Partnership institutions and in many cases, have out-lived the immediate activity or project taking place.

10. *Value for Money*

A value for money assessment considers whether the project has brought about benefits at a reasonable cost. Section 5 brings together the information on cost of delivery which will be used in this section.

10.1 Apportionment of the costs across the activity

Please provide an estimate of the percentage of project activity and budget that was allocated to each of the broad activity areas below. Please include the time and costs associated with planning and evaluating those activity areas in your estimates.

Broad type of activity	**Estimated % project activity**	**£ Estimated cost, including in kind**
Producing/Disseminating Materials/Resources	14%	14,280
Teacher CPD (face to face/online etc)	26%	26,521
Events/Networks for Teachers	30%	30,602
Teacher 1:1 support	10%	10,200
Events/Networks for Pupils	20%	20,400
Others as Required – Please detail in full		
TOTAL	100%	£ 102,003 (same as total cost in section 5)

Please provide some commentary reflecting on the balance of activity and costs incurred: Would more or less of some aspects have been better?

10. Value for money

10.1. The balance of activities and costs incurred would seem appropriate for the nature of the project. The emphasis of most activities was on teacher professional development and the opportunity to work collaboratively with colleagues from across partnership institutions and beyond. Several large-scale events Individual support was provided as part of each activity and in particular, via the lesson observations scheme.

10.2 Commentary of value for money

Please provide some commentary reflecting on the project's overall cost based on the extent to which aims/objectives and targets were met. If possible, draw on insight into similar programmes to comment on whether the programme delivers better or worse value for money than alternatives.

10.2. The project has helped embed collaborative working in Science and STEM subjects generally across this partnership of five schools and colleges within the London Borough of Waltham Forest. The local profile of Science and STEM subjects has been improved and increased recruitment in many science subjects has been observed. A three year action plan for continued improvement has been put in place and in at least one institution, a new post created to ensure the planned improvements are realised. Events such as the sharing of good practice conference and the Science Expo will now become annual fixtures of the local academic calendar. Students have been exposed to experiences and activities which would otherwise have not been possible. All involved in the management if the project regard it as representing good value for money.

10.3 Value for money calculations

Note: This section is only required for projects with control or comparison groups

In order to demonstrate the cost effectiveness of the project we would like those projects who had control or comparison groups to provide some value for money calculations. Further guidance will be issued to support projects with this.

11. Reflection on project delivery

This section is designed to allow for a discussion of wider issues relating to the project. (maximum 1,500 words)

Please include reflection on the following:

11.1 Key Enablers and Barriers to Achievement

- *Were there internal and/or external factors which appear to have had an effect on project success, and how were these responded to (if applicable)?*
- *What factors need to be in place in order to improve teacher subject knowledge?*

11.1 Positive internal factors which had an effect on project success included the fact that the Waltham Forest Post 16 partnership was already well-established locally. This meant that no time was lost during the initial stages of setting up the project. Contacts were already established and a steering group already in existence to oversee activities. In terms of internal factors which had a negative effect on the project, by far the most significant was the serious illness and subsequent departure of the main project co-ordinator. The impact of this change in staffing was not immediately obvious and only became clearer towards the later stages of the project. Alternative management and administration resources were put in place by the collaborative partnership and activities continued. It was necessary to apply for an extension to the project to 31.12.2015 in order to complete planned activities.

To further improve teacher subject knowledge and the student educational experience, better links with industry need to be forged. This was highlighted by the STEM-assured process and features in several of the recommended actions in the three year improvement plan. This action is also in line with the new study programme concept where students follow a programme of complementary studies comprising both qualification and non-qualification aims including enrichment, extension and work experience activities.

11.2 Management and Delivery Processes

- *How effective were the management and delivery processes used?*
- *Were there any innovative delivery mechanisms and what was the effect of those?*
- *Did the management or delivery mechanisms change during the lifetime of the project and what were the before or after effects?*

11.2. On reflection, the management and delivery processed employed throughout the project could have been more effective. The over-reliance on one main project administrator gave rise to challenges when that individual left the relevant partner organisation. Conversely, several key events were very well planned and executed - educational trips both in the UK and overseas, a large-scale conference attracting over 150 delegates and the awarding of the Partnership's STEM-assured status - the first collaboration of its kind to be awarded this nationally-recognised accolade.

In terms of innovation, the scale and content of both the sharing of good practice STEM Conference and the NEF STEM-assured process were new and challenging departures for the four institutions involved.

The management of the project suffered a significant set-back when the lead administrator became ill and subsequently left the employment of one of the lead institutions. This had the effect of delaying completion of some activities and also in the submission of this final report and evaluation.

11.3 Future Sustainability and Forward Planning

- *Do you have any plans for the future sustainability of your projects?*
- *What factors or elements are essential for the sustainability of your project?*
- *How have you/will you share your project knowledge and resources?*

11.3. It is pleasing to be able to report that this project will be continued and sustained through various methods. The STEM-assured status conferred on the four Partnership institutions by NEF the Innovation Institute, has provided a three year improvement plan for each of the four schools and colleges involved. In one college at least, the fulfilment of this action plan will be overseen by the creation of a new post of STEM Co-ordinator. Other sustainable elements of the project include the newly-established Ecology Garden at Leyton Sixth Form College. Maintained by Science staff and students, the garden has begun to provide a practical resource for the study of ecology, bio-diversity and succession. From 2016, the garden will be open to children from a neighbouring primary school and has already attracted internet from members of the local community who have made offers of time, resources and expertise. Equipment purchased through the project has enabled Science staff to utilise industry-standard resources including a high resolution solar telescope, a thermal imaging camera and a rotary evaporator for use in recrystallisation processes and organic compound synthesis. Resources are effectively shared between Partnership institutions and beyond.

12. Final Report Conclusion

Please provide key conclusions regarding your findings and any lessons learnt *(maximum 1,500 words)*.

Alongside overarching key conclusions, headings for this section should include:

Key findings for assessment of project impact

- *What outcomes does the evaluation suggest were achieved?*
- *What outcomes, if any, does the evaluation suggest were not achieved or partly achieved?*
- *What outcomes, if any, is there too little evidence to state whether they were achieved or not?*

Key lessons learnt for assessment of project delivery

- *What activities/approaches worked well?*
- *What activities/approaches worked less well?*
- *What difficulties were encountered in delivery and how could they be mitigated in the future?*
- *Were there any additional or unintended benefits (e.g. increases in student attendance as a result of an intervention aimed at teachers)?*

Informing future delivery

- *What should the project have done more of?*
- *What should the project have done less of?*
- *What recommendations would you have for other projects regarding scaling up and/ or replicating your project?*

12. Final Report Conclusions

This has been a successful and enjoyable project for the four participating members of the Waltham Forest Post 16 Partnership. At the start of the project in 2013, recruitment to the core Science subjects of Biology, Chemistry, Physics and BTEC Applied Science was steady across all four schools and colleges, but student outcomes variable. In at least two of the institutions, the Science departments had self-assessed and been validated internally as 'requires improvement' in Ofsted terms. An aim of the LSEF project was not only to improve student outcomes by enhancing the quality of teaching through improved subject knowledge and practical resources, but also to raise the profile of Science within the Partnership institutions, re-energising interest in the subject amongst school and college leadership, teaching staff and students.

Key findings for assessment of project impact:

- Improved teacher performance recorded in a (smaller than planned) selection of lesson observations.
- Improved recruitment of students in some core Science subjects Improved student outcomes (examination results) in some core Science subjects Improved rates of progression to higher education reported across some Partnership institutions Significantly raised profile of the Partnership and it's component institutions as local leaders in the teaching of Science and STEM subjects generally and in terms of the wider benefits of collaboration within education.

Key lessons learnt for assessment of project delivery:

The established collaborative approach between colleagues from the four partner institutions served the project well, particularly in the early stages of project activities. In hindsight, the on-going project management and administration would have benefitted from a small team approach rather than one main lead member of staff. This would have enabled more cross-checking of progress against plans and a greater distribution of the administrative workload. For example, a group comprising a key contact within each institution might have provided a more efficient management structure and would have facilitated an improved transition following a change in project leadership.

Informing future delivery:

The project would have benefitted from having executed the original planned lesson observation programme. In fact, the number of lesson observations carried out was significantly reduced due to organisational difficulties and as a result, too few observations had taken place by the official project end in order to draw any meaningful conclusions.

Our main recommendation concerns the administrative and management structures supporting this project. The actual activities undertaken were of high quality and, in themselves, were well executed. Several positive conclusions can be drawn from the project, including improved student outcomes, recruitment to Science courses and student progression. There are sufficient embedded and sustainable elements to the project to ensure that the institutions involved continue to demonstrate that this project represents good value for the public funds it benefitted from.