

# **London Schools Excellence Fund**

## **Self-Evaluation Toolkit**

### **Final report**

#### **Contact Details**

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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 3**

**Report Submission Deadline:** Round 2 - 30 September 2015

**Report Submission:** Final Report to the GLA

**Project Name:** University Learning in Schools (ULiS)

**Lead Delivery Organisation:** Achievement for All

**London Schools Excellence Fund Reference:** LSEFR1108

**Author of the Self-Evaluation:** Lisa Knowles

**Total LSEF grant funding for project:** £321,006 (it was 356,673 but we are not making Claim 6 (£35,667))

**Total Lifetime cost of the project (Inc. match funding):** £387,806

**Actual Project Start Date:** January 2014

**Actual Project End Date:** December 2015

## 1. Executive Summary

This final report is based on an evaluation of the University Learning in Schools (ULiS) project which comprised of matching 15 PhD students with 15 teachers of KS3 students in London schools. The aim was to create innovative new subject resources, boosting teacher subject knowledge and improving pupil outcomes in key subjects.

The rationale for this project was based on the hypothesis that investing in teacher subject knowledge and subject-specific pedagogy will lead to improved outcomes for pupil's attainment.

The evidence was gathered by the following approaches:

- quantitative and qualitative analysis of teacher subject knowledge and confidence (supported by qualitative measures such as teacher interviews, lesson observations)
- Pupil data (and comparison data) supported by qualitative measures such as teacher interviews, lesson observations and pupil focus groups (reaching approx. 75 pupils).

The evaluation of the project demonstrated the following findings:

1. Teachers directly involved in the project reported an improvement in relation to subject knowledge (evidenced via the quantitative survey). Many teachers also reported an improvement in confidence in areas related to pedagogy and practice.
2. Teachers involved with the programme felt that it helped them to identify and deal with pupil misconceptions related to subject knowledge.
3. The project created high quality resources that contained a number of positive elements:
  - They helped break down core concepts for pupils
  - They took learning beyond the classroom
  - They impacted positively on pupils' engagement with and enjoyment of the unit
4. A number of the teachers involved felt that their participation in the ULiS programme has developed their understanding of developments and scholarship in their subject. In some cases, the unit appeared to have added breadth to teachers' understanding, exposing them to new topics or sources; in other cases, the unit appeared to have added depth to their existing knowledge.
5. Across the two years of the project, students engaged in the interventions made, on average, 0.9 points of progress **more** than their peers in the control group (2.8 points of progress compared to 1.9 points of progress for the pupils in the control group).
6. Across all 15 intervention groups, 65% of students made at least expected progress, with 64% making more than expected progress. This compares with the control groups in which 53% of students made more than expected progress and 47% of students failed to make expected progress overall.
7. Pupils undertaking the ULiS module made more than expected/accelerated progress in 12 out of 15 modules and performed better than comparison groups in eight modules. Some of the key factors in improved outcomes were cited by pupils and teachers as being:

- Pupils being stretched more by the challenging unit content/more complex ideas
  - Pupils being forced to solve problems/be resilient when they don't initially know the answer
  - Pupils having to think more critically and be more analytical
  - Pupils being more engaged with the unit content because it was more current and more relevant
  - The unit had provided students with 'threshold concepts'
  - The unit had been more discursive and engaging
  - The unit had moved at pace and been more challenging
8. Pupils in receipt of Pupil Premium funding achieved better than expected/accelerated progress in nine modules and outperformed their NPP peers in six modules.

## 2. Project Description

### Introduction

ULiS is a two-year project delivered by Achievement for All 3As and the Brilliant Club. The project is based on the Brilliant Club model of partnering PhD researchers with schools, leading to improvements in teaching practice, pupil achievement and pupil attitudes.

Research indicates that teacher subject-knowledge is one – possibly the only – factor associated with a growth in student achievement. Teach First commissioned a report comparing exceptional schools which found that a focus on subject knowledge was a key defining feature. Research also shows that partnering teachers with specialists can lead to improvements in pupil attainment (Cordingley et al, 2007).

Despite this it has traditionally received less spotlight than other aspects of teacher CPD in the UK, unlike other countries where subject knowledge enjoys more prominence. Teachers in England are lagging behind their counterparts in undertaking CPD in subject knowledge. Only 57% of teachers embarked on this, compared with 88% of teachers in Singapore / Japan and an OECD average of 72% according to a recent survey.

ULiS aimed to buck this trend, pairing PhD researchers and teachers to create innovative KS3 modules. The project was inspired by two recent trends within secondary education: GCSE reform, which aims to assess pupils across more challenging content; and efforts to engage further with research across the profession, as epitomised by initiatives such as ResearchED.

### About the project

Achievement for All 3As and the Brilliant Club embarked on ULiS in 2014, pairing five PhD students from King's College London, UCL, CERN and Warwick University with teachers from Lampton School and Haberdashers' Askes' Federation Trust. The decision to engage with these two schools was based on the existing relationship that the project team had with them – an important factor in mobilising the project at speed. Their task was to create academic units of work for KS3 students in English, Geography and Physics in order to enhance teachers' subject knowledge and pedagogical skills, ultimately increasing pupil achievement in core subjects.

The researches and teachers were briefed and trained before selecting an advanced subject topic and developing this into an academic module and innovative learning resources for key stage three (KS3) students over the period of a half term designed to stretch and stimulate

pupils. In the following half term, the teacher delivered the modules to an identified KS3 (Year 8/9) group of pupils and subsequently refined the modules.

In the 2013/14 academic year ULiS produced five innovative KS3 modules designed to stretch and stimulate pupils in English Language, English Literature, Geography, Biology and Physics. The project doubled in scope for the 2014/15 academic year. As a result, we broadened the number schools we engaged with which also proved useful in perhaps reaching a broader demographic of pupils than in Y1. In Y2 we developed ten modules, matching researchers from Queen Mary's, Kings College London, Oxford, UCL, Cambridge, Cranfield and the Open University with teachers from Lampton, St Thomas More, Phoenix High School, Brentside High School, Cardinal Pole, Parliament Hill School, and The Coopers' Company and Coborn School.

The titles of the 15 ULiS modules are:

#### Year 1

<b>English Language</b>	<i>How we use talk and writing to develop understanding</i>
<b>English Literature</b>	<i>Travel Writing from the nineteenth and twentieth centuries</i>
<b>Geography</b>	<i>Global Childhoods</i>
<b>Biology</b>	<i>Antibodies: Weapons of Microbe Destruction</i>
<b>Physics</b>	<i>LASERs: Cutting Edge Science</i>

#### Year 2

<b>English Literature</b>	Stories of the Great North Road: Rogues, Riders and Runaways
<b>Mathematics</b>	3D geometry: the shape of the everyday world
<b>Chemistry</b>	The Engineer's Guide to Cleaning an Oil Company's Mess
<b>Biology</b>	What happens in my brain during the day?
<b>Physics</b>	Exoplanets: Discovering and Characterising Planets Orbiting Other Stars
<b>History</b>	The First World War: Trauma and Memory
<b>Computer science</b>	How programming and the creation of algorithms can be used to solve problems
<b>Psychology</b>	Mythbusting - the brain
<b>Economics</b>	Do I Need an i-Phone???
<b>RE</b>	Buddhists in the world

### Project Dissemination

In Y1 we held an Enhancement / CPD Day in central London, where the ULiS teacher/researcher pairs presented the module and resources to 23 London secondary teachers. These teachers took the modules away with a view to delivering them in their own settings.

In Y2 the project enjoyed coverage in Schools Week: <http://schoolsweek.co.uk/phd-researchers-teachers-new-learning-resources-ks3/>. We organised a twilight session at Lilian Baylis attended by 20 teachers. We have created a dedicated ULiS microsite: <http://tinyurl.com/ULiSKs3> and are cascading the modules via our network of schools (approx. 45 secondary schools in London), Challenge Partners (120 schools) and London Leadership Strategy (60 schools) and via the Brilliant Club's secondary network (circa 200 schools). A number of the project participants have presented the module at peer-to-peer CPD sessions (i.e. Biology module presentation to 11 schools from the Ealing Subject Leaders meeting, English Literature module presentation to the West London Alliance's English Working Group made up of 17 schools). Another participant cascaded the modules to approx. 40 attendees at the Teach First Summer Institute and the Brilliant Club provided USBs to 100 teachers joining their sessions at the Teach First Impact Conference in Leeds

in July. We undertook a programme of targeted marketing to raise awareness of the resources on our microsite amongst approx 4,750 KS3 teachers in London (subject heads and KS3 coordinators). As a result of this, the microsite has been accessed by over 500 teachers.

### Project Evaluation

As aforementioned we undertook quantitative and qualitative analysis of teacher subject knowledge and confidence (supported by qualitative measures such as teacher interviews, lesson observations). Pupil outcomes were measured through analysis of pupil data (and comparison data) and supported by qualitative measures such as teacher interviews, lesson observations and pupil focus groups. The quantitative analysis was conducted by an Achievement for All researcher. The qualitative analysis was undertaken by LKMCo, an education and youth 'think and action-tank' ([www.lkmco.org](http://www.lkmco.org)). Further details about the qualitative evaluation, including details of teacher interviews, lesson observation and pupil focus groups can be found in Appendix 1 (p 54).

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

**Yes**

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

Initial findings from our evaluation suggest that the teachers saw the benefit of this approach in preparing KS3 pupils for the new GCSE qualifications. There was a particular perceived benefit for teachers in subjects where topics are taught in progressively greater depth over the course of KS3 and KS4 and where GCSE outcomes might reflect or build upon subject content taught at KS3 stage (e.g. Physics).

#### 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](#).

Modules have been loaded onto USBs (available from [lisa.knowles@afa3as.org.uk](mailto:lisa.knowles@afa3as.org.uk)). These have been cascaded to teachers at events and through our networks. In addition, we have created a dedicated microsite for the ULiS materials, which is available here: <http://tinyurl.com/ULiSKs3>. There will be a link on the LondonEd website to this microsite.

### 3. Theory of Change and Evaluation Methodology

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

**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
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Teacher Outcome 1	<i>Increased subject knowledge and confidence and greater awareness of subject specific teaching methods</i>	N/A	N/A
Teacher Outcome 2	<i>Delivery of higher quality teaching including subject-focused and teaching methods</i>	N/A	N/A
Teacher Outcome 3	<i>Use of better subject-specific resources</i>	N/A	N/A
Pupil outcome 1	<i>Increased educational attainment and progress</i>	N/A	N/A
Wider system outcome 1	<i>Use of new resources by teachers/schools outside the intervention group</i>	N/A	N/A

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

No

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

No

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

Yes

#### **4. Evaluation Methodological Limitations**

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

##### **Pupil /comparison group data**

The data collection burden on participating schools was quite heavy – and teachers reported that it was onerous, despite being given an outline of what the data collection requirements were prior to the project. Generally, the teachers directly involved in the ULiS project provided pupil data related to the 'intervention group' whilst the school's data manager provided anonymised pupil data for the comparison groups.

The evaluation was reliant on participating schools providing anonymised pupil comparison data. To avoid contamination of comparison data with intervention pupil data within the same year group, schools were asked to remove intervention pupils in one subject (e.g. English) from the anonymised pupil comparison data for another subject (e.g. maths). Two schools failed to do this, resulting in the possibility of an intervention pupil in one subject (e.g. English) being included in comparison data for another subject (e.g. maths). This was the case for English, maths, history and psychology comparison data. One way of mitigating the chances of this happening was to match pupil data, where possible, on wider criteria (e.g. SEN and prior attainment as well as gender, FSM/PP). Presenting pupil data in an equitable and consistent manner was a priority; all pupil data was transferred into point scores in order to track the increase in point scores achieved over time. Most schools employed their own system for collecting and recording pupil performance data (i.e. some schools recorded

national curriculum levels, others GCSE grades and others percentages converted from GCSE grades to reflect an in-house measure of performance).

It was particularly difficult to secure anonymised pupil comparison data. Indeed, some schools were unwilling to provide it. This resulted in our seeking anonymised pupil data from a school outside London for English (Year 1) in order to meet the evaluation needs of the project. Where schools did provide anonymised data, they were often slow in sending it; this created extra administrative work in terms of following up data requests. Given the age-range of the pupils involved in the project – KS3 – it was not possible to mitigate these difficulties by using the National pupil database, as attainment data, by subject is not reported on nationally for this Key Stage.

### Teacher surveys

There are some limitations in interpretation of teacher knowledge surveys. This lies primarily in the use of an adapted teacher knowledge survey for Y2 teachers; it employed a five-point scale in place of the nine-point scale employed for Y1 teachers and stage Y2 teachers; it also had fewer questions. For analysis purposes and to ensure consistency, impact measures are represented as percentages. Survey responses from Y1 and Y2 teachers are more comparable. In contrast, Y1 stage 2 teachers participated in the baseline survey at the beginning of a training day and a follow-up survey at the end of the day.

Our inclusion of qualitative evaluation will, however, allow us to present a rounded picture of project in terms of its impact on teachers and pupils.

Other limitations that have been highlighted by the project include:

- Sample size – the intervention/comparison data for each subject area is necessarily small
- Attribution – we cannot point to positive improvements in confidence/subject knowledge/pupil outcomes being wholly due to the intervention as opposed to other factors (general class ability, teacher experience etc.).

### Potential contamination

A possible source of contamination would have been if programme-involved teachers also taught classes/pupils from the comparison group and consciously or unconsciously benefitted these pupils too. This can be discounted as is not likely given the fact that within each project year, we ensured that comparison group data was sourced from a different school. We have also screened out the possibility of teachers from Y1 whose classes might have been in the intervention groups for Y2 consciously or unconsciously benefitting the pupils. Figure 1 below outlines the intervention and comparison schools in Y1 and Y2.

**Figure 1 – ULiS intervention and comparison groups**

#### Y1 intervention and comparison groups

ULiS subject	Intervention school	Comparison school
Biology	Crayford Academy	Lampton School
Physics	Crayford Academy	Lampton School
English Literature	Lampton School	Lyng Hall
English Language	Lampton School	Lyng Hall
Geography	Isleworth and Syon	Lampton

#### Y2 intervention and comparison groups

ULiS subject	Intervention school	Comparison school
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English Literature	St Thomas More	Brentside High School
Maths	Phoenix High School	St. Thomas More
Chemistry	St. Thomas More	Lampton School
Biology	Brentside High School	Lampton School
Physics	Cardinal Pole	Lampton School
History	Lampton School	Brentside High School
ICT	Parliament Hill School	Brentside High School
Psychology	Phoenix High School	St Thomas More
Business studies	St Thomas More	Lyng Hall
RE	The Coopers' Company and Coborn School	Brentside High School

#### 4.2 Are you planning to continue with the project, once this round of funding finishes?

We will not continue to create new modules through the vehicle of teacher/researcher funding, however, the 15 modules already created will continue to be available via our public websites and to Achievement for All's network of schools post January 2016.

### 5. Project Costs and Funding

5.1 Please fill in Table 2 and Table 3 below:

**Table 2 - Project Income**

	Original <sup>1</sup> Budget*	Additional Funding	Revised Budget** [Original + any Additional Funding]	Actual Spend to end August 2015	Variance [Revised budget – Actual]
Total LSEF Funding	£250,000	£106,673	£356,673	£288,550	£68,123
Other Public Funding					
Other Private Funding					
In-kind support (e.g. by schools)	£66,800				
<b>Total Project Funding</b>	<b>£316,000</b>	<b>£106,673</b>	<b>£356,673- £35,667 (we will not make claim 6)= £321,006</b>	<b>£288,550</b>	<b>£32,456**</b>

\* Budget sheet in grant agreement came to a total of £208,034 excluding VAT. VAT then applied across the sheet to a total of £249,640

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**Table 3 - Project Expenditure**

<sup>1</sup> Please refer to the budget in your grant agreement

\*Items in the Original budget did NOT include VAT. VAT was then applied across the budget which brought a total of £249,640 and a grant of £250,000. VAT included in the additional funding costs. Both sums ex and inc VAT have been included in this column so the table maps to the budget in the grant agreement

	Original Budget*	Additional Funding (inc VAT)	Revised Budget [Original + any Additional Funding] (inc VAT)	Actual/com mitted Spend (to end August 2015)	Variance Revised budget – Actual]
Direct Staff Costs (salaries/on costs) inc evaluation	98,533 (ex) 118,239.6 (inc)	54,680	172,919.6	185,240	
Direct delivery costs e.g. consultants/HE (specify)					
Management and Administration Costs	35,951 (ex) 43,141.2 (inc)	23,193	66,334.2	75,660	
Training Costs					
Participant Costs	53,400 (ex) 64,080 (inc)	11,920	76,00	15,000	
Publicity and Marketing Costs (including materials print/design, USB loading, website design and loading)	19,500 (ex) 23,400 (inc)	16,880	40,200	12,650	
Teacher Supply / Cover Costs					
Other Participant Costs	650 (ex) 780 (inc)				
Evaluation Costs					
<b>Total Costs</b>	208,034 (ex) 249,640.8 (inc)	106,593	£356,673- £35,667 (we will not make claim 6)= <b>£321,006</b>	£288,550	£32,456

## 5.2 Please provide a commentary on Project Expenditure

The profile of project spend is slightly different to that outlined in the original budget. We incurred significantly more project management costs and costs associated with the editing and QA'ing of the modules. We did not need to spend the sums originally budgeted for in relation to module dissemination. Our decision to make the modules virtual and provide them to delegates on USB drives, also led to a significant cost savings on printing costs.

We have agreed with the GLA that we will not submit Claim 6 (for £35,667) in order to mitigate some of this underspend. We have also agreed an extension to end December 2015 in order to utilise the remaining underspend on dissemination activity.

## 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 <i>[Original + any Additional Funding/GLA agreed reduction]</i>	Actual Outputs	Variance [Revised Target - Actual]
No. of teachers engaged in the project	10 teachers and PhD researchers engaged and trained	5 teachers and PhD researchers engaged and trained	15 teachers and PhD researchers engaged and trained	N/A
No. of schools/teachers who receive the module	Research and teacher pairs present modules at Subject enhancement events attended by 200 teachers		ULiS modules presented direct by module creators to approx 120 teachers so far – dissemination will continue until end December 2015. Modules on USB provided to 500 London Secondary Schools	
Use of new resources by teachers/schools outside the intervention group			Modules on USB provided to 500 London Secondary Schools. Email campaign to London KS3 Heads and co-ordinators reaches over 4,500 teachers	

## 7. Key Beneficiary Data

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

***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**

	<b>No. teachers</b>	<b>% NQTs (in their 1<sup>st</sup> year of teaching when they became involved)</b>	<b>% Teaching 2 – 3 yrs (in their 2<sup>nd</sup> and 3<sup>rd</sup> years of teaching when they became involved)</b>	<b>% Teaching 4 yrs + (teaching over 4 years when they became involved)</b>	<b>% Primary (KS1 &amp; 2)</b>	<b>% Secondary (KS3 - 5)  (all KS3)</b>
<b>Project Total</b>						
School 1	2	0		100%		100%
School 2	3	0	33%	67%		100%
School 3	1	0		100%		100%
School 4	3	0	67%	33%		100%
School 5	2	0		100%		100%
School 6	1	0		100%		100%
School 7	1	0		100%		100%
School 8	1	100%				100%
School 9	1	0		100%		100%

**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 data presented in this table reflects the teachers directly involved in creating the modules.

**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*)

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

	<b>No. pupils</b>	<b>% LAC</b>	<b>% FSM</b>	<b>% FSM last 6 yrs</b>	<b>% EAL</b>	<b>% SEN</b>
<b>Project Total</b>						
School 1	53	<i>None recorded</i>	8%	51%	9%	<i>None</i>
School 2	79	<i>None</i>	10%	27%	14%	18%
School 3	29	<i>None</i>	21%	28%	52%	21%
School 4	85	<i>None recorded</i>	19%	<i>Not stated</i>	56%	25%
School 5	43	<i>None</i>	35%	<i>Not stated</i>	60%	12%
School 6	30	<i>None</i>	17%	47%	77%	<i>None</i>
School 7	29	<i>None</i>	24%	52%	72%	7%

School 8	23	None	13%	35%	52%	4%
School 9	24	None	none	8%	8%	4%

	No. Male pupils	No. Female pupils	% Lower attaining	% Middle attaining	% Higher attaining
<b>Project Total</b>					
School 1	53	0	0	28%	72%
School 2	42	37	9% (1 unknown)	48%	33%
School 3	29	0	Not stated	Not stated	Not stated
School 4	51	34	2% (others not stated)	24% (others not stated)	16% (others not stated)
School 5	27	16	14% (1 unknown)	56%	28%
School 6	16	14	0 (1 unknown)	43%	53%
School 7	16	13	0	3%	97%
School 8	0	23	0	30%	70%
School 9	14	10	4% (1 unknown)	8%	83%

	% 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
<b>Project Total</b>													
School 1				4		19		2		2			2
School 2	25	22		3	3	8	3	1		3	1		11
School 3	4	4	4		8	4	4		4		4		27
School 4*				4	8	7		9	5				7
School 5			2	2	16	24	2	7			5		21
School 6	23	10		13	7	13			3				17
School 7				8	14	62	8					4	
School 8						4		4		4	8		
School 9						8					8		

	% White British	% White Irish	% White Traveller of Irish heritage	% White Gypsy/Roma	% White Any Other Background

<b>Project Total</b>					
School 1	64				7
School 2	11				9
School 3	21				16
School 4*	1				22
School 5	12			2	7
School 6	10				1
School 7					4
School 8	36				40
School 9	80				4

\*School 4- one teacher has not provided ethnicity data

For all intervention groups pupil data was collected prior to the intervention, with post intervention progress data collected in the term following the intervention.

**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*).

Pupil performance data before and after the intervention was compared with a control group. Anonymised pupil data for comparison groups was collected from participating schools, with the exception of two subjects in year 2. The table provides a comparison of the percentage of FSM and EAL intervention pupils with the percentage in state funded secondary schools in the borough. Generally, the borough profile of these pupil characteristics did not correspond to intervention pupil characteristics.

An analysis of pupil data is in the table below:

School	Borough	% pupils FSM in interventions	% pupils FSM in school **	% pupils FSM in Borough *	% pupils EAL in interventions	% pupils EAL in Borough *
1	Bexley	8%	40%	11.2%	9%	12.5%
2	Hounslow	10%	33%	16.4%	14%	54.1%
3	Hounslow	21%	39%	16.4%	52%	54.1%
4	Haringey	19%	52%	28.5%	56%	47.7%
5	LBHF	35%	71%	21.7%	60%	42.6%
6	Ealing	17%	43%	18.3%	77%	54.3%
7	Hackney	24%	65%	34.2%	72%	45.1%
8	Camden	13%	57%	28.5%	52%	49.8%
9	Havering	none	5%	10.4%	8%	9.5%

\*\* Figures taken from School Dashboard, DfE

In three of the five subjects in Y1 progress made by pupil premium pupils was accelerated when compared with national expectations (two in Hounslow and one in Bexley).

In Y2 progress made by pupil premium pupils was better than non-pupil premium pupils in three subjects (Chemistry-Haringey, biology- Ealing and history- Hounslow. PP students made as much progress as their NPP peers in ICT-Camden.

## 8. Project Impact

### 8.1 Teacher Outcomes

**Table 9 – Teacher Outcomes: teachers benefitting from the project**

Target Outcome	Research method/ data collection	Sample characteristics	Metric used	1 <sup>st</sup> Return and date of collection	2 <sup>nd</sup> Return and date of collection	3 <sup>rd</sup> Return and date of collection
Year 1, Stage 1 teachers: Increased teacher knowledge and confidence	Paper surveys (Pre intervention); e-surveys (during and post intervention)	4 respondents from a total of 5 (a change of teacher after the project commencement meant we were not able to complete the sample)	Mean score based on a scale of 1-9 for teacher knowledge survey (1=strongly disagree; 2/3= disagree; 4/5= neither; 6/7= agree; 8/9=strongly agree) And a scale of 1-9 for teacher efficacy survey (1= nothing; 2/3= very little; 4/5 =some influence; 6/7= quite a bit; 8/9= a great deal)	Mean score: 85% (knowledge); 82%(confidence) collected February 2014	Mean score: 89% (knowledge) 80% (confidence) collected May 2014	Mean score 90% (knowledge); 78% (confidence) collected July 2014
Year 1, Stage 2 teachers: Increased teacher knowledge and confidence	Paper Survey (pre and post enhancement day)	18 respondents from a total of 23	Mean score based on a scale of 1-5 for teacher knowledge survey (strongly agree; 2agree; neither; disagree; strongly disagree) And a scale of 1-9 for teacher efficacy survey (1= nothing; 2/3= very little; 4/5 =some influence; 6/7= quite a bit; 8/9= a great deal)	Mean score 80% (knowledge) 78% (confidence) collected pre event, July 2014	Mean score 84% (knowledge); 77% (confidence) collected post event, July 2014	N/A
Year 2 teachers: Increased teacher knowledge and confidence	Paper survey (pre-intervention) paper survey (during and post intervention)	9 respondents from a total of 10 (a change of teacher after the project commencement meant we were not able to complete the sample)	Mean score based on a scale of 1-9 for teacher knowledge survey (1=strongly disagree; 2/3= disagree; 4/5= neither; 6/7= agree; 8/9=strongly agree) And a scale of 1-9 for teacher efficacy survey (1= nothing; 2/3= very little; 4/5 =some influence; 6/7= quite a bit; 8/9= a great deal)	Mean score 83% (knowledge); 75% (confidence) collected January 2015	Mean score 90% (knowledge); 78% (confidence) collected March 2015	Mean score 91% (knowledge); 83% (confidence) collected May 2015

#### 8.1.1 – Aim of the evaluation - teacher outcomes

The University Learning in Schools project aimed to address gap around subject knowledge, and, by doing so, also meet objectives of the LSEF. The projects outcomes in relation to teachers are to:

1. Increase subject knowledge and confidence and greater awareness of subject specific teaching methods
2. Delivery of higher quality teaching including subject-focussed teaching methods
3. Use of better subject-specific resources

- 1. Increased subject knowledge and confidence and greater awareness of subject specific teaching methods**

The enhancement of teachers' subject knowledge is a core objective of the ULiS programme and is also a key feature of the 2013 Teachers' Standards which state that teachers must "have a secure knowledge of the relevant subject(s) and curriculum areas." This outcome was measured via qualitative and quantitative means. Quantitative data was collected via a survey of teacher knowledge of subject and curriculum, adapted from the Teachers Standards (DfE, 2013 and the Teachers Sense of Efficacy Scale (standard employed across projects TSIP) and). This was assessed for both Stage 1 teachers (those who engaged in the preparation of the modules in Y1 and Y2) and Stage 2 teachers (those who attended the Y1 enhancement/ training day). See Table A and B below.



**Table A: Teacher perception of subject knowledge and awareness of subject specific teaching methods**

	Y1 Stage 1 Teachers				Y1 Stage 2 Teachers				Y2 Teachers				
	Pre	During	Post	Increase	Pre	Post	Increase	Pre	During	Post	Increase		
Knowledge	85%	89%	90.0%	5%	Knowledge	79.5%	84.4%	4.9%	Knowledge	83%	90%	91%	8%
Expectations	82%	86%	84%	2%	Expectations	77.6%	85.75%	8.15%	Expectations	81%	89%	89%	7%
Progress	81%	83%	87%	6%	Progress	77.75%	82%	4.25%	Progress	74%	86%	90%	16%
Planning	81%	90%	84%	3%	Planning	76.75%	83.25%	6.5%	Planning	76%	85%	86%	10%
Assessment	86%	87%	87%	1%	Assessment	83.5%	84%	0.5%	Assessment	84%	88%	88%	4%

Overall, the CPD activity had a positive impact on teacher knowledge (teacher reported). Across all areas teacher subject knowledge, teacher expectations for pupil learning and development, pupil progress, planning, assessment and wider professional responsibilities, teachers reported increased knowledge and better pedagogical skills. All teachers reported an improvement in subject knowledge in all areas assessed by the survey but in varying amounts. In Y1 stage 1 teachers, the largest increase in confidence came from the progress and knowledge questions, which saw a 6% and 5% increase respectively. The largest increase in Y1 stage 2 teachers came from the expectations questions, which saw an 8.15% increase in confidence. The largest increase in Y2 teachers came from the progress questions which saw an 16% increase in confidence.

**Table B: Teacher confidence levels - beliefs reported by teachers:**

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Y1 Stage 1 teachers																								
Pre	78	86	86	81	94	83	89	94	78	89	97	83	83	83	81	89	78	72	75	78	69	61	75	78
During	69	81	86	61	94	89	89	89	86	81	92	75	89	75	78	81	78	69	72	78	69	78	81	83
Post	64	72	69	58	86	78	89	86	83	86	92	69	83	83	72	83	78	72	72	83	69	67	83	81
Gap	14	14	17	23	8	5	0	8	5	3	5	14	0	0	9	6	0	0	3	5	0	6	8	3
Y1 Stage 2 teachers																								
Pre	62	77	79	66	85	80	82	78	75	77	83	77	78	75	79	80	77	79	78	82	77	64	71	82
Post	70	77	77	75	81	80	81	77	78	76	78	80	78	78	77	76	81	80	76	81	79	71	77	82
Gap	8	0	2	9	4	0	1	1	3	1	5	3	0	3	2	4	4	1	2	1	2	7	6	0
Y2 teachers																								

Pre	69	73	83	64	86	77	83	80	73	77	85	69	79	68	77	79	69	79	70	84	75	58	74	80
During	69	80	78	65	88	79	88	81	78	88	86	72	78	75	78	68	79	83	69	85	79	68	73	86
Gap	0	7	5	1	2	2	5	1	5	11	1	3	1	7	1	11	10	4	1	1	4	10	1	6
Post	81	90	84	75	93	80	91	86	79	81	91	83	89	79	80	88	79	85	81	91	79	68	74	85
Total Gap	12	17	1	11	7	3	8	6	6	4	6	14	10	11	3	9	10	6	11	7	4	10	0	5

Red = drop in confidence, Green = increase in confidence, Orange = no change

Analysis of teacher confidence (beliefs) data suggests that Y1 Stage 1 teachers started the project with higher levels of confidence in their beliefs as a teacher than their Y1 Stage 2 or Y2 counterparts. However, these confidence levels fell overall as the project progressed. The greatest drop in confidence appears in question 4: *How much can you do to motivate students who show low interest in school work?* The greatest increase in confidence appears in question 23: *How well can you implement alternative strategies in your classroom?*

In contrast, Y1 Stage 2 and Y2 teachers started the project with lower levels of confidence in their beliefs as a teacher. For Y1 Stage 2 teachers, confidence levels generally remained constant or increased. Where confidence levels dropped they did so at a lower rate than for Y1 Stage 1 teachers. The greatest drop in confidence for Y1 Stage 2 teachers appears in question 11: *To what extent can you craft good questions for your students?* The greatest increase in confidence appears in question 4: *How much can you do to motivate students who show low interest in school work?*

Of the three 'stages' of teachers, Y2 teachers have had the greatest increase in confidence. For all questions, except question 23 (*How well can you implement alternative strategies in your classroom?*), where there was no change in confidence, teachers have shown significant increases in confidence across all areas. The greatest increase in confidence appears in question 2: *How much can you do to help your students think critically?*

The quantitative findings for Y1 stage 1 and Y2 teachers, does not wholly mesh with the qualitative evidence on subject knowledge, which was measured by semi-structured interviews with the teachers. Of the five Y1 stage 1 teachers interviewed, three voiced in clear terms that their subject knowledge had increased as a result of taking part in the programme:

*"I feel that I have increased my subject knowledge... I do feel that it's definitely tidied up some loose ends, things that I was never quite sure about."*

*"I didn't know about these two theories until I started the year. So the whole unit is based on a new idea... the two theories are all new to me... it's not a theory I would have applied to my teaching and given to my students."*

The three interviews also suggested that the project helped teachers to be more confident with their existing subject knowledge, as well as taking on board new knowledge, and that teachers used their PhD partners as a point of reference to make sure they properly understood the lesson content, and that they'd included all the relevant material for their students:

*“If I'd have had to look it up and researched it for myself, I wouldn't have known if I was targeting quite the right things and I'd covered everything I needed to know, I was able to say to [the researcher] and is that everything? Or are there other bits that might come in to this? And that was helpful, just knowing that there was someone with that more complete picture of what was going on”*

Two of the Y1 teachers didn't feel they had increased their subject knowledge, but they did report learning new terminology and techniques, and felt they had benefited from being moved outside their comfort zone by teaching different material or using different sources:

*“It moved me out of my comfort zone of texts that I would normally choose and things I would normally do during the unit. So it definitely made me think, other than what I would normally teach.”*

*“It's not that I was picking up new ideas about poetry from the researcher, that wasn't really how it worked...I've picked things up from it but not really in the way of subject specific skills.”*

The two teachers, who did not feel their subject knowledge had developed during the course of the programme, had a more distant relationship with their researchers which may well have contributed to the negligible degree to which these two teachers developed their subject knowledge during the course of the programme.

Of the ten Y2 teacher interviewed, seven stated that they had increased their subject knowledge as a result of taking part in the programme. The majority of these teachers felt their participation in the programme had exposed them to specific new areas of knowledge within their subject, as these two teachers explained:

*“I have got much more... knowledge especially on brain development and memory and how it can be shaped and trained. And that is something that I have learnt especially from [my researcher partner], her PhD is all about that... I didn't know about that so I learnt that and that is due to the project.”*

*“My subject knowledge... has increased by being exposed to new authors and texts that I hadn't come across before... working with the researcher, he has provided me with sources that I would've otherwise probably never have come across.”*

One teacher of the seven felt the unit had exposed them to new knowledge beyond their own subject area and another described how their participation in the programme had increased their conceptual knowledge of their subject, allowing them to discover new connections between existing elements of their knowledge.

Three teachers did not feel their participation in the programme had expanded their subject knowledge. Nonetheless, one of these teachers noted that having the freedom to deliver their existing knowledge in a new way was challenging and rewarding for them:

*“The thing that was good that I learnt, that I gathered... [was] actually thinking about delivering lessons, the fact that they were conceived from my brain rather than from a specification meant that that was the stretch to kind of conceptualise how are we going to deliver this program, what bits are we going to include?”*

Unlike in Y1, the Y2 teachers who did not feel their subject knowledge had expanded reported positive working relationships with their researcher partners. However, the units of work they developed with their researchers fell within the domain of their existing knowledge. Therefore, more emphasis needed to be placed on encouraging pairs to pick new and unfamiliar topic areas rather than those within their comfort zone.

## **2. Delivery of higher quality teaching including subject-focused and teaching methods**

Teaching quality and teaching methods of those involved in the project was assessed via lesson observations and teacher interviews based on elements taken from the subject and curriculum knowledge component of the QTS:

- Secure knowledge
- Fostering and maintaining interests
- Addressing misunderstandings
- Critical understanding of developments and scholarship

The impact of the programme on these four components of teaching quality is now considered in turn.

### **• Secure knowledge**

Teachers were observed demonstrating secure knowledge in 14 out of 15 lessons observed (4 in Y1 and 10 in Y2). Examples of secure knowledge included: confidently explaining subject matter; asking probing questions to extend pupils' knowledge; responding to student queries; illustrating concepts with concrete examples; guiding pupils to a solution or answer with structured questions and probes.

In the lesson where little evidence of subject knowledge was observed, the teacher had expressed in their interview that they did not increase their subject knowledge as a result of the programme. Although it's not possible to infer simple causality between participation in ULiS and the security of subject knowledge, there is a sense that those teachers with the most secure knowledge were also those most open to picking up further knowledge from their researcher partner.

### **• Fostering and maintaining interest**

All lesson observations reported teachers fostering and maintaining interest. Pupil engagement was observed by their:

- Settling down quickly to a task
- Asking questions and offering answers during debate/QA sessions
- Asking unprompted questions
- Making positive comments to each other ('awesome', 'wow', 'that's pretty cool')
- Feeding back research they undertook at home

Across the two years of the programme, the teachers stated that their pupils had enjoyed the ULiS unit. Five factors can be drawn out as having contributed to pupils' engagement with the unit over the two years:

**i) Room to discuss and develop ideas**

Several teachers felt that over the course of the ULiS unit, pupils had had more of an opportunity than usual to discuss and develop ideas:

*“They had all sorts of questions of can you do this, can you do that, what other methods are there, are there methods that we haven’t thought of yet?”*

**ii) Unit had real-life practical relevance**

Some teachers noted that the unit had engaged pupils because it was more relevant to real-world issues and problems:

*“By giving lots of examples and lots of case studies and linking it to their lives... those are topics that are actually relevant to them as well so that really has helped with engaging the students and sparking their interest more as*

**iii) Content of the unit was more stretching/challenging**

A number of teachers felt the unit had engaged pupils because it was more challenging than a normal unit of work, and gave students a chance to go into more detail:

*“I’ve got students who really have appreciated that opportunity to look at things in depth, who have really appreciated the fact that they may have been stretched a little.”*

**iv) Unit was more interactive and collaborative**

The unit had engaged their pupils because it used more interactive teaching methods:

*There was lots of discussion, there was lots of investigation, there was collaborative work between the groups and because it was such high level stuff it definitely helped, and kind of gotten them more interested in the subject.”*

**v) Special nature of the unit**

Some teachers acknowledged that students’ awareness that this was a ‘special’ unit may also have had a positive influence on their engagement:

*“What may have added an extra dimension would be that they were told that it was kind of a project allied with a university and so they were told it was special.”*

**• Addressing misunderstandings**

Classroom observations saw teachers addressing misunderstandings in both years of the project. Teacher interviews in Y1 identified that participation in the programme appeared to have a greater impact on teachers’ ability to expose and identify pupils’ misconceptions than their ability to deal with these misconceptions.

However, in Y2, teachers seemed more likely to see the programme as having helped them to deal with pupil misconceptions, rather than simply exposing and identifying them. Four of the ten teachers we interviewed felt the ULiS unit had helped them to address pupil misunderstandings more effectively.

Two teachers explained that they had been better able to address pupil misunderstandings about specific areas of knowledge because the unit had brought topics or concepts together rather than treating them in isolation:

*“We went into much more detail how the brain works initially, and normally I wouldn’t have done that... it has helped me to deal with misconceptions straightaway because instead of training back... they had the basic knowledge already... Normally I would do a lesson... for example on drugs, I would do it kind of separate from the nervous system. And we would go through it and then misconceptions would come up, then I would have to go back.”*

*“Instead of having lots of different concepts and... having lessons which are more disjointed so that we cover a wider area, I think that one very good feature of this particular scheme of work is that we have taken concepts and we have continually revisited them but in different contexts.”*

One teacher felt that the ULiS unit of work had enabled them to progress students’ understanding of scientific processes and to consider their full complexity. This helped overturn misconceptions about these processes having no undesirable by-products:

*“Students just simply think that this process of fractional distillation takes place and that’s the end of it. So we simply take crude oil, we simply get the fractions we need and it’s a perfectly clean process and you never think about it again. They wouldn’t have thoughts that there’s a waste side... that’s something we never learn about... and that could be applicable to any part of science when you teach any process or concept they might think this is how it happens and this is what we need, but what else, what’s the other side, what’s the pollution aspect of it?”*

Finally, one teacher explained that the ULiS unit of work had helped them address pupils’ misconceptions about the subject, as well as within the subject:

*“Some children would have been interested in psychology because it sounds cool... you can read minds and stuff... and that’s what the whole point of myth busting was, that whole topic... the fact that students know that it is a real science as well makes them more likely to do it as a strong choice rather than a wishy washy subject which they might have thought because they didn’t actually know exactly what it entailed.”*

Of the remaining six teachers we interviewed, a minority felt that the unit had changed their approach to addressing pupil misunderstandings, or had provided particular opportunities to do so, but that there was no evidence to suggest the unit had allowed them to be more effective than usual at addressing pupil misunderstandings. The remaining teachers did not feel their opportunities or strategies to address pupil misconceptions had been affected by their participation in the programme:

*“No, it wasn’t part of this project... it is what I do all the time.”*

- **Critical understanding of developments and scholarship**

In Y1, two of the teachers interviewed reported that involvement in the programme had advanced their critical understanding of developments and scholarship. The first teacher reported picking up specific new theories and terminology from their PhD researcher; the second reported that the process of developing a unit of work with a PhD researcher had exposed them to the latest currents in their field more broadly:

*“I’ve picked up things from research, like I know about securements, so different types of talk, in a way that I didn’t understand, I didn’t have the terminology for”*

*“It’s just that exposure to that scientific research side that you know I haven’t had since I did my undergrad degree which was a while ago and just being able to sort of get back into that field and even if it was only briefly to sort of look at it and say, ‘You know this is what’s happening right now, this is what researchers are doing.’”*

Evidence of teachers’ understanding of developments and scholarship also fed through to the focus groups with students. In one focus group, students reported that through the course of the unit they had developed a more advanced technical vocabulary, alongside knowledge of the latest practical applications of the unit content. In another focus group, students demonstrated that the teacher had introduced them to underlying theories, models and the debates that surround them:

*“We learned that there were two different perspectives on everything (social and biological theories) – you had to think and work out which you agreed with. Not just learn the right answer.”*

Four of the ten Y2 teachers felt that their participation in the ULiS programme had developed their understanding of developments and scholarship in their subject. In some cases, the unit appeared to have added breadth to teachers’ understanding, exposing them to new topics or sources; in other cases, the unit appeared to have added depth to their existing knowledge.

Only two of these teachers passed these developments on to their pupils in the ULiS lessons that were observed. Both of these teachers appeared to have broadened, rather than deepened, their understanding of developments and scholarship. One described how their participation in the programme had exposed them and their pupils to current research in the field, and they argued that this was unusual within both the classroom and the profession more broadly:

*“There are all sorts of topics that we teach and rarely teachers are, not superficially, but we just teach what they need to know. We don’t teach what the current research is or sometimes we do go over the past research but it’s nice for them to know what’s happening right now. In terms of what I’ve gained from it it’s made me think a little bit more about how to integrate into my lessons current research.”*

Of the remaining two teachers who felt that their participation in the ULiS programme had developed their understanding of developments and scholarship in their subject, two appeared not to pass these developments on to their pupils through the ULiS unit of work in the ULiS lessons observed. The first of these teachers explained that working with the PhD researcher had deepened their conceptual understanding of their subject.

The second of these teachers also felt that participation in the programme had added breadth to their understanding of developments and scholarship in their subject:

*“I’ve been exposed to new genres that I hadn’t come across before, so in that sense, I’ve learnt about areas of study and scholarship that I had not come about before in terms of the academic study of English.”*

It is notable that, of the four teachers who told us the programme had developed their understanding of developments and scholarship within their subject, only two exhibited this in their lessons. This demonstrates that it is possible for participation in the ULiS programme to influence teachers' understanding of developments and scholarship but not that of pupils: teachers may, or may not, transfer their own learning into their lessons.

Of the six teachers who felt their participation in the programme had not influenced their understanding of developments and scholarship, two felt they had been exposed to new knowledge in this area, but that this had not been particularly deep or critical.

The remaining four teachers felt that the programme had not contributed to their development in this area; two of these teachers explained that this was because they already see it as part of their role to keep abreast of the latest developments in their field, and that working with their PhD researcher had not exposed them to any new ideas:

*“Because I’m responsible for research. Because I’ve done it myself – I’m doing all those things – it doesn’t extend my knowledge.”*

### **3. Use of better subject-specific resources**

A key aim of ULiS is for expertise and inspiration from university-based research to feed into the creation of new subject resources which will improve depth and rigour within the KS3 curriculum. Our qualitative evaluation assessed the quality of the resources developed during the ULiS unit using teacher interviews and pupil focus groups.

The majority of teachers in Y1 & 2 felt that the ULiS resources they created were of high quality (11 of 15 teachers) and contained a number of positive elements:

- They helped break down core concepts for pupils
- They took learning beyond the classroom
- They impacted positively on pupils' engagement with and enjoyment of the unit

Three teachers in Y1 and two in Y2 felt that the strength of the resources could be clearly attributed to the ULiS programme. Whilst teachers on the ULiS programme appeared to enjoy the opportunity to innovate when designing their lesson resources for the unit of work, a couple raised concerns that some students in their groups were not fully equipped to make full use of the novel resources.

Pupils responded positively to the resources and identified five positive characteristics of the unit:

- They were engaging and involving, relying less on the teacher speaking from the front
- They allowed students to work at their own pace and take on knowledge at their own speed
- They provided multiple explanations or examples
- They gave pupils something to look back on after they had completed the unit
- They organised the unit content clearly and provided an overview of the relations between topics

Almost half of pupil focus groups agreed that the ULiS resources had been of a higher quality than normal units, with two groups saying the units were 'new' and 'totally different'.



**Table 10 – Comparison data outcomes for Teachers [not available]**

Target Outcome	Research method/ data collection	Sample characteristics	Metric used	1 <sup>st</sup> Return and date of collection	2 <sup>nd</sup> Return and date of collection
<i>e.g. Increased Teacher confidence</i>	<i>e.g. E-survey</i>	<i>e.g. 100 respondents from a total of 200 invites.  The profile of respondents was broadly representative of the population as a whole.</i>	<i>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)</i>	<i>e.g. Mean score</i>	<i>e.g. Mean score</i>

## 8.2 Pupil Outcomes

Date pupil intervention started:

- Y1 April 2014 (first half of summer term)
- Y2 February 2015 (second half of Spring term)

**Table 11 – Pupil Outcomes for pupils benefitting from the project**

The 1<sup>st</sup> 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	1 <sup>st</sup> Return and date of collection (Baseline data)	2 <sup>nd</sup> Return and date of collection	3 <sup>rd</sup> Return and date of collection
<i>Increased progress in Biology Y1</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 26 pupils. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 40 collected March 2014</i>	<i>Mean point score 40 collected July 2014</i>	<i>Mean point score 44.8 collected July 2015</i>
<i>Increased progress in physics Y1</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 27 pupils. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 40.4 collected March 2014</i>	<i>Mean point score 40.1 collected July 2014</i>	<i>Mean point score 48.3 collected July 2015</i>
<i>Increased progress in English literature Y1</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 27 pupils. The profile of respondents matches that initially</i>	<i>Point score</i>	<i>Mean point score 37.6 collected March 2014</i>	<i>Mean point score 39.5 collected July 2014</i>	<i>Mean point score 42.9 collected July 2015</i>

		<i>targeted in the Theory of Change.</i>				
<i>Increased progress in English language Y1</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 26 pupils. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 37.6 collected March 2014</i>	<i>Mean point score 39.5 collected July 2014</i>	<i>Mean point score 43.3 collected July 2015</i>
<i>Increased progress in Geography Y1</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 24 pupils. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 31.1 collected March 2014</i>	<i>Mean point score 35.2 collected July 2014</i>	<i>Mean point score 34.6 collected July 2015</i>
<i>Increased progress in English Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 31 pupils (ethnicity not provided). The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 42.1</i>	<i>Mean point score 45</i>	
<i>Increased progress in maths Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 16 pupils. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 44.4</i>	<i>Mean point score 47.1</i>	
<i>Increased progress in chemistry Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 26 pupils. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 36</i>	<i>Mean point score 44.3</i>	
<i>Increased progress in biology Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 30 pupils. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 44.9</i>	<i>Mean point score 48.2</i>	
<i>Increased progress in physics Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 29 pupils. The profile of respondents matches that initially</i>	<i>Point score</i>	<i>Mean point score 37.1 collected January 2015</i>	<i>Mean point score 38.9 collected July 2015</i>	

		<i>targeted in the Theory of Change.</i>				
<i>Increased progress in history Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 26 pupils. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 34.8</i>	<i>Mean point score 38.0</i>	
<i>Increased progress in ICT Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 23 pupils. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 31.0 collected January 2015</i>	<i>Mean point score 37.7 collected July 2015</i>	
<i>Increased progress in psychology Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 27 pupils. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 38.3</i>	<i>Mean point score 38.7</i>	
<i>Increased progress in economics Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 28 pupils. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 42.9</i>	<i>Mean point score 46.2</i>	
<i>Increased progress in RE Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 24 pupils. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 34.8 collected January 2015</i>	<i>Mean point score 37.2 collected July 2015</i>	

**Table 12 - Pupil Outcomes for pupil comparison groups**

<b>Target Outcome</b>	<b>Research method/ data collection</b>	<b>Sample characteristics</b>	<b>Metric used</b>	<b>1<sup>st</sup> Return and date of collection</b>	<b>2<sup>nd</sup> Return and date of collection</b>	<b>3<sup>rd</sup> Return and date of collection</b>
<i>Increased progress in Biology Y1</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 26 pupils matched on gender and FSM</i>	<i>Point score</i>	<i>Mean point score 40.1</i>	<i>Mean point score 41</i>	<i>Mean Score 40.9</i>

		<i>status. The profile of respondents matches that initially targeted in the Theory of Change.</i>				
<i>Increased progress in physics Y1</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 13 pupils due to limitations in provided match data for comparison, matched on gender and PP status. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 39.3</i>	<i>Mean point score 40.8</i>	<i>Mean point score 47.1</i>
<i>Increased progress in English literature Y1</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 16 pupils due to limitations in match data, matched on KS2 prior attainment, gender, ethnicity, PP and SEN status. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 34.2</i>	<i>Mean point score 37.4</i>	<i>Mean point score 38.1</i>
<i>Increased progress in English language Y1</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 16 pupils due to limitations in match data, matched on KS2 prior attainment, gender, ethnicity, PP and SEN status. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 34.2</i>	<i>Mean point score 37.4</i>	<i>Mean point score 38.1</i>
<i>Increased progress in Geography Y1</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 26 pupils, matched on gender and FSM. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 30.8</i>	<i>Mean point score 31.8</i>	<i>Mean point score 34.3</i>

<i>Increased progress in English Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 31 pupils matched on PP indicators and SEN status. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 36.4</i>	<i>Mean point score 36.4</i>	
<i>Increased progress in maths Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 11 pupils due to limitations in match data, matched on PP and SEND status. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 44.1</i>	<i>Mean point score 47.2</i>	
<i>Increased progress in chemistry Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 11 pupils due to limitations in match data, matched on gender, PP and SEND status. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 33.6</i>	<i>Mean point score 36.8</i>	
<i>Increased progress in biology Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 19 pupils due to limitations in match data, matched on KS2 prior attainment data, gender, PP and SEND status. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 36.6</i>	<i>Mean point score 38.1</i>	
<i>Increased progress in physics Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 27 pupils, matched on KS2 prior attainment data, gender and PP status. The profile of respondents matches that</i>	<i>Point score</i>	<i>Mean point score 34.7</i>	<i>Mean point score 34.9</i>	

		<i>initially targeted in the Theory of Change.</i>				
<i>Increased progress in history Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 26 pupils, due to limitations in match data and to prevent duplication of pupil characteristics which were included as intervention groups for other subjects, matched on gender, PP and SEND status. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 37.2</i>	<i>Mean point score 39.6</i>	
<i>Increased progress in ICT Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 19 pupils due to limitations in match data, matched on PP and SEND status. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 32.6</i>	<i>Mean point score 34.1</i>	
<i>Increased progress in psychology Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 11 pupils due to limitations in match data and to prevent duplication of pupil characteristics which were included as intervention groups for other subjects, matched on gender, FSM and SEND status. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 37.5</i>	<i>Mean point score 37.5</i>	
<i>Increased progress in business studies Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 10 pupils, due to limitations in match data and data</i>	<i>Point score</i>	<i>Mean point score 38.7</i>	<i>Mean point score 39.3</i>	

		<i>returns, matched on gender, PP and SEND status. The profile of respondents matches that initially targeted in the Theory of Change.</i>				
<i>Increased progress in RE Y2</i>	<i>Pupil assessment data</i>	<i>Characteristics and assessment data collected for 6 pupils, due to limitations in match data, matched on KS2 prior attainment data, gender, ethnicity, PP and SEND status. The profile of respondents matches that initially targeted in the Theory of Change.</i>	<i>Point score</i>	<i>Mean point score 39</i>	<i>Mean point score 43.3</i>	

### 8.2.1 - Narrative on pupil outcomes

#### Data collection

Anonymised pupil level data for the intervention groups was collected directly from the teachers involved in the module preparation. In some schools this was sent via the data manager or the head of department. In Y1, data was collected before the intervention and after the intervention and again one year after the intervention. In Y2, data was collected before the intervention and after the intervention. In all cases, pupil level data after the intervention was for the summer term; a number of schools recorded pupil attainment at three points during the year.

Initially, anonymised subject comparison pupil data was sought from schools participating in the project. The intention was to match pupils by gender and if they currently claimed FSM. In the main, this was possible. However, some comparison data failed to provide key pupil data (e.g. FSM etc.) in which case pupils were matched on other criteria (e.g. PP, SEN or prior attainment) In Y1, it was possible to obtain comparison data at baseline and time 1 (equivalent to after the intervention) for all five subjects (with any other subject intervention pupils removed from the data). For two subjects (English) in Y1, comparison data was provided by another secondary school as it was not possible to obtain this data from other schools participating in the project. Comparison data, equivalent to one year on from the intervention, has been provided for all five of the Y1 subjects. In the main, the narrative analysis that follows focuses on the impact of the ULiS intervention, rather than progress one year on.

In Y2, anonymised pupil comparison data was sought from schools participating in the project; again any pupils participating in another subject intervention within the school were removed.

### Data format

Participating schools submitted data in a variety of formats; some sent data utilising National Curriculum (NC) levels, some sent point scores and some sent GCSE grades.

NC levels and GCSE grades have equivalent numerical point scores attached but they do not exactly align, however, both levels and grades are 'made up' of 6 points each. NC levels can also be recorded as sub-levels, for example a Level 5 can be a 5c at the lowest, a 5b in the middle (or secure) and a 5a at the highest; and this is/was a nationally used assessment method. GCSE grades do not officially have a similar breakdown, however some schools would send data where a student was a Cc, Cb, Ca as an example and some schools would send data where a student was a C.

As a result, it was not possible to make comparisons across data in its submitted form. Therefore, all data was transferred into point scores so that measures of progress in terms of points could be identified without compromising the data submitted.

### National measures of progress adopted by the ULiS project

At the time of the project, DfE accountability measures set out the terms for *Expected progress* and *More than expected progress* as the expectations for all students, from KS2 to KS4; that is from the assessment data submitted at the end of Year 6 to the external outcomes achieved at the end of Year 11.

This requirement stated that for students to have made *Expected progress* by the end of Year 11, they would need to have made three full levels of progress from the end of KS2 to the end of KS4. As each level is made up of 6 points, this therefore means that expected progress over 5 years is 18 points. As there are three full terms in each year, this equates to 15 terms from KS2 to KS4 ( $18/15 = 1.2$ ; therefore expected progress per term is approximately an average of 1.2 points).

There is however, no exact expectation of progress per term and as is the nature of learning, some students might make 3 points of progress one term, none the next term and 1 the next but schools use the 'average' figure as a guide for tracking.

Similarly, the requirement stated that for students to have made *More than expected progress* by the end of Year 11, they would need to have made four full levels of progress from the end of KS2 to the end of KS4. As each level is made up of 6 points, this therefore means that more than expected progress over 5 years is 24 points. As there are three full terms in each year, this equates to 15 terms from KS2 to KS4 ( $24/15 = 1.6$ ; More than expected progress per term is approximately an average of 1.6 points).

Following revisions to the Ofsted framework for inspection during 2014, schools began to use the term *Accelerated progress* as evidence of 'Outstanding progress'. DfE requirements did not identify this as a measure of progress, however this has been understood by some schools to represent five full levels of progress. Following the same calculation therefore, Accelerated Progress over 5 years is 30 points. Again as there are three full terms in each year, this equates to 15 terms from KS2 to KS4 ( $30/15 = 2$ ; Accelerated Progress per term is approximately an average of 2 points). See the table below:

Point scores for progress used in analysis	
Progress	Per Term
Expected	1.2 pts
More Than	1.6 pts
Accelerated	2 pts



A future consideration for similar projects will be the changing assessment landscape, whereby schools are free to devise their own criteria and there is a high probability that this will lead to difficulty in making generalized comments and calculations. Indeed, in some schools this was already the case with bespoke measures of performance created and reported on, hence the need to convert all data to point scores for the purposes of analysis.

### **Overall pupil progress**

Across the two years of the project, the average points of progress for pupils undertaking the ULiS module (intervention group) were **2.8**, compared to an average of **1.9** points of progress for the pupils in the control group. Therefore, students engaged in the interventions made, on average, 0.9 points of progress more than their peers in the control group.

Across all 15 intervention groups, 65% of students made at least expected progress, with 64% making more than expected progress and 35% of students failed to make expected progress overall. This compares with the control groups in which 53% of students made more than expected progress and 47% of students failed to make expected progress overall.

We are not in a position to conduct significance testing as we did not set a significance level before data collection so do not consider it appropriate to retro-fit this process. Additionally, given the difference between the intervention group and the control group in relation to progress measures (over 10% more intervention pupils making more than expected progress), we do not feel it necessary to undertake statistical significance testing.

More detailed analysis of progress on a year by year, and subject by subject basis can be found below.

### **Y1 pupil progress**

#### **Overall progress aggregated from the 5 modules**

Across all five subjects in Y1, the average points of progress for the control group was 1.96 points. This compares to 1.52 points average points of progress for the intervention group.

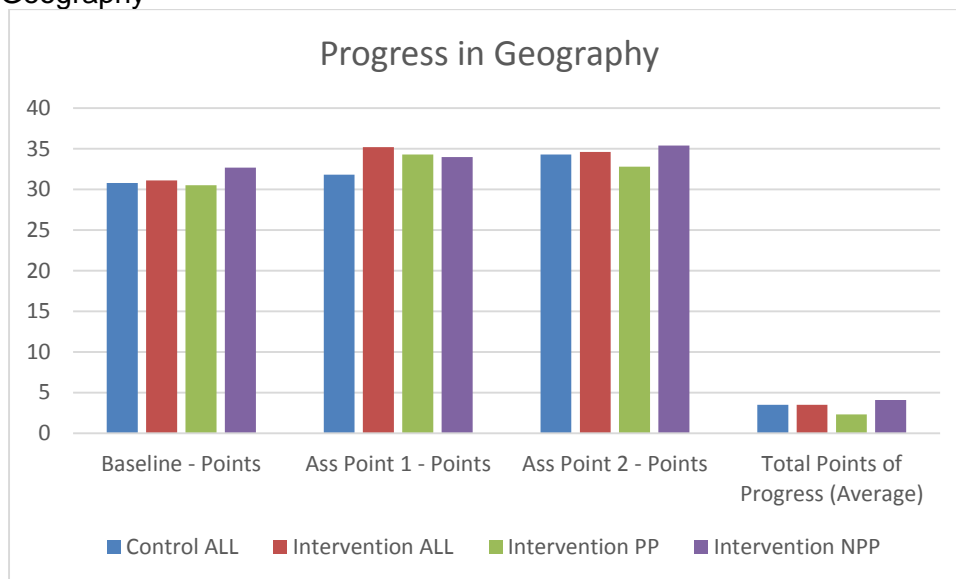
54% of students across all the control groups made more than expected progress, 46% did not meet expected progress. In contrast, for the intervention groups 64% of the students made more than expected progress, 36% did not make expected progress; so 64% made at least expected progress.

#### **Y1 pupil progress per subject**

Subject	More than Expected Progress		Expected Progress		Did not meet Expected Progress	
	Control	Intervention	Control	Intervention	Control	Intervention
Biology	63%	46%	0%	0%	37%	54%
English Language	54%	75%	0%	0%	46%	25%
English Literature	54%	75%	0%	0%	46%	25%
Geography	41%	72%	0%	0%	59%	28%
Physics	62%	39%	0%	0%	38%	61%

## Y1 subject by subject analysis

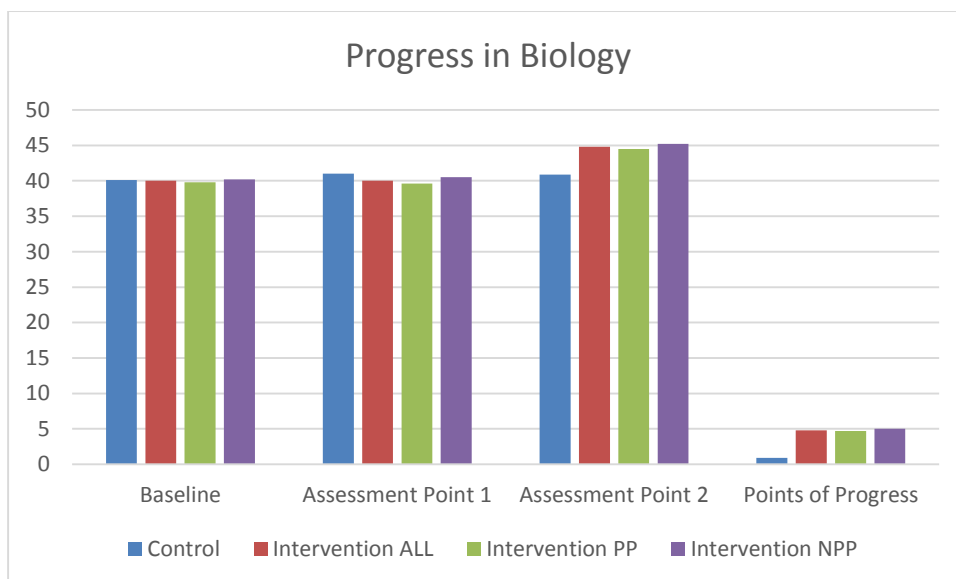
### Geography



Geography	Baseline Level Points	Assessment Point 1 Points	Points of Progress Post-intervention	Assessment Point 2 Points	Total Points of Progress
Control Group	30.8	31.8	1.0	34.3	3.5
Intervention ALL	31.1	35.2	4.1	34.6	3.5
Intervention PP	30.5	34.3	3.8	32.8	2.3
Intervention NPP	32.7	34	1.3	35.4	4.1

Control and intervention groups commenced from similar starting points at baseline. However, the ULiS intervention group, made 4.1 points of progress post-intervention, compared to less than expected progress from the control group. However, this progress was not maintained in Y2 after the unit was taught. This might suggest that the unit itself was a key factor in pupil's progress. PP students in the intervention group made accelerated progress compared to their NPP peers between baseline and point 1.

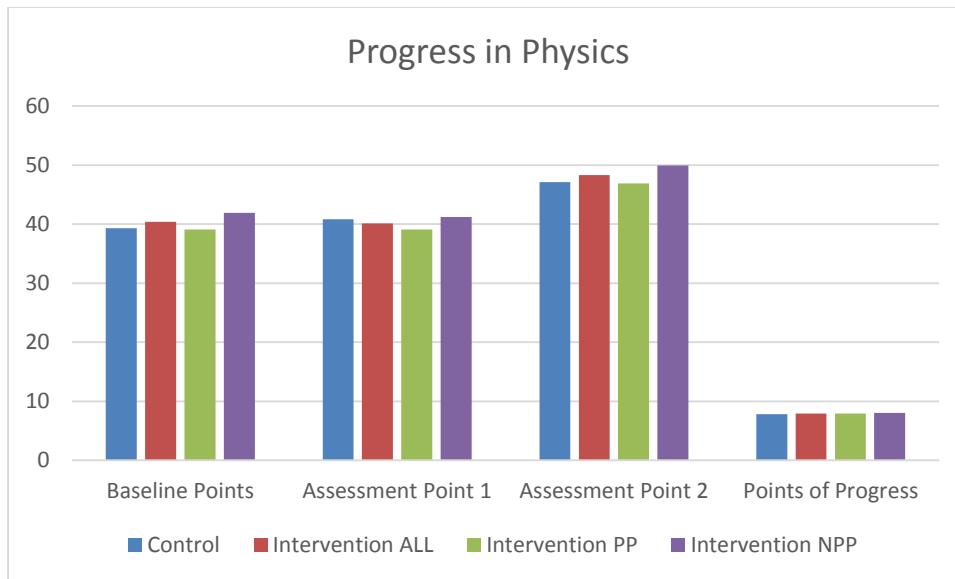
### Biology



Biology	Baseline Level Points	Assessment Point 1	Points of progress Post-intervention	Assessment Point 2	Points of Progress
Control Group	40.1	41	0.9	40.9	0.9
Intervention ALL	40	40	0.0	44.8	4.8
Intervention PP	39.8	39.6	(0.2)	44.5	4.7
Intervention NPP	40.2	40.5	0.3	45.2	5

Control and intervention groups commenced from similar starting points at baseline. However, progress for the intervention group is accelerated when compared to the control group and to current national expectations, suggesting that the intervention had significant impact on progress. PP students are 0.3 points behind their peers but progress remains accelerated when compared to national expectations. Biology is a subject taught in progressively greater depth over the course of KS3 and into KS4. Better progress at assessment point 2 might reflect or build upon subject content/concepts taught during the ULiS intervention.

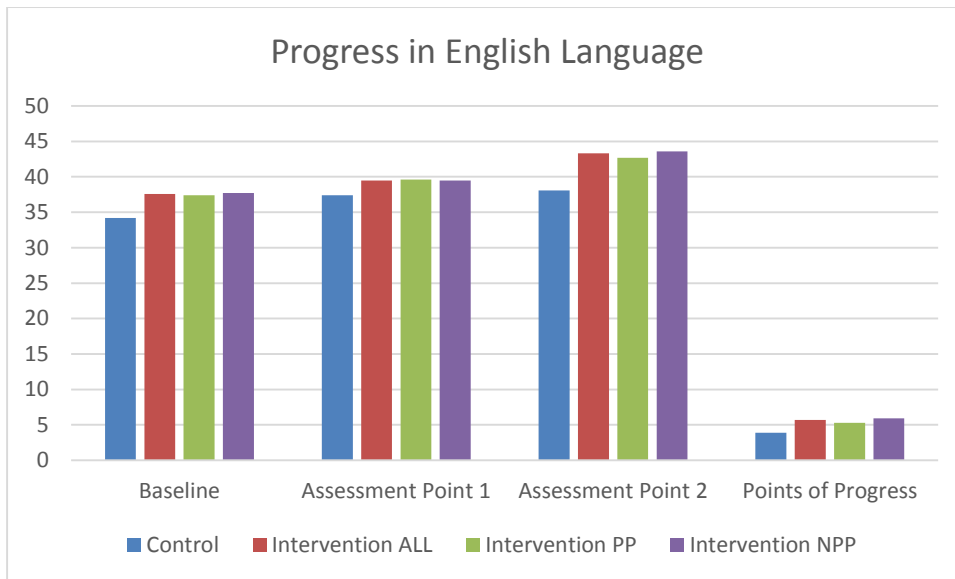
### Physics



Physics	Baseline Level Points	Assessment Point 1 Points	Points of Progress Post-intervention	Assessment Point 2 Points	Points of Progress
Control Group	39.3	40.8	1.5	47.1	7.8
Intervention ALL	40.4	40.1	(0.3)	48.3	7.9
Intervention PP	39.1	39.1	0.0	46.9	7.9
Intervention NPP	41.9	41.2	(0.7)	49.9	8

The ULiS intervention group were slightly ahead of the control group at baseline. However, the control group made significantly more progress at assessment point 1 compared to the intervention group.

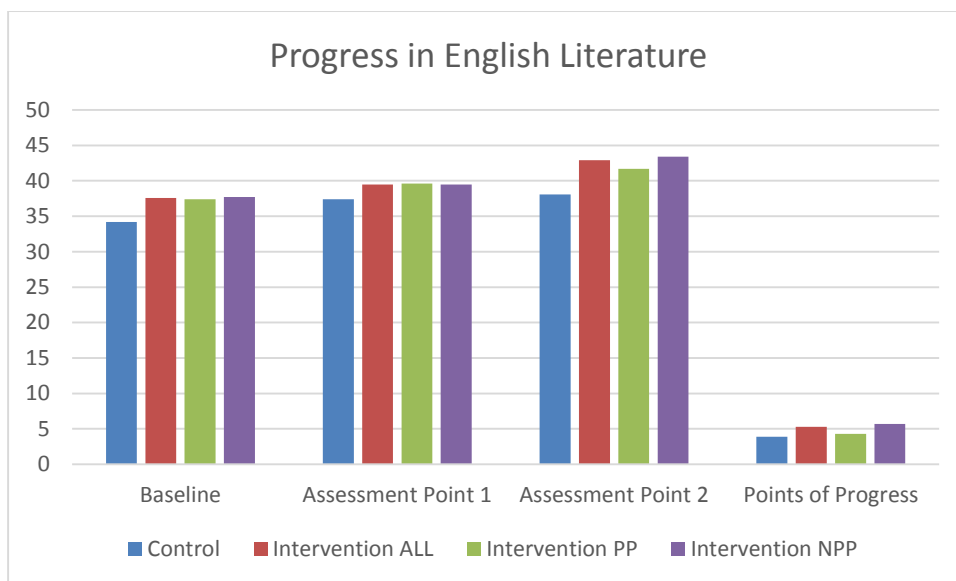
### English Language



English Language	Baseline Level Points	Assessment Point 1	Points of progress Post-intervention	Assessment Point 2	Points of Progress
Control Group	34.2	37.4	3.2	38.1	3.9
Intervention ALL	37.6	39.5	1.9	43.3	5.7
Intervention PP	37.4	39.6	2.2	42.7	5.3
Intervention NPP	37.7	39.5	1.8	43.6	5.9

The intervention group began the ULiS module 3.4 points ahead of the control group and made more than expected progress during the ULiS module. The control group made accelerated progress in the same time, though not sufficient to close the gap with the intervention group at assessment point 1. PP students made accelerated progress compared to their NPP peers who made 0.4 points less progress.

## English Literature



English Literature	Baseline Level Points	Assessment Point 1 Points	Points of progress Post-intervention	Assessment Point 2 Points	Points of Progress
Control Group	34.2	37.4	3.2	38.1	3.9
Intervention ALL	37.6	39.5	1.9	42.9	5.3
Intervention PP	37.4	39.6	2.2	41.7	4.3
Intervention NPP	37.7	39.5	1.6	43.4	5.7

The intervention group began ahead of the control group, and make 1.9 points of progress over the ULiS period. Their control counterparts made accelerated progress over the same time, although were not able to close the overall gap at the end of assessment point 1. PP pupils made accelerated progress compared to NPP pupils in the intervention and closed the attainment gap at assessment point 1.

### Y1 Teacher/pupil perceptions of progress

Of the five Y1 teachers interviewed, two felt that pupil progress had been faster during this unit of work than in a normal unit of work. The remaining three teachers felt that their pupils had made good progress during the unit, but that this was in line with the average progress they would expect in a normal unit.

Despite assessing overall progress within the unit as average, these teachers did pick up on particular forms of progress that were attributable to the content of the unit:

*“On balance it feels like it has encouraged a more exploratory approach, which will be crucial for them in their GCSEs and A Levels, it’s the way to get the higher grades.”*

*“It was making them start to think about issues they wouldn’t normally think about day to day in the classroom.”*

Pupil perceptions of their progress during the unit varied within and between the five focus groups conducted. In one focus group, students were unanimous that they had learnt more during this unit because the content was more engaging and the lessons had been more discursive and interactive. Opinion in the second was split equally between students who felt they had learnt more, because the unit brought together and synthesised a broad range of content, and those who felt they had learnt about the same as they would normally learn. In the third focus group, students voiced a general sense that they had learnt more from the unit than they would in a normal unit, but this was focused fairly narrowly on learning a particular new piece of software. In the remaining two focus groups, opinions were split between pupils who felt they had learnt more, due to the challenging and high-level nature of the unit content, and those who felt that the unit was too stretching, and that as a result they had learnt less than they would in a normal unit.

It is interesting to note, that despite the concerns noted above, and the challenging nature of the modules, PP students made better than expected or accelerated progress and outperformed their NPP peers in three out of the five Y1 modules.

## **Y2 pupil progress**

### **Overall progress aggregated from the 10 modules**

Across all ten subjects in Y2, the average points of progress for the control group was 1.85 points compared to a 3.47 average points of progress for the intervention group.

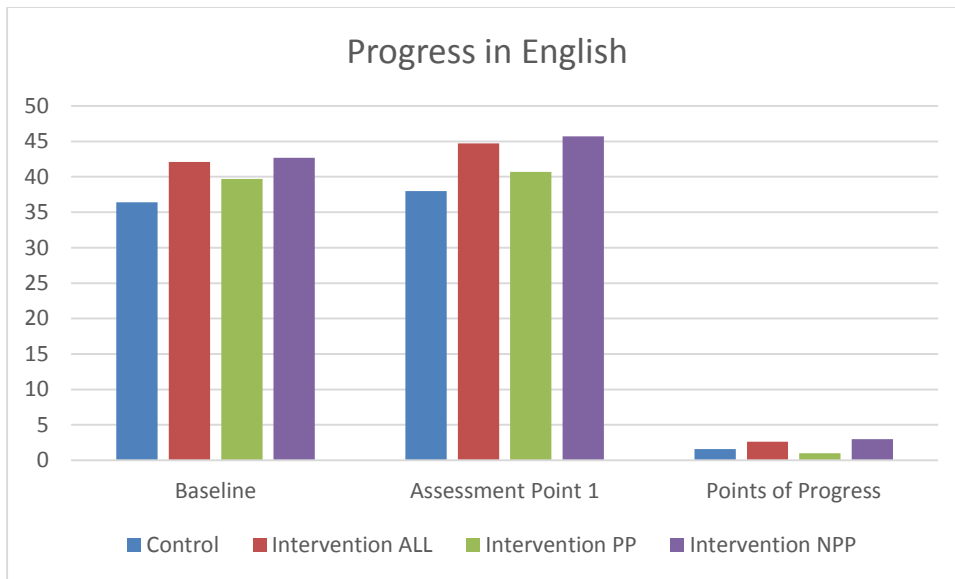
53% of students across all the control groups made more than expected progress and 47% did not meet expected progress. For the intervention groups, 66% of students across all intervention groups made more than expected progress, 2% made expected progress and 32% did not meet expected progress.

### **Y2 pupil progress per subject**

Subject	More than Expected Progress		Expected Progress		Did not meet Expected Progress	
	Control	Intervention	Control	Intervention	Control	Intervention
Business Studies	0%	50%	0%	0%	100%	50%
Chemistry	64%	100%	0%	0%	36%	0%
Biology	58%	79%	0%	5%	42%	16%
English	71%	48%	0%	6%	29%	46%
History	69%	85%	0%	0%	31%	15%
ICT	53%	100%	0%	0%	47%	0%
Maths	73%	73%	0%	0%	27%	27%
Physics	43%	71%	0%	0%	57%	29%
Psychology	0%	71%	0%	0%	100%	29%
RE	71%	43%	0%	0%	29%	57%

### **Y2 subject by subject analysis**

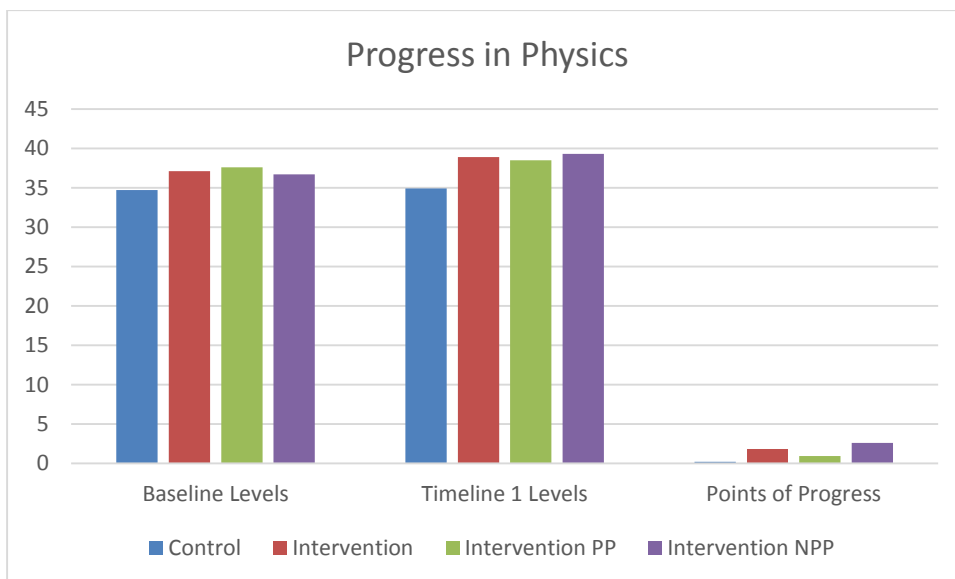
English



English	Baseline Level Points	Assessment Point 1	Points of Progress
Control Group	36.4	38	1.6
Intervention ALL	42.1	44.7	2.6
Intervention PP	39.7	40.7	1
Intervention NPP	42.7	45.7	3

The intervention group overall has made accelerated progress compared to national expectations and compared to the control.

### Physics

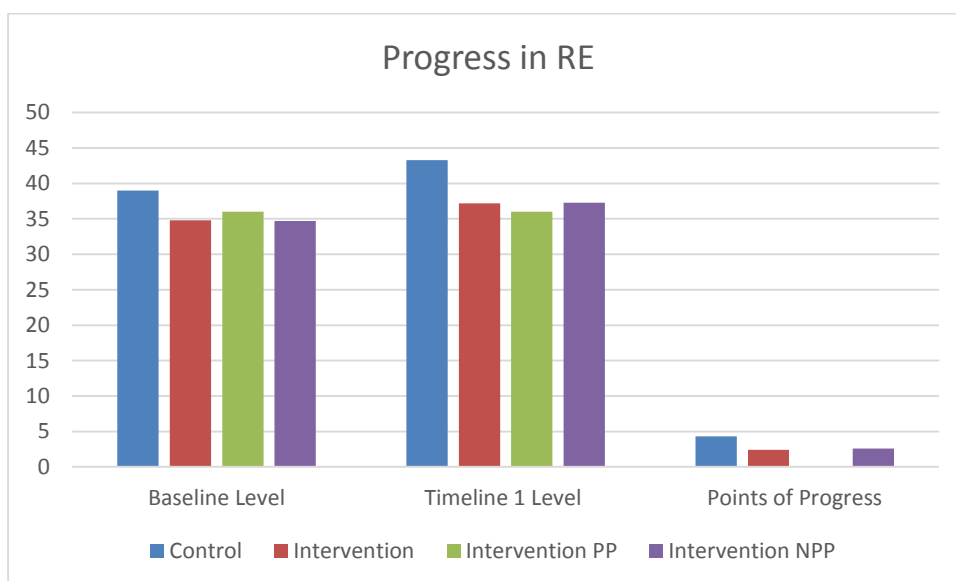




Physics	Baseline Level Points	Assessment Point 1	Points of Progress
Control Group	34.7	34.9	0.2
Intervention ALL	37.1	38.9	1.8
Intervention PP	37.6	38.5	0.9
Intervention NPP	36.7	39.3	2.6

The intervention group made significantly more progress than the control group. Despite starting behind their PP peers, NPP students made almost three times as much progress in this module.

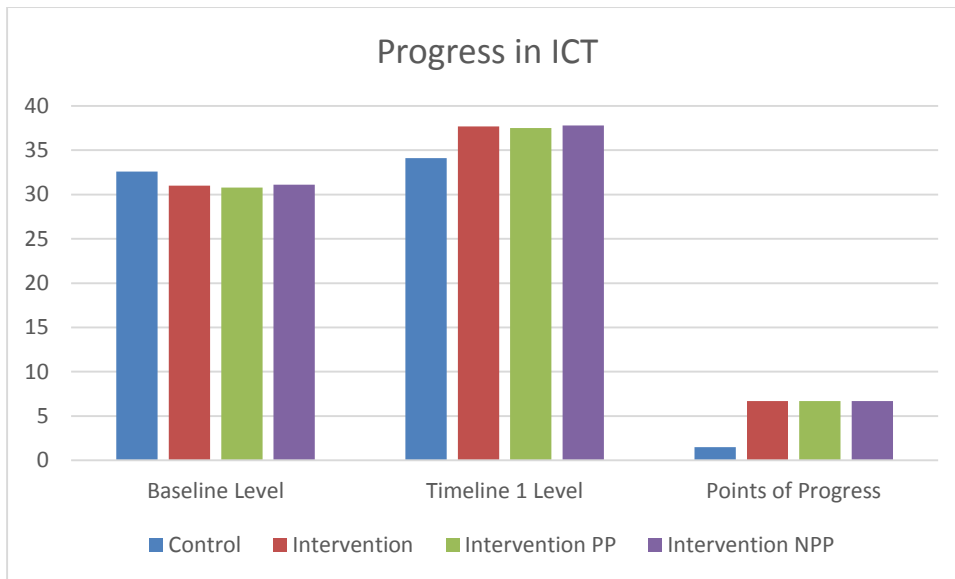
## RE



RE	Baseline Level Points	Assessment Point 1	Points of Progress
Control Group	39	43.3	4.3
Intervention ALL	34.8	37.2	2.4
Intervention PP	36	36	0
Intervention NPP	34.7	37.3	2.6

Both sets of pupils made accelerated progress between baseline and assessment point 1. Alongside mathematics, this is the only intervention group in Y2 where the control has made better progress. It is reported however that the ULiS group had a change of teacher during the intervention which might be a factor in the lower levels of progress. Notably, PP students have made no progress as a result of the intervention. Baseline data highlights PP students with higher point scores than their NPP peers, however post intervention a gap has grown between them in favour of the NPP students.

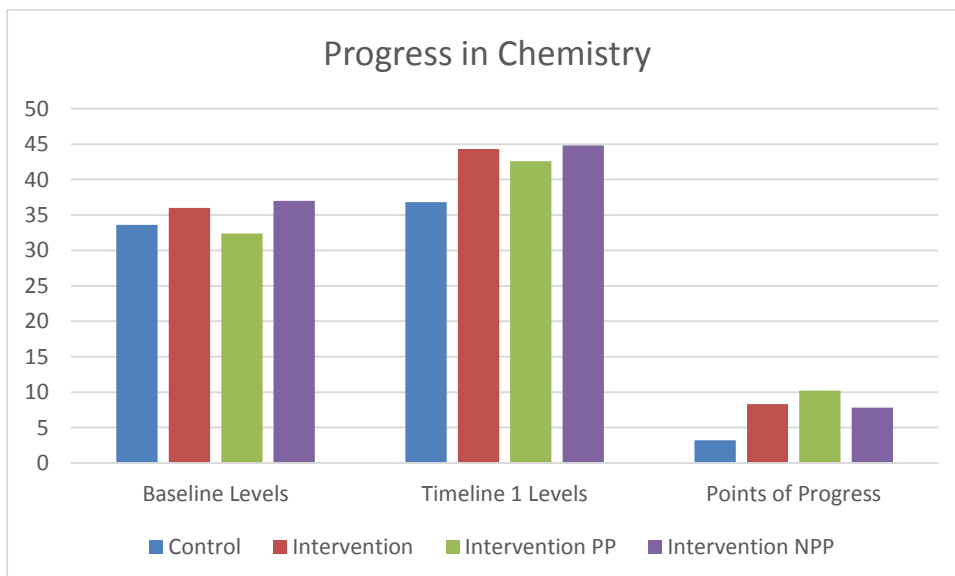
## ICT



ICT	Baseline Level Points	Assessment Point 1	Points of Progress
Control Group	32.6	34.1	1.5
Intervention ALL	31	37.7	6.7
Intervention PP	30.8	37.5	6.7
Intervention NPP	31.1	37.8	6.7

The intervention groups had made significant progress which is considered as accelerated when compared to the control and to national expectations. Notably, PP students make as much progress as their NPP peers. The gap between PP and NPP students has remained the same based on their starting points.

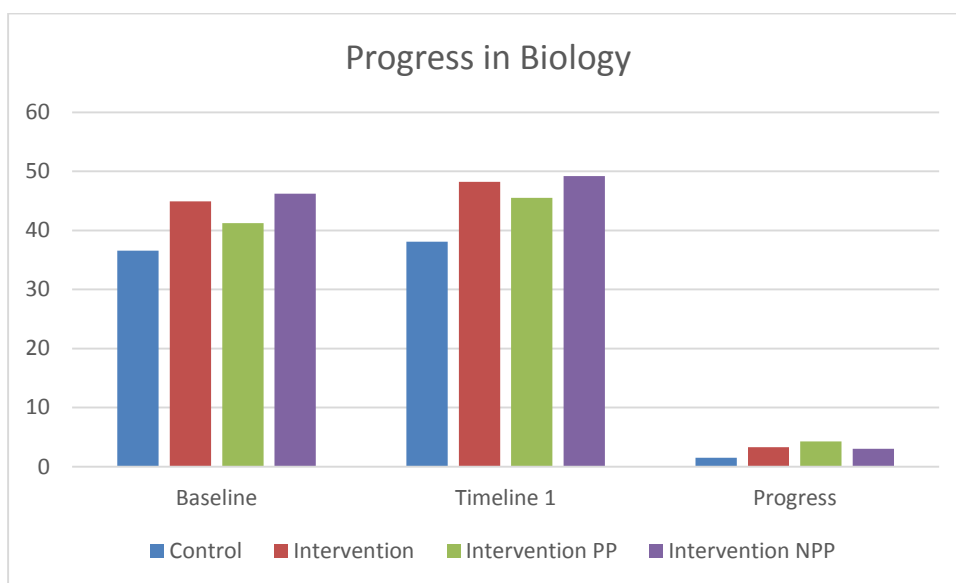
### Chemistry



Chemistry	Baseline Level Points	Assessment Point 1	Points of Progress
Control Group	33.6	36.8	3.2
Intervention ALL	36	44.3	8.3
Intervention PP	32.4	42.6	10.2
Intervention NPP	37	44.8	7.8

The intervention appears to have had significant impact on rates of progress which is accelerated when compared to the control and national expectations. Notably PP students made better progress than their NPP peers who were 2.4 points below. The gap between PP and NPP students has significantly reduced from their starting points.

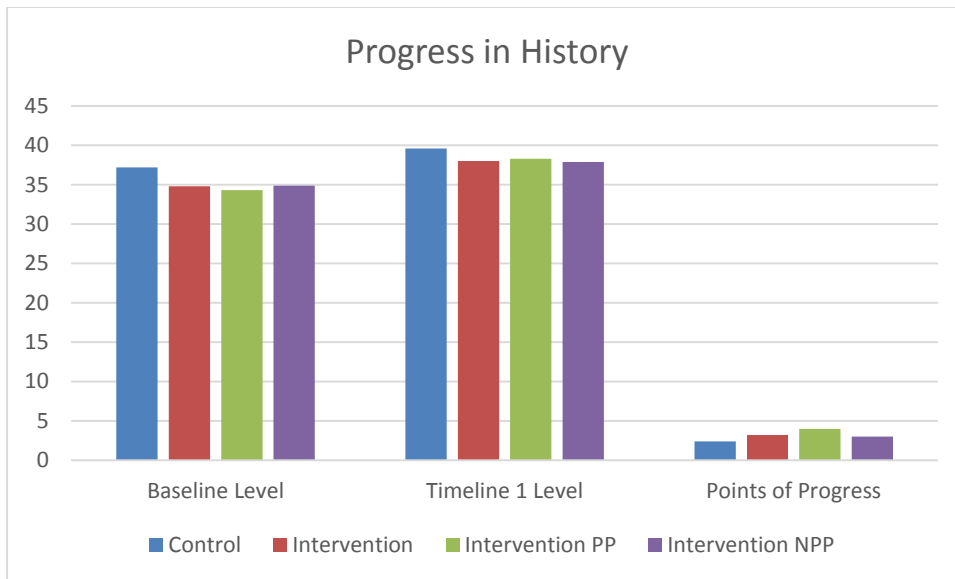
### Biology



Biology	Baseline Level Points	Assessment Point 1	Points of Progress
Control Group	36.6	38.1	1.5
Intervention ALL	44.9	48.2	3.3
Intervention PP	41.25	45.5	4.25
Intervention NPP	46.2	49.2	3

The intervention group has made more than double the amount of progress as the control group. Notably PP students made better progress than their NPP peers who were 1.25 points behind. The gap between PP and NPP students has reduced from their starting points.

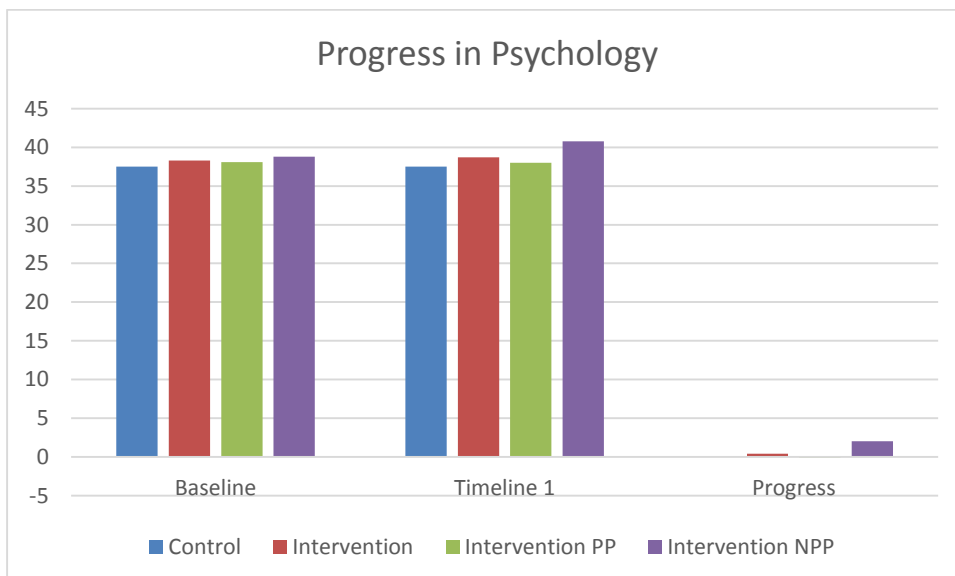
### History



History	Baseline Level Points	Assessment Point 1	Points of Progress
Control Group	37.2	39.6	2.4
Intervention ALL	34.8	38	3.2
Intervention PP	34.3	38.3	4
Intervention NPP	34.9	37.9	3

The intervention group has made accelerated progress - better progress than the control. Notably, PP students made better progress than their NPP peers. The gap between PP and NPP students has been eradicated from their starting points with PP students, making more progress than their NPP peers.

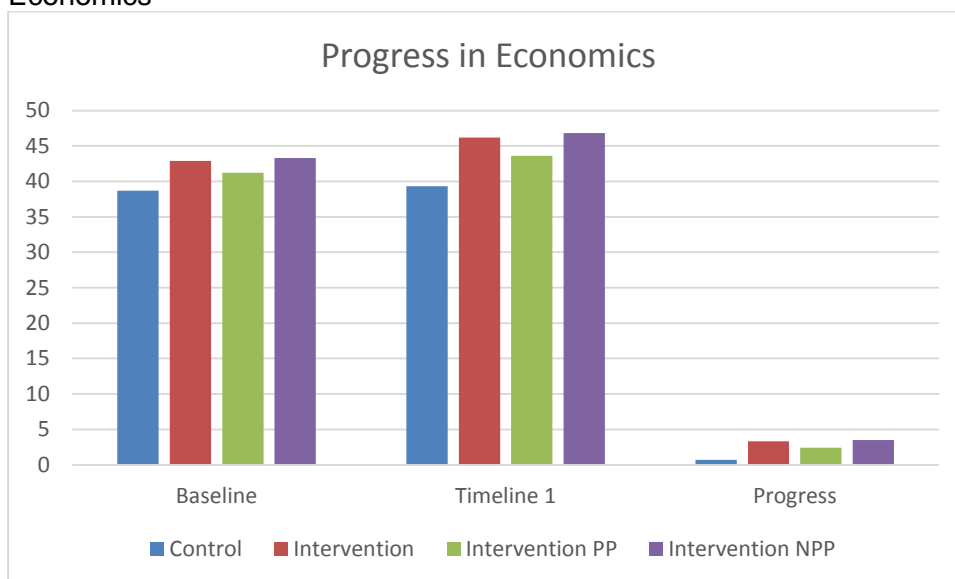
### Psychology



Psychology	Baseline Level Points	Assessment Point 1	Points of Progress
Control Group	37.5	37.5	0
Intervention ALL	38.3	38.7	0.4
Intervention PP	38.1	38	-0.1
Intervention NPP	38.8	40.8	2

This subject stands out as neither the control nor the intervention have made progress in line with expectations. This could be due to the fact that it is a new subject to be studied by all students. Notably, PP students have made no progress at all and although the raw data suggests a regression, 0.1 suggests little or no change in real terms.

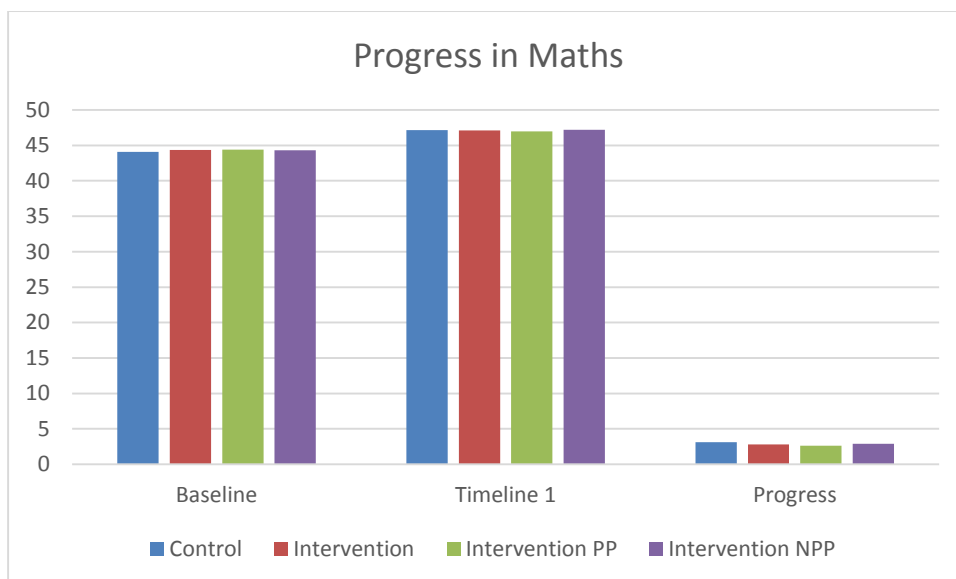
### Economics



Economics Studies	Baseline Level Points	Assessment Point 1	Points of Progress
Control Group	38.7	39.3	0.7
Intervention ALL	42.9	46.2	3.3
Intervention PP	41.2	43.6	2.4
Intervention NPP	43.3	46.8	3.5

The ULiS intervention group has made significant progress compared to the control, achieving accelerated progress. PP students do not make as much progress as their NPP peers and therefore do not close the gap overall. The gap between PP and NPP students has grown from their starting points.

### Maths



Maths	Baseline Level Points	Assessment Point 1	Points of Progress
Control Group	44.1	47.2	3.1
Intervention ALL	44.4	47.1	2.7
Intervention PP	44.4	47	2.6
Intervention NPP	44.3	47.2	2.9

Both sets of pupils made accelerated progress between baseline and assessment point 1. Alongside RE, this is the only intervention group where the control has made better progress. The gap between PP and NPP students has more-or-less remained the same from their starting points.

### Y2 teacher /pupil perception of progress

Of the ten teachers interviewed at the end of the module, five felt their students had made more progress during the ULiS unit of work than in a normal unit and identified four features of the unit as having contributed to this relatively faster progress:

1. Pupils being stretched more by the challenging unit content/more complex ideas
2. Pupils being forced to solve problems/be resilient when they don't initially know the answer
3. Pupils having to think more critically and be more analytical
4. Pupils being more engaged with the unit content because it was more current and more relevant

Four of these five teachers felt this additional progress was clearly linked to the unit; the fifth teacher felt that the additional progress their pupils had made was due in part to the programme, and in part to their teaching. The remaining five teachers we spoke to felt that students had made good progress during the course of the unit, but that this was no different from the progress they would expect to see during a normal unit of work.

In four of the pupil focus groups, there was a consensus or majority opinion that the pupils had made more progress than usual during the ULiS unit of work. All four of these focus groups corresponded with teachers who had expressed the same sentiment about their pupils during the interviews. The pupils in these focus groups identified three main reasons why they had made more progress during the ULiS unit of work:

- The unit had provided students with ‘threshold concepts’
- The unit had been more discursive and engaging
- The unit had moved at pace and been more challenging

Some students felt they owed their more rapid progress during the ULiS unit to the pace of the work and its difficulty. Despite this consideration, PP students made better than expected/accelerated progress in six of the Y2 modules and made more progress than their NPP counterparts in three subjects.

### 8.3 Wider System Outcomes

**Table 13 – Wider System Outcomes**

Target Outcome	Research method/ data collection	Sample characteristics	Metric	1 <sup>st</sup> Return and date of collection	2 <sup>nd</sup> Return and date of collection
<i>Use of new resources by teachers/schools outside the intervention group</i>	<i>See below for description of activity and outcomes</i>				

#### 8.3.1

Our project’s evaluation framework did not include a mechanism for measuring quantitative or quantitative culture change so we have not gathered formal evidence re the impact ULiS has had on wider culture change in schools where the project was delivered.

However, two Y1 teachers referred to the fact that there was now a high quality unit of work in place which they intended to use in future. The Y1 Geography module is now being taught by five teachers across all Y8 Geography classes, reaching 180 pupils within the school in the last academic year:

*“I’ve had two other members of staff, three other members of staff delivering the same content and they’ve really enjoyed it so in terms of other practitioners delivering it they’ve really enjoyed handling and dealing with the new topic and the discussions platform that’s brought up... it’s been really nice for the department to be delivering this course.”*

Another participating school indicated that two modules would be embedded in the programme of study for KS3 pupils moving forwards. The Y1 Biology teacher reported *“I have taught elements of the module, but not the unit as a whole. I have taken lessons and activities from it and incorporated them into my existing units.”* reaching approx 140 pupils in the last academic year.

Other teachers indicated that they would take successful elements from the ULiS unit and apply them to teaching more broadly:

*“On balance it feels like it has encouraged a more exploratory approach, which will be crucial for them in their GCSEs and A Levels, it’s the way to get the higher grades.”*

*“I am convinced enough by the success of it that it’s something that I would like to – I would take elements of this and continue it with other classes.”*

A Y2 teacher has presented their work to Governors and is writing about it as part of their accreditation as a Lead Practitioner at SSAT. A unit of work based on the Y2 history module has been taught to 50 pupils at a Brilliant Club-affiliated via the PhD researcher. Finally, the psychology researcher is evaluating the programme's effect on pupils' interest in studying psychology for publication in a psychology teaching journal. Interest in psychology, the programme and approaches to learning were evaluated before and after the sessions.

An outline of our dissemination strategy to ensure that non-intervention schools have access to the resources can be found in section 2 and section 11.3 of this report. We will be putting the resources (via USB) into the hands of over **500 teachers** via events and cascading to partner networks. Of note within this strategy is a three-wave targeted email marketing campaign to raise awareness of the resources on our microsite amongst approx **4,750 KS3 teachers in London** (subject heads and KS3 coordinators). This campaign has already had success – the email Open Rate is 24% (7% above the industry average) and the Click-to-Open Rate is 24% (5 x the industry average). Over **500 London teachers** have clicked the ULiS microsite whether the online modules are housed. We are in the process of following up with all the teachers who accessed the microsite.

## 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?

The nature of the intervention would suggest that working with PhD students to prepare a module and teach it afterwards would have a positive impact on teacher subject knowledge and confidence. It was expected that this impact would be evident in teachers during teaching, with the greatest impact after teaching. This was largely borne out with Y2 teachers, which had the biggest and most sustained increase in confidence.

Y1 teachers started with a higher level of confidence than stage 1 year 2 teachers, but confidence levels were generally not increased by the activity. It should be noted however, that this was a small group of 4 teachers; numbers are too small to be statistically significant.

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

There was the expectation that teacher CPD activity would have an impact on pupil performance after the intervention. This was largely borne out by the data.



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

We would expect wider school outcomes to impact after the point of the intervention and have some anecdotal evidence on the positive impact of the modules in the terms after the intervention was taught.

## 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

The ULiS project 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. Key aims of the project were to:

- Focus teaching on subject knowledge (and boost teacher subject knowledge) through the pairing of teachers and researchers
- Create new resources for teachers, to raise achievement in priority subjects in primary and secondary schools (English, mathematics, biology, chemistry, computer science, physics, history, geography, languages).

### Key findings:

- 1 Teachers involved in the project reported an improvement in relation to subject knowledge (evidenced via the quantitative survey). Many teachers also reported an improvement in confidence in areas related to pedagogy and practice. Qualitative analysis suggests that some teachers felt that they did not increase their subject knowledge (which is at odds with the quantitative data), but reported learning new terminology and techniques, and felt they had benefited from being moved outside their comfort zone by teaching different material or using different sources.
2. Teachers involved with the programme felt that it helped them to identify and deal with pupil misconceptions related to subject knowledge.
3. The project created high quality resources that contained a number of positive elements:
  - They helped break down core concepts for pupils
  - They took learning beyond the classroom
  - They impacted positively on pupils' engagement with and enjoyment of the unit.
4. A number of the teachers involved felt that their participation in the ULiS programme had developed their understanding of developments and scholarship in their subject. In some cases, the unit appeared to have added breadth to teachers' understanding,

exposing them to new topics or sources; in other cases, the unit appeared to have added depth to their existing knowledge.

5. Across the two years of the programme, the teachers stated that their pupils had enjoyed and engaged positively with the ULiS unit. Five factors can be drawn out as having contributed to pupils' engagement with the unit:
  - Room to discuss and develop ideas
  - Unit had real-life practical relevance
  - Content of the unit was more stretching/challenging
  - Unit was more interactive and collaborative
  - Special nature of the unit
6. Pupils undertaking the module made more than expected/accelerated progress in 12 out of 15 modules. Some of the key factors in improved outcomes were cited by pupils and teachers as being:
  - Pupils being stretched more by the challenging unit content/more complex ideas
  - Pupils being forced to solve problems/be resilient when they don't initially know the answer
  - Pupils having to think more critically and be more analytical
  - Pupils being more engaged with the unit content because it was more current and more relevant
  - The unit had provided students with 'threshold concepts'
  - The unit had been more discursive and engaging
  - The unit had moved at pace and been more challenging
7. Pupils undertaking the module performed better than the comparison group in eight modules.
8. Despite the lean towards stretch and challenge/gifted and talented pupils that this project might have engendered with its PhD researcher involvement, pupils in receipt of PP funding achieved better than expected/accelerated progress in nine modules and outperformed their NPP peers in six modules. This is despite concerns from some teachers involved that some units might have proved inaccessible to some students. This finding will certainly feed into the LSEF meta-evaluation on secondary stretch which is considering *the impact of stretching the high achiever on raising attainment across the whole cohort*.

## **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	90%	£288,900
Teacher CPD (face to face/online etc.)	10%	£32,100
Events/Networks for Teachers		
Teacher 1:1 support		
Events/Networks for Pupils		
Others as Required – Please detail in full		
TOTAL	100%	£ (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?

### 10.2 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.

The project has been costly in terms of time. The funding has been apportioned to cover the cost of teacher/researcher time (training, module development, dissemination). The project has also incurred significant project management time. This can be broken down into key activities:

- engaging schools
- matching teacher/researcher pairs
- preparation and delivery of training
- liaison during module development and testing
- being the point of interface with the evaluators and facilitating communication with the teacher/researcher pairs
- managing the QA process and liaison with the teacher/researcher pairs
- overseeing qualitative evaluation
- managing dissemination activity (including events, cascading of resources to networks, marketing and PR and connecting with other LSEF projects)
- project and budget monitoring and reporting to the funder

It has not been possible to infer further insight from other programmes or to comment on the relative value for money that this project has delivered compared to other initiatives.

### 10.3 Value for money calculations

In order to demonstrate this calculation, we are working on a project cost base of £296,000 (project cost minus evaluation costs and costs associated with the collection and analysis of the comparison data).

The units that have been analysed are:

Unit description	Unit number
Improved teacher confidence (based on teachers creating modules)	15

Improved pupil outcomes (based on pupils in the baseline sample)	395
Wider system outcomes (based on the schools that the modules have been distributed to 500 teachers direct and that 500 teachers have accessed the microsite)	1000

The unit costs are detailed below:

Unit description	Unit Cost
Improved teacher confidence (based on teachers creating modules)	£19,733
Improved pupil outcomes (based on pupils in the baseline sample)	£750
Wider system outcomes (based on the schools that the modules have been distributed to 500 teachers direct and that 500 teachers have accessed the microsite)	£296

## 11. Reflection on project delivery

### 11.1 Enablers and Barriers to achievement

#### Enablers

Drawing together teachers' insights from the two years of the project, the following key enabling factors appear to support the more positive experiences of the programme:

- Teachers having ownership over the topic chosen for the unit
- Teachers approaching the unit as an opportunity to trial new methods and content in their teaching
- Teachers having additional time to plan the unit of work,
- The collaborative environment in which that planning took place

*“The time to put together a scheme of work and to have some time to review it; so just the time to be able to make a really involved job of it.”*

*“You never spend two hours developing a fifteen-minute lesson ever and having that time set aside... to spend planning these lessons out, made a huge difference in terms of the quality of the lessons and the content in them.”*

*“I think we took a lot of time to make resources aimed at that year group and that ability group, which enabled them to achieve what we wanted to in the project. We made a student booklet, the PowerPoints that went with the lesson were very structured, the activities were very clearly thought out and I think that is what enabled the lessons to run smoothly and therefore the students to access the learning objectives and make progress.”*

Picking up on this theme of collaboration, the majority of teachers (11 out of 15) reported that without caveats, working with their researcher partner had been positive. Three broad benefits were identified:

#### 1. Provided an external perspective and novel ideas

The most commonly mentioned positive element of working with a PhD researcher was the fresh, external perspective and novel ideas it provided. One teacher explained how the partnership had exposed them to a much greater range of material to include in their lessons: *“Having specialist knowledge does help you in terms of getting to content which you might otherwise not know about... I think having that additional subject knowledge does help*

*you to plan a better scheme of work. Just because you've got... a greater range of things to draw upon to put your lessons together, to put your homework together."*

## 2 Provided additional capacity

One teacher noted that they had benefited from having 'an additional pair of hands' to look for content and resources: *"Having a person I can just say 'Oh I need something like this – where can I find, do you have a couple of links or do you have a good site where I can look or some ideas on how I can do that?' has been just instead of me going through the internet for a long time she would just straightaway point me into the right direction."*

## 3. Provided an opportunity to work with a subject specialist

One teacher, who held a degree in a science subject that is rarely taught at GCSE, enjoyed the opportunity to work with a fellow specialist: *"What I enjoyed the most was actually collaborating with someone who knows my subject. As a psychology teacher you don't really have psychologists around you... I can talk to any teacher about pedagogy and lesson types and lessons and all that so that's great, that's fine, I can do that with an array of people, but talking to somebody about psychology is something that I don't get to do as much and that's something that I really enjoy doing with her. That was good."*

Another teacher reported: *"A lot of the planning that we do, particularly in our school, it's a new school, there aren't many members of staff, it's very isolated, there's not opportunity to bounce ideas off people and just have another pair of eyes on it. So the time and having another person were the main things, but that person being a subject specialist was the third area. It was the best thing about the project, I think."*

The two Y2 teachers who were less positive about their experiences of working with a PhD researcher, reported the following: one teacher felt their researcher's PhD topic was somewhat obscure, and that it was difficult to link this to the broader subject content their pupils had studied. The other teacher felt their collaborative relationship had been a little unbalanced, and that they had had less say over the direction of the unit than they would have liked.

## Barriers

Meanwhile, the following barriers were reported by teachers:

1. Time pressures in creating and completing the modules - teachers felt they would have benefited from commencing the programme earlier, to allow the unit to run, and be developed, over a longer period of time or conducting the programme away from exam season, when teachers are facing other pressing priorities
2. Preparing the unit during busy term-times amidst competing priorities
3. Limited time to work face-to-face in teacher/researcher pairs
4. Unclear expectations of workload at the start of the programme, on the part of both teachers and schools.

The 'barrier' of time pressure (1 and 2) is an interesting observation, given that the additional time the programme afforded/encouraged teachers to spend on the design of the unit was a commonly cited positive feature of the programme. It seems that whilst the teachers enjoyed the extra time they spend planning the unit, this placed (perhaps inevitably) additional strain on their resources. Having reflected on the learnings from Y1 we began the module work earlier in Y2 and also extended the design and QA timescales as this was identified as a 'squeeze' point in the project. Whilst the pairs were afforded longer time in Y2 to create and

finalise their modules, the teachers inevitably came up against competing priorities and pressures.

We did not administer a timetable for teachers and researchers to meet after the initial pairing/training day (3), instead leaving the pairs to agree and organise their contact time. Based on our experience of the difficulty in co-ordinating teacher and researcher diaries for webinar training/delivery and twilight sessions, it would have proved too complicated to be the third person in setting up face-to-face contact time.

This issue of unclear expectations (4) was more widespread in Y1, with two of the five pairs citing this as a difficulty: *“I don’t feel I had a very good understanding of what the project was before I jumped into it and it was sort of one of those, ‘Do you want to do this work with somebody?’ and then it was like, ‘Yes sure that’s great’ but I’m not sure that myself or my colleague at school, I’m not sure either one of us fully understood the scope of the project before we jumped into it.”*

In Y2 we were better able to explain the programme and demonstrate exemplar modules to potential participants and their schools so that they were better placed to understand the scope and scale of the project. Despite these processes being in place two Y2 teachers were surprised how labour intensive the module was and felt the commitment had not been adequately reflected in the project documentation.

## 11.2 Management and delivery processes

Teachers identified the following strengths of the support and organisation of the programme:

- A flexible approach to deadlines which appreciated teachers’ competing commitments
- Quick responses to email enquiries
- Deadlines were clearly established at the outset, with regular reminders sent

Teachers valued that deadlines were managed flexibly – demonstrating understanding for the teachers’ situation: *“I feel like that the people who we’re in contact with care about this project and want it to succeed, but they’re also very flexible as to when we’ve said actually that won’t quite work for us.”*

Difficulties encountered included:

- It was difficult to find time to work on the project
- Data collection for the programme evaluation was onerous
- Deadlines fell before school holidays, meaning these holidays could not be used to plan the unit.

Our learnings from Y1 resulted in a more defined process for the briefing and supporting of the researcher/teacher pairs during the creation of their academic modules, plus ‘templates’ for the design of the resources, thus helping to mitigate some of the ‘squeeze’ that we experienced during the QA process in Y1. In Y2, we allowed more space and time for this critically important aspect of the project. However, this then put pressure on the dissemination phase of the project, as the materials were only completed towards the end of the summer term.

Some teachers were critical of the data collection process for the other elements of the evaluation. In Y2, a clearer process for collecting data was put in place with clear timescales,

requirements and liaison with school data managers to take the pressure off the teachers in the project. Despite this, some teachers reported felt that the process was still onerous.

### **Dissemination**

One of the challenges that we faced was securing recruitment to the Enhancement Event in Y1, despite a timely and widespread marketing and social media campaign to our existing networks and those of our partners. In our analysis of the difficulty, we have concluded that there were a number of issues in play, including the time of the event within the calendar of the school term (we have anecdotal feedback that many schools were running trips or sports days or INSET days, meaning that teachers securing approval to attend a day's CPD off-site was a challenge). We also wonder whether there were other 'competing' CPD events on the same day. Instead of focusing on a one-off event in Y2, we put in place a number of ULiS knowledge-mobilisation workstreams to increase the reach and impact of the project. This is described in more detail in the section below.

### **11.3 Future Sustainability and Forward Planning**

Whilst we have no current plans to continue with the module-creating element of the project beyond this funding period, we will ensure that the 15 modules already created and supporting resources (i.e. teacher / researcher presentations and webinars) will continue to be available via our public websites and to Achievement for All's network of schools post December 2015. We are also investigating how we might incorporate the modules within the Teaching and Learning section into our online community of learning, The Bubble ([www.bubble.afaeducation.org](http://www.bubble.afaeducation.org)). This would allow us to create a self-guided module on curriculum enrichment using the ULiS content which would be available to all Achievement for All schools.

In developing a knowledge-mobilisation strategy, we have established lines of communication with the London Leadership Strategy and the LondonEd website and have created a 'Spread the Word' toolkit to help disseminate key messages about the project.

Over the period of our contract extension (until end December 2015), we will be focusing on disseminating both the learning from the project as well as the ULiS resources themselves. We have created a dedicated ULiS microsite accessible via our main website:

<http://tinyurl.com/ULiSKs3> and are cascading the modules via our network of schools (approx. 40 schools in London), Challenge Partners (120 schools) and London Leadership Strategy (60 schools) and via the Brilliant Club's secondary network (circa 200). In addition to uploading resources onto TES and Guardian Teacher Network, we will continue to work with subject associations and where possible, collaborate with other subject-based GLA-funded projects, for example: Imperial College; Queen Mary University of London; Royal Society of Chemistry; Saint Olaves; Association of Science Educators; STEM NET; National STEM Centre; Inspire Education; National Association of Teachers of English; Geographical Association; Association of Teachers of Mathematics; The Mathematical Association; The Historical Association; Naace (ICT); National Association of Teachers of Religious Education; Association for Citizenship Teaching; The English Association and Association for the Teaching of Psychology.

Alongside this activity, we will be looking to grow our reach to encompass London LA school improvement/teacher CPD services and London LA secondary subject networks and signpost the modules to these organisations. We have undertaken a programme of targeted marketing to raise awareness of the resources on our microsite amongst approx 4,750 KS3 teachers in London (subject heads and KS3 coordinators).

## 12. Final Report Conclusion

### Project impact

- The project enhanced teacher subject knowledge, both looking at the teachers directly involved in the project, and those who attended the Y1 dissemination event.
- Teachers involved with the programme felt that it helped them to identify and deal with pupil misconceptions related to subject knowledge.
- The project created high quality resources that contained a number of positive elements.
- A number of the teachers involved felt that their participation had developed their understanding of developments and scholarship in their subject.
- The project saw pupils in the ULiS cohorts make more than expected/accelerated progress in 12 out of 15 modules. Pupils in the ULiS groups performed better than the comparison group in eight modules.
- Pupils in receipt of PP funding achieved better than expected/accelerated progress in nine modules and outperformed their NPP peers in six modules.
- The project – in some settings – is helping to create a ‘culture shift’ around subject knowledge/use of modules focusing on subject knowledge.

### Lessons learnt

Key enabling factors of the project include:

- Teachers having ownership over the topic chosen for the unit
- Teachers approaching the unit as an opportunity to trial new methods and content in their teaching
- Teachers having additional time to plan the unit of work,
- The collaborative environment in which that planning took place

Meanwhile, the following barriers were reported by teachers:

- Time pressures in creating and completing the modules
- Preparing the unit during busy term-times amidst competing priorities
- Limited time to work face-to-face in teacher/researcher pairs
- Unclear expectations of workload at the start of the programme
- Onerous data collection

### Informing future delivery

The burden on teachers, to create, teach, edit and then contribute to the dissemination of a unit of work within one academic year is significant, especially when the burden of data collection was added into the mix. Despite significantly better organisation in Y2, the squeeze on teacher time was apparent.

If this model would be used again, it would be recommended to engage, match and train the pairs for one academic year in the summer term of the year proceeding, so that development of the module could be undertaken from the outset of the new academic year.





## Appendix 1

### Qualitative Evaluation – data collection, evaluation methods and confidentiality

The qualitative evaluation of ULiS was undertaken by LKMCo, an education and youth 'think and action-tank' ([www.lkmco.org](http://www.lkmco.org)).

#### - 1 Methods

The qualitative evaluation focused on five elements, using three research instruments – teacher interviews, lesson observations, and pupil focus groups – to gather data relating to the impact of the ULiS programme on each of these elements. The research instruments and elements map onto each other as follows:

Elements	Research instruments
Subject knowledge	Teacher interviews
Teaching quality	Lesson observations Teacher interviews
Resource quality	Teacher interviews Pupil focus groups
Pupil progress	Pupil focus groups Teacher interviews
Process/delivery	Teacher interviews

#### - 1.1 *Teacher interviews*

In Y1 LKMCo conducted five semi-structured interviews with individual teachers, based on a schedule of ten questions including items relating to teachers' subject knowledge, teaching quality, the resources they developed as part of the programme, pupil progress, and the effectiveness and organisation of the ULiS programme (see section A at the back of this document). Interviews were conducted in an office at Oasis Academy South Bank in June 2014, lasted on average between 15 and 20 minutes, and were recorded and transcribed. Informed, written consent was gained before the start of the interview. All five interviews were conducted by the same researcher. One of the interviews was conducted over the phone due to the teacher's limited availability.

In Y2 LKMCo conducted ten semi-structured interviews with individual teachers, based on a schedule of ten questions including items relating to teachers' subject knowledge, teaching quality, the resources they developed as part of the programme, pupil progress, and the effectiveness and organisation of the ULiS programme (see section A). Interviews were conducted at teachers' schools during April and May 2015 and lasted on average between 15 and 20 minutes. Interviews were recorded and transcribed, with informed, written consent to do so gained from teachers before the start of the interview. The interviews were conducted by three different researchers from LKMco, with one researcher taking responsibility for moderating/standardising the observation notes.

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## **1.2 Lesson observations**

In Y1 LKMCo observed a lesson conducted as part of the ULiS unit of work by each of the five teachers they interviewed, during the summer term 2014. Lesson observations were split between two researchers (one researcher conducted one lesson observation; the other researcher conducted four) and all five observations used a uniform observation rubric based on the *subject and curriculum knowledge* component of the Teaching Standards (see section B). The rubric directed observations towards four key elements of the teachers' lessons:

1. Having a secure knowledge of the relevant subject(s) and curriculum areas
2. Fostering and maintaining pupils' interest in the subject
3. Addressing misunderstandings
4. Demonstrating a critical understanding of developments in the subject and the value of scholarship

The lesson observations aimed to describe, rather than judge, what was taking place in the classroom, and included detailed notes as well as recording the frequency with which each of the four elements was in evidence.

In Y2 LKMCo conducted two sets of lesson observations for each of the ten teachers interviewed. The first set of observations (baseline observations) was conducted during December 2014, in non-ULiS lessons. The second set of observations (endpoint observations) were conducted during March 2015, in ULiS lessons. Again, all observations used a common observation rubric based on the *subject and curriculum knowledge* component of the Teachers' Standards.

## **1.3 Pupil focus groups**

In Y1 LKMCo conducted five focus groups with a sample of five pupils from each of the classes who had undertaken the ULiS unit of work. Focus groups were conducted during the summer term 2014, after the completion of the ULiS unit, and were held in each respective teacher's classroom. Focus groups lasted an average of 20 minutes, and were based on 12 questions grouped under four themes (see section C):

1. Similarities and differences to other units
2. Pupil progress
3. Addressing misunderstandings
4. Foster and maintain interest/developments and scholarship

In Y2 pupil focus groups were conducted along the same lines with each of the ten classes who had undertaken a ULiS unit of work. Focus groups were conducted during April and May 2015, after the completion of the ULiS unit.

Focus groups were recorded but not transcribed, and informed, written consent was gained from each pupil before commencing. The focus groups were jointly facilitated by two LKMco researchers, who took notes during the focus groups to capture prominent themes.

In total, the focus group work engaged approx. 75 pupils.

#### - **1.4 Data analysis**

Transcripts from the teacher interviews, recordings and notes from the focus groups, and completed lesson observation forms were imported into NVivo and coded in relation to the five-part framework outlined above (including sub-codes for each of the four components of teaching quality). This allowed data relating to each element, generated by all three research instruments, to be considered in parallel, on a class-by-class basis.

The analysis that formed LKMCo's evaluation considered each of the five elements in turn, synthesising the findings produced by the three research instruments in relation to each element. Where research instruments gathered data on a common element (for instance, data on pupil progress gathered during both the teacher interviews and the pupil focus groups) the analysis endeavoured to use data from one source to corroborate, question, and illuminate the data gathered from the other.

#### **1.5 Data handling, confidentiality and storage**

All participants gave informed, written consent before their interviews and focus groups, which included an opportunity to ask further questions about their participation, and to withdraw at any time. Consent forms included information about the project, confidentiality, data processing and storage. Confidentiality was maintained by storing interview and focus group transcripts on an encrypted drive. However, participants were informed that anonymity could not be guaranteed due to the presence of subject-specific content in their quotes.

## Section A - Teacher interview script

1. Check that teacher has read the consent form, understand the purpose of the research, etc.

### Knowledge and pedagogical skill

2. Can you give me an example of how (if at all) you have increased your subject knowledge over the last term? Do you think your participation in the project has played a role in this?

*Probe: How typical is this? Has this happened a lot?*

3. Can you give me an example of how (if at all) you have developed your understanding of scholarship and developments within your subject? Do you think your involvement in the programme has played any role in this?

*Probe: How typical is this? Has this happened a lot?*

4. Can you give me an example of how (if at all) you have encouraged pupils to be interested in the subject?

- How did you know? Do you think your involvement in the programme played any role in this?

*Probe: How typical is this? Has this happened a lot?*

5. Can you give me an example of how (if at all) you have addressed pupil misconceptions? Do you think your involvement in the programme has played any role in this?

*Probe: How typical is this? Has this happened a lot?*

### Pupil progress

6. How has pupil progress over the course of this unit compared to other units you have taught them? How do you know?

- Why do you think this is the case? Do you think your involvement in the programme has played any role in this?

*Probe: How typical is this? Has this happened a lot?*

7. How have the resources you have developed contributed to pupil progress? How do you know?

- Why do you think this is the case? Do you think your involvement in the programme has played any role in this?

*Probe: How typical is this? Has this happened a lot?*

### Process

8. What elements have you found most useful about the program?

9. What was less good about the program?

10. In what ways did you go about working with your researcher? What do you think worked well? What do you think worked less well?

11. How have you found the support/organisation of The Brilliant Club and Achievement for All? What do you think worked well? What do you think worked less well?

Section B - Lesson observation rubric

**Purpose**

These observations aim to identify any examples of subject knowledge being demonstrated. Based on the Teachers' Standards, the key elements are:

- Having a secure knowledge of the relevant subject(s) and curriculum areas
- Fostering and maintaining pupils' interest in the subject
- Addressing misunderstandings
- Demonstrating a critical understanding of developments in the subject and the value of scholarship

**What might the different elements look like?** These are examples rather than an exhaustive list.

*1. Secure knowledge*

- Is the teacher able to answer questions confidently?
- Does the teacher make it clear which are the key/central/threshold ideas and concepts?
- Does the teacher show how different elements of the subject tie together?

*2. Foster and maintain interest*

- Are pupils interested in the subject content?
- Do pupils ask questions about the subject?
- Do pupils show a desire to go further?

*3. Addressing misunderstandings*

- Does the teacher know what the likely misconceptions are going to be?
- Does the teacher spot pupils who have misunderstood and identify why they have misunderstood?
- Can the teacher resolve misconceptions?

*4. Critical understanding of developments and scholarship*

- Does the teacher highlight controversies or differences of opinion about the subject?
- Does the teacher draw attention to recent developments or changes in the field?
- Does the teacher give pupils ideas for how they might deepen or extend their understanding of the subject?

**Approach**

- The aim is to gather data which can be analysed.
- Notes should therefore describe not judge i.e. comments should be about what you see happening: what are teachers saying, what are they doing, what are pupils learning about, what are pupils doing, how are they reacting.
- Refer only to what you know is happening --- avoid inference.

<b>Time</b> Leave blank if throughout	<b>Description</b> What have you seen?	<b>Tick all that apply</b>			
		Secure Knowledge	Foster and maintain	Misunderstandings	Developments & scholarship

- **Section C - Pupil focus group script**

1. Check that students have read the consent forms and understand the purpose of the discussion. Give them the opportunity to ask any questions.

- **Similarities and differences to other units**

2. Has the last unit of work that you have studied been similar or different to other units that you have studied?
3. Can you give me any examples of things that have been different?

**Pupil progress**

4. Can you give me some examples of the things that you have learned through this unit?
5. Do you think that you learned more/less/the same in this unit as you would have in a normal unit? How do you know?
6. What did you think of the resources that you used throughout the project? Did they help/not help you to make progress?
7. What did you think the aim of this unit of work was? Was it achieved? How do you know?

**Addressing misunderstandings**

8. Did you feel confused at any points in the unit? Did you misunderstand anything? Did you feel that you understood more/less/the same than you would in a normal unit?
9. If so, how did you react – what did you do? What happened? How did the teacher react? What did they do?

**Foster and maintain interest/developments and scholarship**

10. Did you enjoy studying this unit of work? Why/why not?
11. Did you do more/less/the same amount of work outside of the class for this subject than you would have normally?
12. What have you learned about developments in the subject area? Did you learn about anything that people currently disagree about?
13. Has it made you feel any differently about the subject more generally? Are you any more/less likely to think about studying this subject further at KS4/KS5/University?

Appendix 2

Name		School	
Subject			

## Teachers' Sense of Efficacy Scale

<b>Teacher Beliefs</b> Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. <b>Your answers are confidential.</b>		How much can you do?								
		Nothing	Very Little	Some Influence	Quite A Bit	A Great Deal				
1.	How much can you do to get through to the most difficult students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2.	How much can you do to help your students think critically?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3.	How much can you do to control disruptive behaviour in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4.	How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5.	To what extent can you make your expectations clear about student behaviour?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6.	How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7.	How well can you respond to difficult questions from your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8.	How well can you establish routines to keep activities running smoothly?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9.	How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10.	How much can you gauge student comprehension of what you have taught?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11.	To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12.	How much can you do to foster student creativity?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
13.	How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
14.	How much can you do to improve the understanding of a student who is failing?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
15.	How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
16.	How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
17.	How much can you do to adjust your lessons to the proper level for individual students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
18.	How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
19.	How well can you keep a few problem students from ruining an entire lesson?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
20.	To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
21.	How well can you respond to defiant students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
22.	How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
23.	How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
24.	How well can you provide appropriate challenges for very capable students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)



### Appendix 3

London Schools Excellence Fund: Self-Evaluation Toolkit – FINAL

### Evaluation Plan: University Learning in Schools

**Stage 1:** Involves the teachers and PhD researchers who work together to design, create and teach the academic modules and learning resources within classes within our partner schools.

**Stage 2:** Involves the teachers who attend the subject enhancement events and use the learning resources within classes within their own London school.

**Stage 3:** Involves the teachers who download the academic modules and learning resources with the intention of using the learning resources within classes within their own school.

<u>Outputs</u>	<u>Indicators of Outputs</u>	<u>Baseline data collection</u>	<u>Impact data collection</u>
5 pairs of PhD researchers and subject teachers recruited and matched and briefed on project activities, outputs and intended outcomes.	Applications from subject teachers Notes on briefing sessions including attendance lists and topics to be covered		Evaluation forms from those attending briefings
5 advanced academic modules and sets of curriculum resources created, printed and available for download per year.	Academic modules available for use by schools on the Achievement for All 3As Community of Practice		Data on usage and downloads
1 subject enhancement events delivered per year.	Event programme Event attendance list		Delegate evaluation forms
<b>Teacher Outcomes</b>	<u>Indicators of Outcomes</u>	<b>Baseline data collection</b> <b>This column needs to include dates of when different pieces of data will be collected</b>	<b>Impact data collection</b> <b>This column needs to include dates of when different pieces of data will be collected</b>
Increased <b>subject knowledge and greater awareness of subject specific teaching methods</b> . <b>The subjects covered by the project are maths, English, history, geography, physic, chemistry and biology.</b> <b>The specific topics within the</b>	Increased teacher scores in <b>subject knowledge/ teaching method</b> tests  Tests to be taken by all teachers involved in the intervention	<b>Stage 2 Teachers (100 teachers per year):</b> Scores collected for individual teachers from pre intervention <b>subject knowledge</b> tests.  Test designed by subject pairs and peer reviewed. <b>So the same people</b>	<b>Stage 2 Teachers (100 teachers per year):</b> Scores collected for individual teachers from <b>subject knowledge</b> method tests after subject enhancement event  <b>Tests conducted after subject enhancement days in summer</b>

<p>subject areas and appropriate teaching methods will be agreed between the PhD students and the teachers as the project progresses. needs project specific detail: what subjects/ methods?</p>		<p>who design the test will take the test? Will that effect results since they will presumably score very highly even in the baseline? These tests are for the wider group of teachers who will attend the conferences. The teacher/PhD student pairs will design the tests with support from Achievement for All 3As</p> <p>Tests conducted at start of subject enhancement days in summer 2014/spring 2015</p>	<p>2014/spring 2015</p>
<p>Increased <b>teacher confidence</b></p>	<p>Increased teacher scores in <b>confidence</b> surveys.</p> <p>Survey to be completed by all teachers involved in the intervention using standard GLA survey.</p>	<p><b>Stage 1 Teachers (5 Teachers per year):</b> Scores collected for individual teachers from <b>confidence</b> surveys completed pre-materials development in Feb 2014</p> <p>Tests conducted at start of project training day. Are these the tests in the row above? No, these are the tests for the 5 teachers involved in the actual project working with the PhD researchers</p> <p><b>Stage 2 Teachers (100 teachers per year):</b> Scores collected for individual teachers from <b>confidence</b> surveys completed pre-subject enhancement event days in summer 2014/spring 2015</p>	<p><b>Stage 1 Teachers (5 Teachers per year):</b> Scores collected for individual teachers from <b>confidence</b> surveys completed pre-materials development and post materials delivery</p> <p>Test conducted after materials design in March 2014/December 2015 and after materials testing in April/May 2014 and Jan/Feb 2015</p> <p><b>Stage 2 Teachers (100 teachers per year):</b> Scores collected for individual teachers from confidence surveys completed post training and post materials delivery.</p> <p>Tests conducted after subject enhancement days in summer 2014/spring 2015 and in half terms</p>

		<p>So the same survey is taken 4 times total? This is the confidence survey the one above is about subject knowledge</p> <p>Tests conducted at start of subject enhancement day.</p>	<p>following subject enhancement events</p> <p>Interviews with sample of survey respondents (5 schools (up to 25 teachers) per year) to moderate survey findings conducted in the two half terms following the subject enhancement event. These will be conducted by a field researcher to be recruited by Achievement for All 3As Who will conduct these?</p>
<p>Delivery of higher quality teaching including subject-focused and teaching methods</p>	<p>Improved teaching performance in observed lessons using standardised lesson observation sheet based 'subject knowledge' elements of the Professional Standards for Teachers. These will be conducted by a field researcher to be recruited by Achievement for All 3As using Ofsted measures?</p> <p>Observations to be conducted for a sample of teachers (30%).With a small sample of those to be independently moderated (subject to additional funding support from GLA).has this been requested? I am not sure will check</p> <p>Observations focussed on 'subject knowledge' elements of the Professional Standards for Teachers.</p>	<p><b>Stage 1 Teachers (5 Teachers per year):</b> Standards collected for individual teachers from pre intervention observations at initial training day in Feb 2014 and September 2015.</p> <p><b>Stage 2 Teachers (5 teachers per year):</b> Standards collected for sample of individual teachers from pre intervention observations during half term following the subject enhancement events in summer 2014 and spring 2015</p>	<p><b>Stage 1 Teachers (5 Teachers per year):</b> Standards collected for individual teachers from observations during intervention in April/May 2014 and January/February 2015</p> <p><b>Stage 2 Teachers (5 teachers per year):</b> Standards collected for sample of individual teachers from observations during intervention delivery in the two half terms following the subject enhancement event.</p>
<p>Use of better subject-specific resources If you are only measuring uptake (as per indicator) should probably change the outcome to</p>	<p>Uptake of new resources Teacher satisfaction with new resources</p>	<p><b>Stage 2 Teachers (100 teachers per year):</b> Baseline 0%</p>	<p><b>Stage 2 Teachers (100 teachers per year):</b> Reported use and satisfaction with new subject specific resources in lessons as collected through teacher survey</p>

<p>“increased use of subject specific resources” or something like that. However impact data suggests you are also trying to show they are better than previous resources but this is not in the indicators?</p>			<p>conducted in Autumn 2014 and Summer 2015</p> <p>Interviews with sample of survey respondents (5 teachers) to moderate survey findings conducted in Autumn 2014 and Summer 2015 by Achievement for All field researcher</p>
Pupil Outcomes	Indicators of Outcomes	Baseline data collection	Impact data collection
<p>Increased educational attainment and progress</p>	<p>Increased attainment (levels and sub levels at KS1-3 and grades at KS4-5) compared against a comparison group for Maths, English, Chemistry, Physics, Biology, History and Geography.</p> <p>Increased levels of progress (point scores and % achieving higher point scores than expected) compared to a comparison group</p>	<p><b>Stage 1 Pupils (120-150 pupils per year):</b> Intervention group (School 1): assessed level on entry to the programme and for 3 years previous. Data collection in Feb/March 2014 and October/November 2015</p> <p>Comparison group (matched group within School 2): assessed level on entry to the programme and for 3 years previous. Data collection in Feb/March 2014 and October/November 2015 <b>Group will be matched by age/ subject. how will the group be matched?</b></p> <p>Trend data: Actual attainment (levels/grades) for the 3 previous year groups across school 1 and school 2.</p> <p>*3 subject pairs will work within school 1 and use school 2 as comparison. 2 subject pairs will</p>	<p><b>Stage 1 Pupils (120-150 pupils per year):</b> Intervention group (School 1): actual pupil attainment levels after intervention. Data collection in September 2014 and June 2015</p> <p>Comparison group (matched group within School 2): actual pupil attainment levels after Y1 and Y2 of intervention. Data collection in September 2014 and June 2015</p> <p><b>Stage 2 Pupils (120-150 pupils per year):</b> Intervention group (School 1): actual pupil attainment levels after intervention. Data collection in Autumn 2014 and Summer 2015</p>

		<p>work within school 2 and use school 1 as comparison. School 1 and 2 will provide intervention in different subjects to avoid contamination.</p> <p><b>Stage 2 Pupils (120-150 pupils per year):</b> Intervention group: assessed level on entry to the programme and for 3 years previous</p> <p>No trend or comparison data for stage 2? No</p>	
School System / 'Culture Change' Outcomes	Indicators of Outcomes	Baseline data collection	Impact data collection
Use of new resources by teachers/schools outside the intervention group	Uptake of new resources developed by LSEF programmes by non LSEF teachers/schools	<p><b>Stage 2 Teachers (100 teachers per year):</b> Baseline 0%</p> <p><b>Stage 3 Teachers</b> Baseline 0%</p>	<p><b>Stage 2 Teachers (100 teachers per year):</b> Reported use of new subject specific resources in lessons as collected through teacher survey of teachers who attended the subject enhancement events in summer 2014/spring 2015. Surveys to be conducted in September/October 2014 and June/July 2015. Teachers not involved in the intervention? Will these be teachers at schools where other teachers have been involved? Otherwise how will they be surveyed?</p> <p>Interviews with sample of survey respondents (5 schools (up to 25 teachers) per year) to moderate survey findings. These will be conducted by a field researcher to be recruited by Achievement for All 3As</p>

			<b>Stage 3 Teachers:</b> Downloads of materials from <a href="http://www.afa3as.org.uk">www.afa3as.org.uk</a> and <a href="http://www.thebrilliantclub.org">www.thebrilliantclub.org</a> following subject enhancement event.
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# University Learning in Schools – Theory of Change

