

**T R I B A L**

The  
Education  
& Training  
Foundation

# **ETF Maths Graduate Recruitment Incentive Award**

**Final Report**

**1<sup>st</sup> February 2016**

**Submitted by Tribal Education Ltd**

**Contact Details**

**Nikki Tregellas**  
Project Manager  
07798 571165  
Nikki.tregellas@tribalgroup.com

**Contact Address**

**Kings Orchard, One Queen Street, Bristol, BS2 0HQ**

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*Kings Orchard, One Queen Street, Bristol, BS2 0HQ*

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# 1. Executive summary

## The Project

The Maths Graduate Recruitment Incentive Award project was commissioned by the Education and Training Foundation (ETF) to support the Government's ambition to improve standards in maths teaching in the Further Education (FE) and Skills sector. The project provided recruitment incentive awards to FE and Skills organisations to enable them to explore innovative ways of recruiting and retaining specialist graduate maths teachers.

This project required organisations to think more deeply about recruitment to a shortage subject where there was a need for different approaches to be considered. The project also asked award holders to consider how they could innovate in their recruitment practice to address equality and diversity issues.

The FE and Skills sector has acknowledged a shortfall in capacity for recruiting specialist maths teachers and the project sought to discover whether incentives of any kind can impact positively on the situation.

ETF initially invited organisations to apply for awards in February 2014 and awarded Tribal the contract for delivery in April 2014. Following the success of the first phase of this project, a further phase was announced in October 2014. Phase 3 commenced in March 2015.

## Outcomes

- An impressive 206 (94%) of the 220 awards distributed to organisations as part of this project have successfully resulted in the recruitment of at least one new maths teacher
- These incentive awards have resulted in a total of 280 new teachers working in the FE and Skills sector across 178 different organisations. 159 awards resulted in one new teacher and 47 have led to recruitment of more than one new maths teacher
- 109 organisations believe this incentive award has led to an improved recruitment process within their organisations
- 137 organisations believe this incentive award has positively impacted on their maths strategy
- 117 organisations said the award had raised the profile of maths in the organisation
- 62 organisations indicated this award had helped them to improve their induction process
- 145 organisations are now offering a mentoring programme to the new recruits and 102 have been able to offer reduced teaching hours
- 134 organisations indicated the award had had a positive impact on equality and diversity within their organisation
- 164 organisations indicated they had offered some level of incentive to the graduates such as a bonus, enhanced salary and/or reduced timetable.

## Impact

The fact that 280 new graduate teachers of maths entered the sector through the project suggests that the flexibility offered by the award has a positive impact on recruitment. Data secured from the project strongly indicates that offering incentives to applicants can improve recruitment.

As a result of these awards organisations have responded to the issue of diversity through the development of flexible working practices in their offer to new recruits. This has led to some success in recruitment from previously untapped groups. The majority of organisations (78%) acknowledged the award had a positive impact on their maths strategies, with the recruits bringing new approaches, different styles of teaching, change in the age/gender profile and positive influences on colleagues. Almost all of the organisations (92%) provided some level of incentive to the graduates such as a bonus, enhanced salary, additional training and/or reduced timetable.

Just over half of the organisations involved in the awards (52%) said the incentive fund had enabled them to try a different approach to marketing and recruitment. It is apparent from responses that this has had an impact on the way some of the institutions will market future vacancies with 47% indicating this award had made them review their existing practice.

This evidence suggests that incentives do work and award holders considered that the award enabled them to offer more attractive packages to potential recruits. The project has also facilitated the reviewing and rethinking of existing recruitment processes.

### Recommendations

If the project is to continue in some form, the following specific recommendations are made:

- 1) The timing of the project has an impact on the success. Awards need to be distributed early in the academic year to match sector recruitment timetables and to provide enough time to maximise recruitment opportunities.
- 2) Early opportunities for award holders to meet and discuss concerns and issues are key in setting the scene for the project.
- 3) Senior Management Team involvement, including finance departments, is critical; it is evident that where this has happened changes have been facilitated more effectively.
- 4) Early indicators show organisations linking with other funding opportunities to afford a range of incentives helps with the success of recruiting and support.
- 5) Where organisations have used funds to support enhanced terms and conditions, recruitment and retention seem to have been successful.
- 6) Policies on equality and diversity existed in all award holders; however, few have used the award specifically to address under-representation. This could be encouraged by weighting the scoring criteria in future rounds
- 7) Effective induction and mentoring programmes for graduates are essential.
- 8) For shortage subjects, an effective dialogue between the curriculum area and Human Resources at the beginning of any recruitment process is essential to ensure the process recognises different needs.
- 9) Locally and regionally, providers should be encouraged to share good practice and develop a dialogue to support the development of maths teaching in the sector.

At a time when it is essential to increase the number of teachers of maths in the FE and Skills sector, this project offers evidence to support the use of incentives in facilitating additional recruitment in maths and hence a possible model for other shortage subjects. Colleges and training providers welcomed the opportunity to try different approaches to recruitment processes, incentives and bonuses, training and salary. The awards enabled them to explore different strategies with overwhelmingly positive outcomes. Following these positive outcomes it would seem a sensible consideration to continue to invest in similar projects for maths and other shortage subjects.

## 2. Introduction

***“It has raised the profile of the importance of maths teaching in the FE sector and its desirability for the world of work and progression.”*** – Director of Teaching and Learning, Barnsley College

The Further Education (FE) and Skills sector offers a second chance of success in maths to thousands of 16-19 year olds and to adults who return to education with a renewed motivation and desire to gain maths qualifications. The change in policy, which requires all students with an existing grade D in maths to continue studying GCSE maths and all other students to continue to progress in their maths on a pathway to GCSE success, has produced huge challenges for the sector; in particular in the recruitment of well qualified maths teachers. There was already a shortage of qualified maths teachers so it became imperative to explore different routes to encourage graduates with maths degrees, or who had studied maths within their degree, to come into the sector and train as maths teachers. This project asked the question *‘Do incentives work in enhancing maths recruitment?’*

The context of the project is firmly rooted in the national need to increase the number of maths teachers. This is not a new phenomenon; however, the demand has been exacerbated by the government’s ambition for higher standards in maths teaching and learning for all students and in particular by the need for all students to study maths as part of their programme of study until they are 19 years old. GCSE is regarded as the ‘gold standard’ and the goal for all students. For those already achieving a grade C or above, a requirement to study ‘Core Maths’<sup>1</sup> will also demand a significant increase in the number of maths teachers when fully rolled out in 2016.

The successful Maths Enhancement Programme (MEP) began the process of up-skilling functional skills teachers and trained 2,200 teachers between September 2013 and July 2014. With further support, these teachers will add significantly to the capacity of organisations in the sector to teach GCSE maths. Appropriate training is also available for teachers planning to teach ‘Core Maths’. However, there is still a predicted overall shortfall in numbers of appropriately trained teachers.

The project provided recruitment incentive awards of £20,000, or £30,000 if working in partnership, to FE and Skills organisations and enabled them to explore innovative ways of recruiting and retaining specialist graduate maths teachers. A key objective of the Maths Graduate Recruitment Incentive Award project was for the participating organisations to review current recruitment practices to determine whether they are fit for purpose when recruiting for a shortage subject such as maths.

***“We need more of these incentives to ensure that the FE sector can provide the standard of maths education required.”*** – Curriculum Manager, Juniper Training

<sup>1</sup> The Core Maths initiative is aimed at increasing the number of post-16 students studying the subject who have already passed GCSE maths. The programme is currently being piloted with a roll-out expected from the 2015/16 academic year.

### 3. Project objective and milestones

#### 3.1. Objective

The key objective of this project was to contribute to the government’s main workforce strategy target of increasing the number of graduate maths teachers in the FE and skills sector.

#### 3.2. Key milestones

Table 1 indicates the key activities and milestones for each phase of the project:

Table 1: Key milestones

Key activities and milestones	Month completed
<b>Phase 1</b>	
Evaluation of bids to create the portfolio of funded projects	May 2014
Agree the portfolio of funded projects and timing of transfer of funds	June 2014
Notify successful applications for funding	June 2014
Final report from Tribal to ETF	December 2014
<b>Phase 2 &amp; 3</b>	
Develop and implement an enhanced programme of support that will help selected providers to maximise the potential success and impact of the project by supporting recruitment, induction and sustainability	March 2015
All successful and validated providers receive allocated award. Confirm the audit trail and provide evidence that the award criteria have been met.	February 2016
Provide an aggregated and overarching evaluation and succinct report.	February 2016

***“The incentive award has raised awareness of the need for permanent maths staff and allowed us to recruit at a time when there is a freeze on posts in all other areas.” – Director of Foundation and Progression Studies, Greenwich Community College***

## 4. Project delivery

### Phase 1

During this phase ETF received a total of 159 applications, of which 122 were awarded an incentive while 37 were ineligible, rejected or withdrawn. Tribal undertook an initial monitoring survey of award holders to gather early feedback on the project in July 2014. A second survey was conducted in November 2014 to monitor further progress of the project and gather the end of phase statistics. A number of case studies were developed as part of this phase which provides further evidence of best practice to share with the sector.

Ongoing support to award holders was provided by the Tribal team throughout the duration of the project in response to individual queries and concerns. Workshops and a webinar were also carried out to communicate key messages about the project, to clarify contractual requirements, to celebrate the success of the project and to share this with the sector.

### Phase 2

In October 2014 ETF offered the FE and Skills sector the opportunity to become involved with a second phase of the project, running from December 2014 until the end of March 2015. This allowed phase 1 award holders, who had not been able to recruit by December 2014, to be given an extension until March 2015. 20 organisations were offered an extension and provided with continued support to execute their delivery plans.

ETF received a total of 71 applications, of which 69 were granted an incentive award. None of the applications were ineligible, one withdrew and one organisation submitted two applications, only one of which could be eligible. As well as the key activities from phase 1, during phase 2, the Tribal team:

- Provided advice on maximising value to award holders recruiting multiple graduates; offering bespoke guidance on recruitment, induction and sustainability
- Provided support and advice to training providers on recruitment and incentives, induction planning and other HR functions through regional events; providing templates for adverts and interview questions, advice on buddying and mentoring to attract and retain graduates
- Held regional networking meetings for appointees sharing practice and learning
- Provided a campaign on social media to promote the project
- Produced case studies with examples of best and innovative practice to be shared with the sector.

### Phase 3

In March 2015 a third phase was offered, running from March 2015 until the end of September 2015. As there were still a number of providers left to recruit in October 2015, ETF subsequently provided an extension to award holders to the end of December 2015. ETF received a total of 49 applications, of which 29 were awarded an incentive. Four were ineligible, none withdrew and 16 were rejected as they had already received an award in a previous phase and priority was given to those who had not previously been involved.

## 4.1. Assessment process

ETF advertised the call for applications in February 2014 and 279 applications were received for the Maths Graduate Recruitment Incentive Award. The following tables indicate the number of applications received by award value and organisation type and also the number of applications approved in these categories:

**Table 2: Applications Received by Award Value**

Award Value	Applications Received				Applications Approved			
	Phase 1	Phase 2	Phase 3	Total	Phase 1	Phase 2	Phase 3	Total
£20K applications	116	53	41	<b>210</b>	89	52	24	<b>165</b>
£30K applications	42	18	8	<b>68</b>	32	17	5	<b>54</b>
£170K application	1	0	0	<b>1</b>	1	0	0	<b>1</b>
<b>Total applications</b>	<b>159</b>	<b>71</b>	<b>49</b>	<b>279</b>	<b>122</b>	<b>69</b>	<b>29</b>	<b>220</b>

**Table 3: Applications Received by Organisation Type**

Organisation Type	Applications Received				Applications Approved			
	Phase 1	Phase 2	Phase 3	Total	Phase 1	Phase 2	Phase 3	Total
FE College	124	53	33	<b>210</b>	103	52	21	<b>176</b>
Training Provider	34	17	12	<b>63</b>	19	16	8	<b>43</b>
Offender Learning	0	1	0	<b>1</b>	0	1	0	<b>1</b>
6 <sup>th</sup> Form College	1	0	4	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total applications</b>	<b>159</b>	<b>71</b>	<b>49</b>	<b>279</b>	<b>122</b>	<b>69</b>	<b>29</b>	<b>220</b>

Figure 1 shows the breakdown by region and phase of the applications. Figure 2 shows the number of applications by phase and type of organisation.

Figure 1 Regional breakdown of award applications by phase

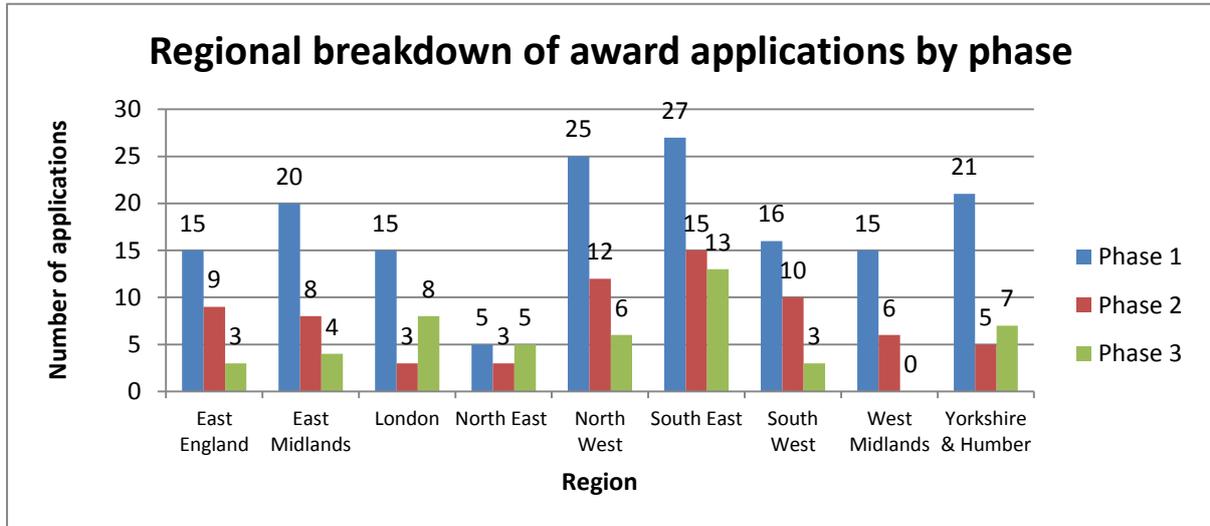
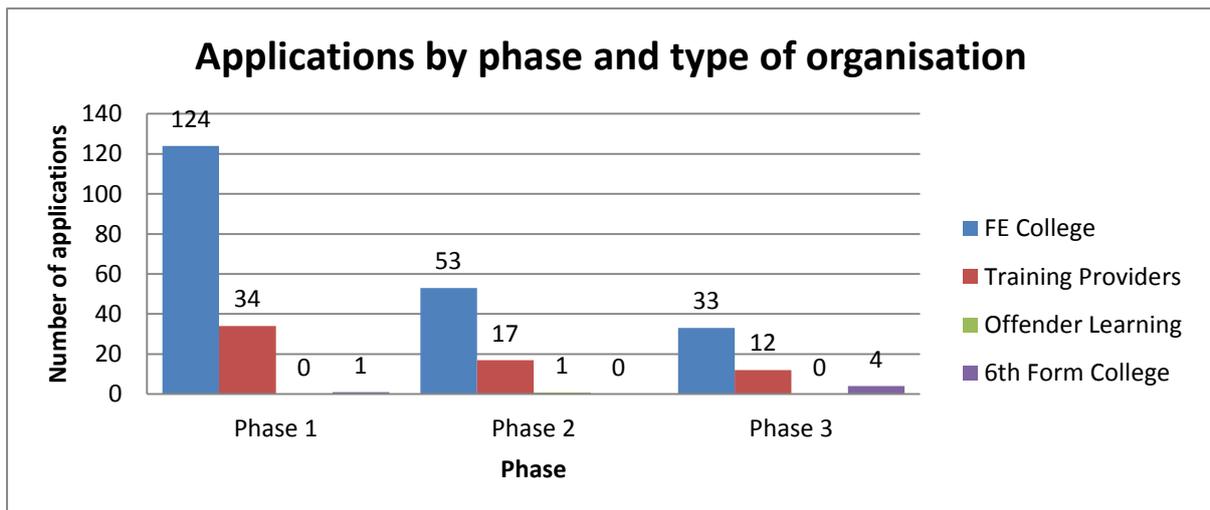


Figure 2 Applications by phase and type of organisation



The initial scrutiny of the applications provided due diligence and ensured the inclusion of a range of providers.

In process terms:

- 1) The Tribal team assessed each application for eligibility against the status requirements;
- 2) Queries arising from the initial assessment were moderated by the maths lead;
- 3) Each application was assessed against the criteria noted in Appendix A;
- 4) Where clarification was required the organisation was asked to make the clarifications;
- 5) Where the Tribal team still had concerns, the central ETF team were consulted to make the final decision;
- 6) A sample of the organisations was visited for quality assurance purposes. The visits were made by the maths lead and members of the central ETF team.

The project was looking for different approaches, as previously maths teacher recruitment had not been particularly successful. It was therefore important that the applications identified fresh approaches. These could include using different media, or networks according to local circumstances.

The application assessment procedure provided a rigorous review of planned activity and eligibility checks. The criteria used for this assessment are included in Appendix A; assessment against these criteria led to award holders either being recommended, rejected or being asked for further information/clarification in order to support as many applications as possible.

### 4.1.1. Awards distributed

220 awards were distributed across the three phases. This included an application that ETF reviewed from the Newcastle College Group resulting in an award of £170K to share across their partnership organisations.

Figure 3 Breakdown of awards distributed by region and phase

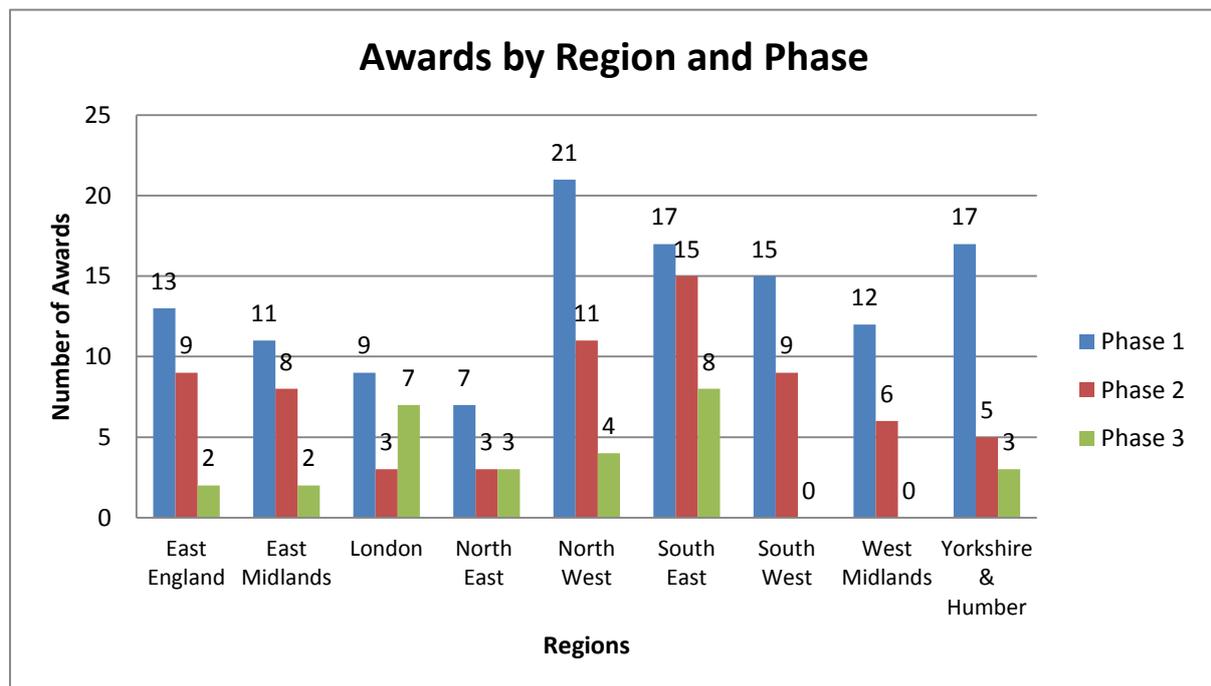


Figure 4 Breakdown of awards by value and phase

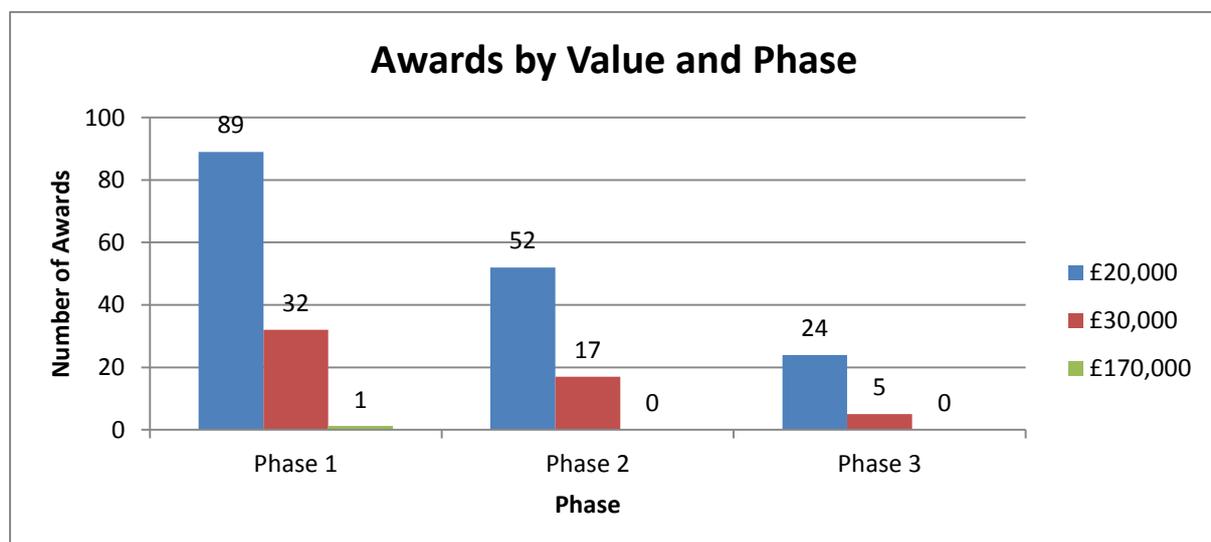


Figure 5 Breakdown of awards by organisation type and phase

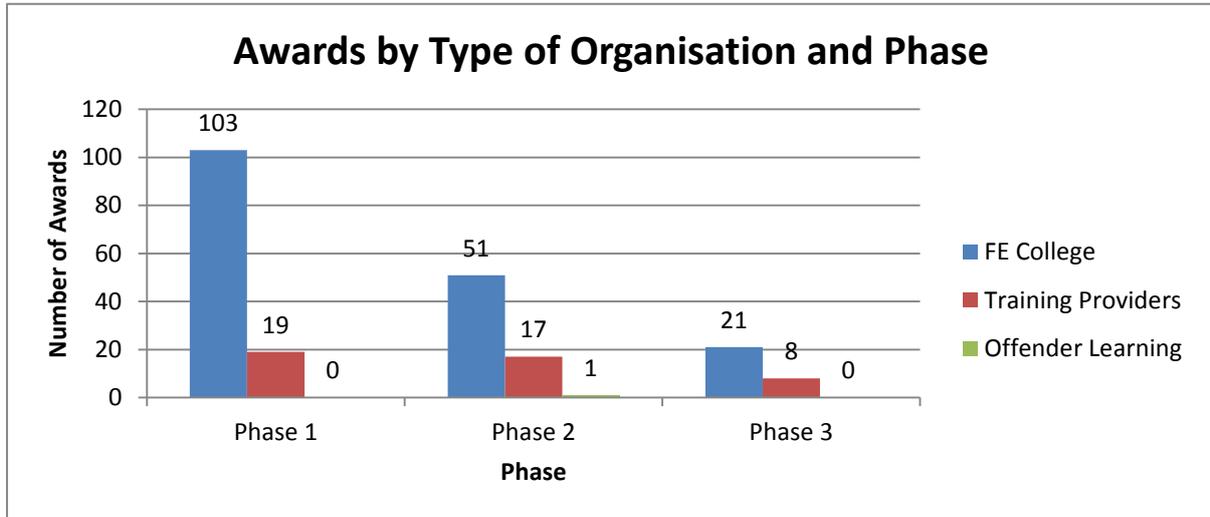


Table 4 shows the number of awards and total funding for each category:

Award Category	Number of Awards	Total Funding
£20K	165	£3,300,000
£30K	54	£1,620,000
£170K	1	£170,000
<b>Total</b>	<b>220</b>	<b>£5,090,000</b>

#### 4.1.2. Rejected and ineligible awards

From the 279 applications received, 49 were rejected. Below are the main reasons for rejection:

- Unrealistic/overambitious expectations of what a graduate could do
- Activities were not different from expected everyday recruitment practice
- In phase 3, applications were rejected from organisations which had previously received an award
- 5 applications were deemed ineligible due to not meeting the criteria for funding e.g. a sixth form college's application.

#### 4.1.3. Withdrawn awards

Ten organisations withdrew their application for an award after it had been initially accepted. Reasons given were that the provider was going through a restructure or had reviewed their business requirements and processes internally and, as a result, decided the award was no longer relevant. Details of the withdrawn applications can be found in Appendix B.

## 4.2. Project support

***“The team has been highly supportive - I couldn't have completed the recruitment without their support. A big thank you to Tribal”.*** Assistant Principal Student Services, Capel Manor College

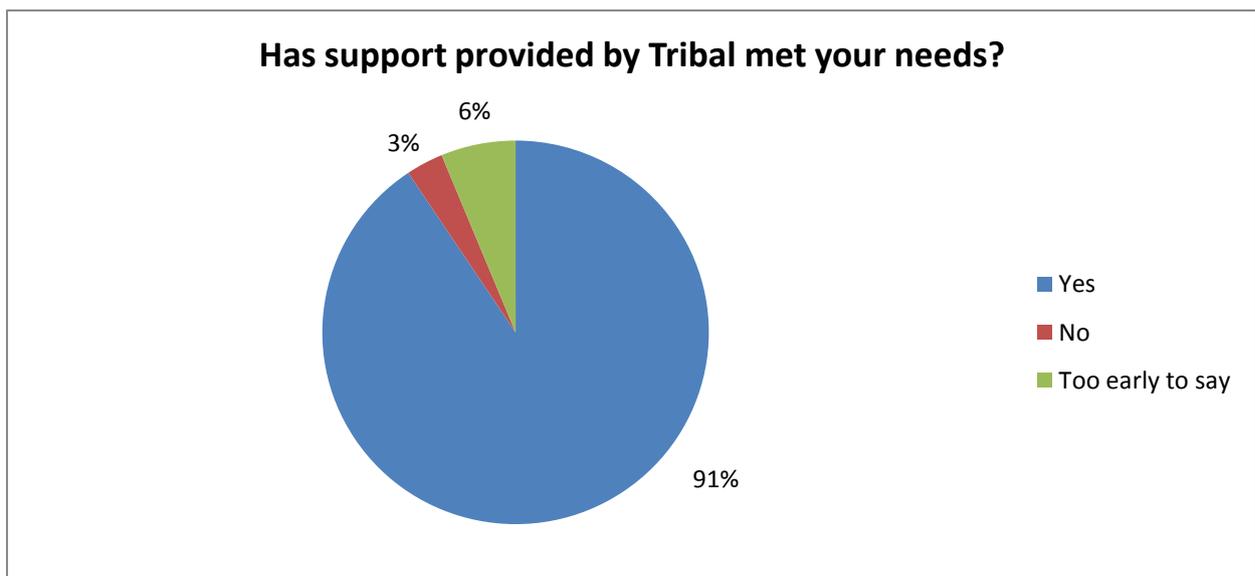
Throughout the project, significant additional support was provided by the Tribal team giving bespoke responses to individual organisations. There were numerous enquiries regarding the contractual requirements; in particular, clarification was often sought as to the eligibility of the academic qualification of prospective recruits. Other common queries included: providers seeking to revise their delivery plan by amending the timetable; for those who were struggling to recruit, seeking confirmation on the eligibility of spend; questions from finance departments who were unaware of why funds had been sent to their organisations and who were, therefore, unable to allocate budgets or costs appropriately.

On several occasions the Tribal team reviewed curriculum vitae or application forms of potential candidates to confirm eligibility. Queries regarding what organisations should or could include on adverts were also addressed.

Tribal provided differentiated support to award holders, helping them tackle recruitment challenges and plan effective induction activity.

As part of the surveys conducted a question was asked to award holders “have you found that the support given by the Tribal team has met your needs?” Of the 96 organisations replying, 91% responded positively with 6% indicating that at the time of the survey it was too early to comment and 3% indicated negatively.

**Figure 6** Has support provided by Tribal met your needs?



#### 4.2.1. Multiple recruitment providers

15 providers in phase 1 and 2 declared in their application that they were going to recruit more than three candidates. These providers were offered additional support from Tribal's Maths Lead via email, telephone or a face to face visit. This additional support included discussions with providers clarifying the activities they were carrying out and also providing advice if they were struggling to know what to do. Two face to face visits were carried out which covered the strategy aspects and the arrangements for recruiting and integrating the successful recruit into the college.

#### 4.2.2. Additional support for training providers

It was recognised that training providers in some cases do not have the same level of infrastructure and support enjoyed by many colleges, therefore Tribal ensured that the training providers sat together during the workshops in phase 1. This enabled the providers to engage in dialogue with others having similar needs and concerns to share experience and best practice.

During phase 2 of the project, a series of meetings for groups of training providers was held where they were given updates and had the opportunity to attend a 'clinic' with Tribal's Maths Lead.

Specific recruitment advice was provided individually to training providers where required. In particular the Tribal team reviewed and provided advice about potential applicants' curriculum vitae for Prevista, DJ Academy and IPS. The team also provided advice on qualifications and contractual requirements to Charlton Athletic Community Trust and IPS.

***“Greenbank is a small provider and it has allowed us to meet growing demand particularly for students with high needs support and begin to more confidently approach the changes moving forward to offer some students GCSEs” – Education and Curriculum Manager, The Greenbank Project***

#### 4.2.3. Marketing

Tribal's Maths Graduate Recruitment Incentive microsite went live in March 2015 advertising these job opportunities in the sector. A specific twitter account was set up for the project called *femathsjobs* and tweets were made for five months from late February 2015 until the end of July 2015.

During the project Tribal set up two different online communities for those involved in this project to network with each other and for Tribal to share project information. These communities are:

- **Graduates Community** - This community has 34 members and there are 10 different topics that have been shared with over 230 views.
- **Recruitment Community** - This community has 17 members and there are 6 different topics that have been shared with 124 views.

#### 4.2.4. Events

***“Being involved in the scheme allowed us to review our recruitment process; it was particularly beneficial to attend the event in London before the summer and to hear and share ideas and practices with colleagues from other colleges, especially those who had used something similar in the previous year.” – Assistant Principal – Sciences, Bournville College***

In total, 17 events were held over the 3 phases and included introductory workshops for award holders, specialised events for graduates, bespoke events for training providers, a celebration event and webinars. Table 5 shows the type and number of events held and the number of participants who attended each event.

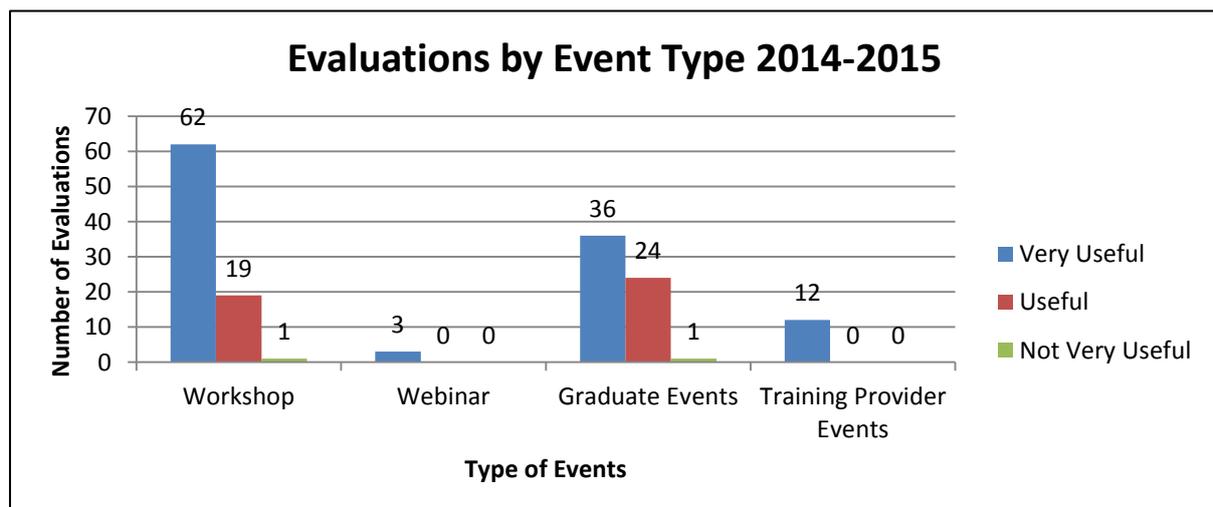
Table 5: Events

Type of Event	Number of Events	Number of participants
Introductory workshop	3	65
Graduates	7	71
Training providers	3	14
Celebration event	1	58
Webinar	3	25
<b>Total</b>	<b>17</b>	<b>233</b>

***“Excellent training session which I would highly recommend. The information has been extremely useful and I will definitely implement the ideas in my lessons” – Canterbury College***

After each event evaluation forms were circulated to all who attended. Of the 233 people who attended, 158 people completed an evaluation form. These evaluations showed a positive satisfaction rating of 99%. 72% of attendees found the events very useful and 27% useful. Figure 7 shows the usefulness rating of each type of event:

Figure 7 Event Evaluations



***“All sessions have been very informative. As a result I have a deeper understanding of the requirements and expectation. I am also in a position to amend the plan in order to meet the needs of attracting a prospective graduate who meet the reach of the college.” – Askham Bryan College***

#### 4.2.5. Monitoring surveys

Monitoring surveys were completed by all organisations who successfully recruited as part of this incentive project. Impact surveys have also been completed by phases 1 and 2 organisations which had not recruited at the time of monitoring survey. These enabled Tribal to understand the activities that had been carried out and what efforts had been made at that stage.

Below is a selection of the questions included in the surveys. Responses to these questions can be found in the remainder of the report:

- Has the incentive award had any impact on the HR processes?
- Do you feel that this incentive award has led to improved recruitment processes?
- What impact have the new recruits brought to your organisation, in maths?
- Do you believe the short term impact from the project could lead to a longer term impact on teaching, learner engagement and future learning results?
- Has your involvement in this project helped to raise the awareness of teaching maths in the further education and skills sector?

***“Now we have set up a graduate scheme we can use this to attract staff to other areas which are also hard to recruit e.g. computing.” – Interim Vice Principal Curriculum, Amersham and Wycombe College***

## 5. Project outcomes

All objectives and milestones for the project were achieved.

*‘It has allowed us to improve the maths skills of our staff and also to share best practice with staff from other providers as we have had mixed qualification groups.’ – Executive Director, Bedford College*

### 5.1. Teachers recruited

Tables 6-9 show the number of training providers, FE colleges and offender learning organisations that were granted an award and the number of new teachers these awards have generated:

**Table 6: Phase 1**

Organisation Type	Awards Distributed	Organisations Recruiting a New Teacher	Number of New Teachers Recruited	Success Rate
FE College	103	100	146	97%
Training Provider	19	19	21	100%
Offender Learning	0	0	0	0
<b>Total</b>	<b>122</b>	<b>119</b>	<b>167</b>	<b>98%</b>

**Table 7: Phase 2**

Organisation Type	Awards Distributed	Organisations Recruiting a New Teacher	Number of New Teachers Recruited	Success Rate
FE College	52	45	58	87%
Training Provider	16	14	19	88%
Offender Learning	1	1	1	100%
<b>Total</b>	<b>69</b>	<b>60</b>	<b>78</b>	<b>87%</b>

**Table 8: Phase 3**

Organisation Type	Awards Distributed	Organisations Recruiting a New Teacher	Number of New Teachers Recruited	Success Rate
FE College	21	20	27	95%
Training Provider	8	7	8	88%
Offender Learning	0	0	0	0
<b>Total</b>	<b>29</b>	<b>27</b>	<b>35</b>	<b>93%</b>

Table 9: Overall 3 Phases

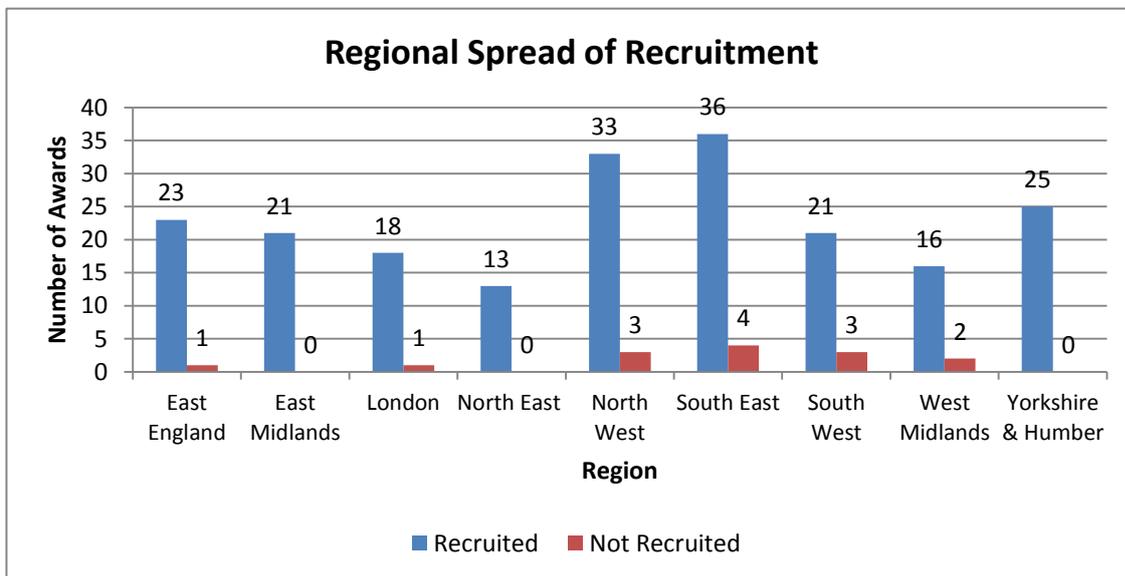
Organisation Type	Awards Distributed	Organisations Recruiting a New Teacher	Number of New Teachers Recruited	Success Rate
FE College	176	165	231	94%
Training Provider	43	40	48	93%
Offender Learning	1	1	1	100%
<b>Total</b>	<b>220</b>	<b>206</b>	<b>280</b>	<b>94%</b>

Overall the FE colleges were slightly more successful than the training providers in terms of the number of organisations able to recruit, with success rates of 94% and 93% respectively. The ratio of new teachers to organisations recruiting a new teacher was also slightly higher for FE colleges at 1.4:1 compared to 1.2:1 for training providers. As only 1 offender learning organisation was involved, the number is too small to make any valid comparisons.

## 5.2. Recruitment by region

The North East, East Midlands and Yorkshire and Humber award holders were 100% successful in their recruitment, followed by East England, London and the North West. The least successful region in terms of recruiting was the South West where only 88% of award holders managed to recruit.

Figure 8 Regional spread of recruitment



### 5.3. Recruitment by phase

98% of the organisations from phase 1 have successfully recruited as part of this project, compared to 93% of the phase 3 organisations and 87% from phase 2. One reason that phase 2 organisations may have recruited fewer teachers is that 41 had already recruited in phase 1; therefore they were trying to recruit again within a fairly short timescale. Table 10 shows the breakdown of recruitment by phase.

**Table 10 Recruitment by phase**

Phase	Recruited	Not Recruited	Total	% Recruited
Phase 1	119	3	122	98%
Phase 2	60	9	69	87%
Phase 3	27	2	29	93%
<b>Total</b>	<b>206</b>	<b>14</b>	<b>220</b>	<b>94%</b>

### 5.4. Award holders unable to recruit

By 28<sup>th</sup> January 2016, 14 organisations had been unable to recruit. The tables below show the breakdown of these organisations by award value and then type of organisation:

**Table 11 Award holders unable to recruit by phase and award value**

Award Value	Phase 1	Phase 2	Phase 3
£20K	3	8	2
£30K	0	1	0
<b>Total</b>	<b>3</b>	<b>9</b>	<b>2</b>

**Table 12 Award holders unable to recruit by phase and type of organisation**

Organisation Type	Phase 1	Phase 2	Phase 3
FE College	3	6	1
Training Provider	0	3	1
<b>Total</b>	<b>3</b>	<b>9</b>	<b>2</b>

One of the key reasons given by two of the organisations unable to recruit was the salary being offered. One quoted that *“competition with schools is a big factor. Pay in schools is higher with more incentive packages attached”*. Another indicated that due to the skills shortage applicants could command higher salaries. Two organisations also indicated the calibre of the applicants was not appropriate.

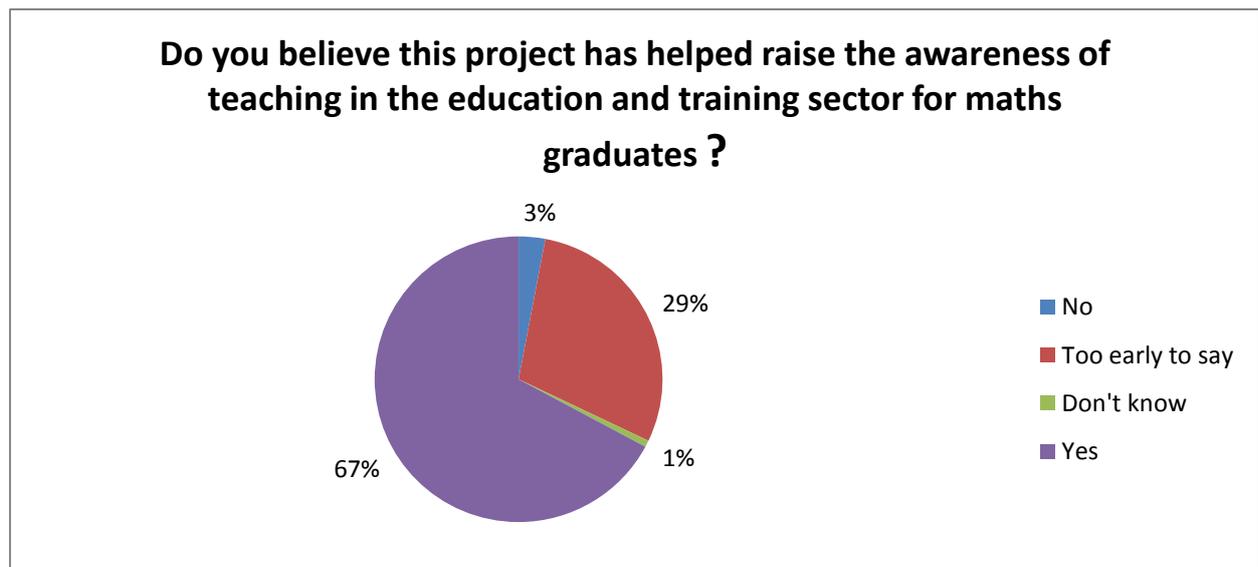
## 5.5. Awareness of teaching maths in the FE and Skills sector

**“Raised profile of teaching maths as a choice for high achieving graduates.”** – Head of Sector for Essential Skills, Shipley College

One of the key performance indicators for this project was to raise awareness of teaching maths in the FE and Skills sector. As part of the surveys completed by award holders i.e. the organisation and not the recruit, the question was asked ‘Do you believe this project has helped to raise the awareness of teaching maths in the further education and skills sector for maths graduates?’ Of the 134 respondees, 67% answered affirmatively with a further 29% indicating it was too early to say.

Four organisations stated that this project had resulted in raising awareness of FE teaching within universities. One in particular (Bracknell and Wokingham College) said their selected maths graduate had never previously considered teaching in FE but was attracted particularly to the opportunity for development in this role.

**Figure 9** Has the project helped raise the awareness of teaching in the education and training sector for maths graduates?



## 5.6. Commission on Adult Vocational Teaching and Learning (CAVTL)

Organisations who received a £30K award were given additional requirements to meet specific recommendations from the Commission on Adult Vocational Teaching and Learning (CAVTL) report. They had to use the funding to create a cadre of specialist maths tutors who would then be available as a resource to be shared between vocational education and training providers within their locality. £30K awards were distributed to 54 organisations across the three phases of the project and all but one were successful at recruiting.

The £30K award holders worked with various partners to share the maths expertise and create a cadre of specialist maths tutors. Below are three examples from this cohort:

## Leeds College

Leeds College recruited two new teachers and worked with its partner organisations (Kirklees College, Swarthmore Adult Education Centre and Leeds College of Building) to provide access to the maths graduate teachers across this network. Using the maths graduate recruitment incentive award, the lead college achieved the following positive and mutually beneficial results across the partnership: (1) increased the training and recruitment of teachers of maths within the lead college and its partners; (2) fostered a collaborative environment for improving recruitment; (3) contributed to the impact on national policy efforts such as the CAVTL goals and (4) increased workforce capacity. The college's participation in the project has also been extremely beneficial on the micro-level, initiating cross-departmental working and encouraging a dialogue between ITT provision and subject-specific teams.

## Rotherham College

Rotherham College recruited two new teachers and worked in partnership with Dearne Valley College which is also based in the Rotherham area. In addition there was sharing of good practice and resources through the Maths Network the college established. This membership included: Doncaster College, Scunthorpe, North Lindsey, East Riding College, Selby College, York College, Leeds City College, Bishop Burton College, Grimsby College, Chesterfield College and Barnsley College. The college delivered training to Barnsley College to up-skill their lecturers and develop working partnerships.

This award meant there will continue to be opportunities for the different colleges to identify training and develop networking in future regular network meetings. One project currently being developed is the L3 Maths Core Skills programme and its materials to develop staff CPD in conjunction with this pilot. With the continuation of the network it will enable local institutions to share good practice in an environment where creative ideas can be fostered to improve the service offered to the local community/employers.

By accessing the incentive award, the college recruited two highly skilled maths graduates who became qualified lecturers in June 2015 through the successful completion of their initial teacher training. These graduates deliver high quality teaching and learning to their students and have the technical expertise to deliver higher level maths and meet the demands of the Maths Core Skills curriculum. In partnership with Dearne Valley, the college aims to continue to deliver training to local colleges to help up-skill their lecturers, together with their own, by being able to release the more experienced maths lecturers. The college see this as a long term CPD plan in the drive to become an Ofsted outstanding college. Finally they aim to continue networking with local colleges through their Maths Network to constantly reflect and develop in order to meet the needs of the local community/employers.

The impact of the project and key outcomes achieved include:

- Embedding maths in the curriculum - working together to share good practice in areas that have traditionally been challenging.
- Working with employers to effectively promote maths in the workplace.
- Advancing maths best practice in the local community learning environment.
- The excellent practice and innovation identified through this project will be continually shared through their already established network activity.

The project long term is expected to have a major impact on student success and their progression through college, into employment and in their everyday lives.

### The Colchester Institute

The Colchester institute recruited five maths graduates and the award has enabled them to lead and fund a course for teachers and Learning Support Practitioners to improve their maths skills and gain an award at level 3 in Maths for teaching numeracy, which will enable the candidates to progress to complete the level 5 Specialist Numeracy teaching Diploma. The free places were offered to staff in partner colleges and sub-contracted Training Providers. Through this they are developing a community of maths practitioners in the area who are committed to continuous professional development and sharing good practice. The impact of the additional funds has enabled them to broaden the scope of identifying and supporting potential maths teachers as well as extending the communication network to share and develop good practice. The project funds overall have enabled the FE and Training providers to extend and develop capacity for maths teaching within the sector as well as an opportunity to innovate and share practice.

## 5.7. Equality and diversity

***“Maths can sometimes be seen as a ‘male-orientated’ subject (less so now of course) but our maths ambassador is also a great advocate and example for our female students to consider maths as a serious subject for A-Level study and beyond. We have used the award to promote a new post of ‘Maths Ambassador’ – a role created for a recent graduate with a good maths degree – with a view to impact positively not only on our own college but also the maths provision more broadly in this area”.*** – Assistant Principal, North Lindsey College

This project required organisations to think more deeply about recruitment to a shortage subject where there was a need for different approaches to be considered. The project also asked award holders to consider how they could innovate in their recruitment practice to address equality and diversity issues. An equalities approach requires an understanding that recruitment practices can, often unconsciously, introduce bias in terms of gender, race, disability, age, social class, sexuality or religion. Such bias then prevents the organisation from accessing the full talent pool.

As part of this project, organisations have responded to the issue of diversity through the development of flexible working practices in their offer to new recruits. This has led to some success in recruitment from previously unknown groups. An example of how award holders have challenged their usual recruitment processes to be more inclusive is a provider who recruited a male teacher into the Health and Social Care division. This area has traditionally tended to attract mainly female learners and teachers. These approaches require the promotion of inclusive working environments and organisations need to develop the capacity to respond differently to both individuals and to groups.

All award holders were required to revisit their recruitment processes and this led to a more diverse approach, involving engagement with people who demonstrate potential rather than relying on the traditional, narrower, recruitment pool.

***“Our Trainees have come from diverse backgrounds in terms of education and former careers/ work experience. The Trainees have been recruited at a national level and hence the Trainees have re-located from as far afield as Scotland, Lancashire and Cambridgeshire across both programmes. Our two pure maths graduates this year are both male, but from different ethnic backgrounds and nationalities. The three other trainees who are on the programme and will be teaching STEM subjects are of mixed gender including two female trainees for engineering and maths.” – Director of Human Resources, Canterbury College***

### 5.7.1. Equality and diversity data

The figures and tables in this section provide data drawn from the monitoring surveys across all phases of the project. Equality and diversity statistics for interviewees were not a requirement in phase 1 of the project and were introduced in phase 2; therefore the comparisons between interviewees and recruits are related to the phase 2 and 3 awards only. The summary statistics of recruitment do reflect all phases as this information was available across the entire project. The equality and diversity data has been split into the following categories:

- Age
- Gender
- Ethnicity
- Disability.

#### 5.7.1.1 Interviewees and recruits by age

Figure 10 shows the percentage of interviewees in phases 2 and 3 by age group. Of the 182 respondees, 35% of interviewees were 18 – 25 years old, followed by 30% in the 26 to 35 year old age group.

Figure 10 Age breakdown of interviewed candidates (phases 2 & 3)

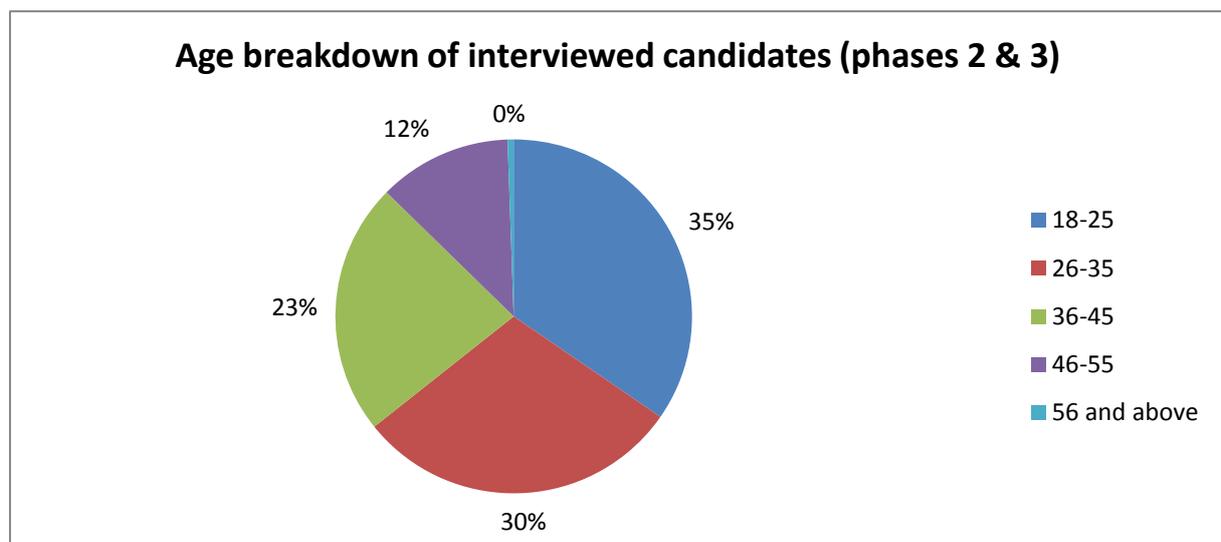


Figure 11 shows the breakdown of recruited candidates in phases 2 & 3. Of the 65 responses, 34% of recruits were in the 18 – 25 year old group and a further 34% in the 26 – 35 year old group.

Figure 11 Age breakdown of recruited candidates (phases 2 & 3)

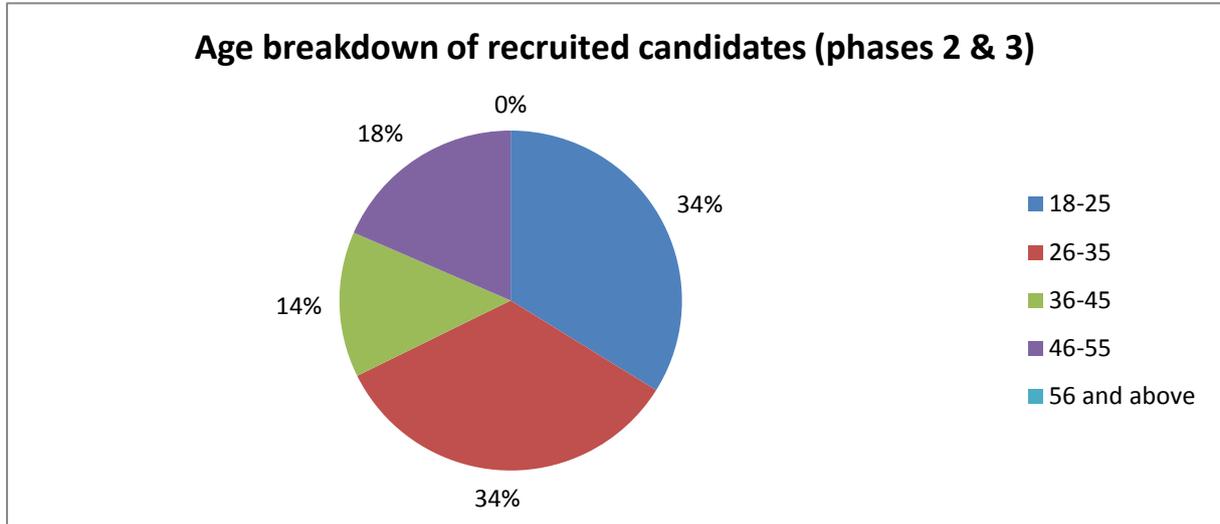
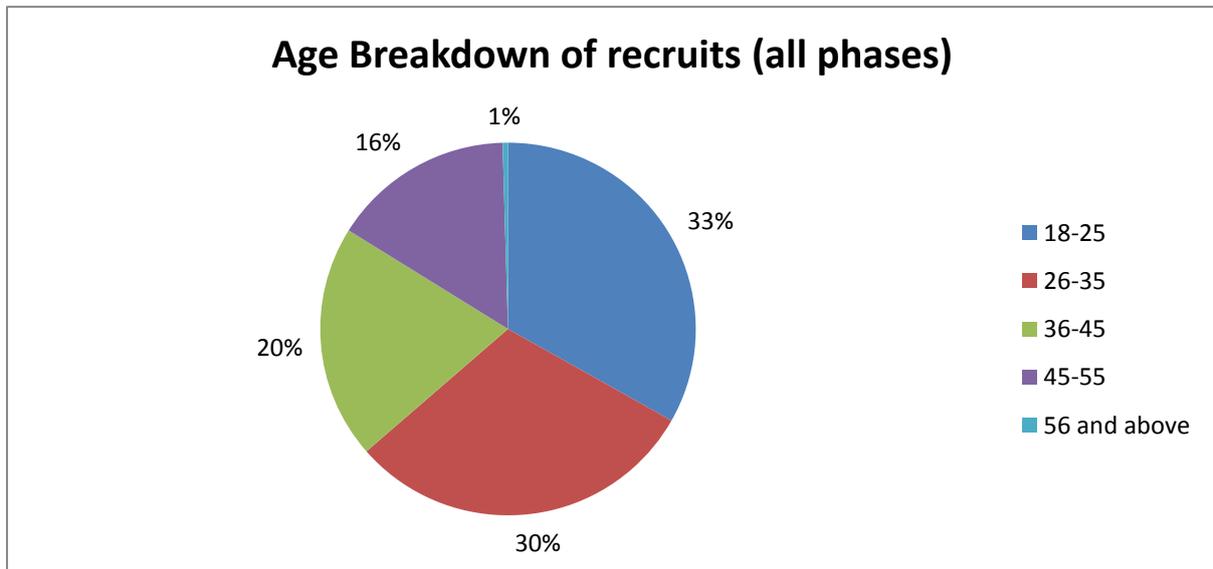


Figure 12 and Table 13 show the breakdown by age group of those who were recruited across all phases. Of the 217 responses, the largest age group at 33% is the 18 – 25 year olds, followed by the 26 – 35 year olds with 30%. This is consistent with graduation ages. Interestingly this does differ significantly from the ETF workforce data published in September 2014 which indicates the average age of Science and Maths teachers in the FE sector is 46 and for all FE teachers is 45.

Figure 12 Age breakdown of recruits (all phases)



**Table 13: Number of recruits within each age group**

Age Group	Number of Recruits
18-25	72
26-35	66
36-45	44
45-55	34
56 and above	1
<b>Total</b>	<b>217</b>

### 5.7.1.2 Interviewees and recruits by gender

Figure 13 indicates that 59% of those interviewed (273 responses from data collected in phases 2 and 3) were male and 41% female. The surveys show that 57% of those recruited (101 responses in total) in these phases were male and 43% female demonstrating that there appeared to be no statistically significant gender bias amongst the interviewers.

**Figure 13 Gender split of interviewees and recruits (phase 2 & 3)**

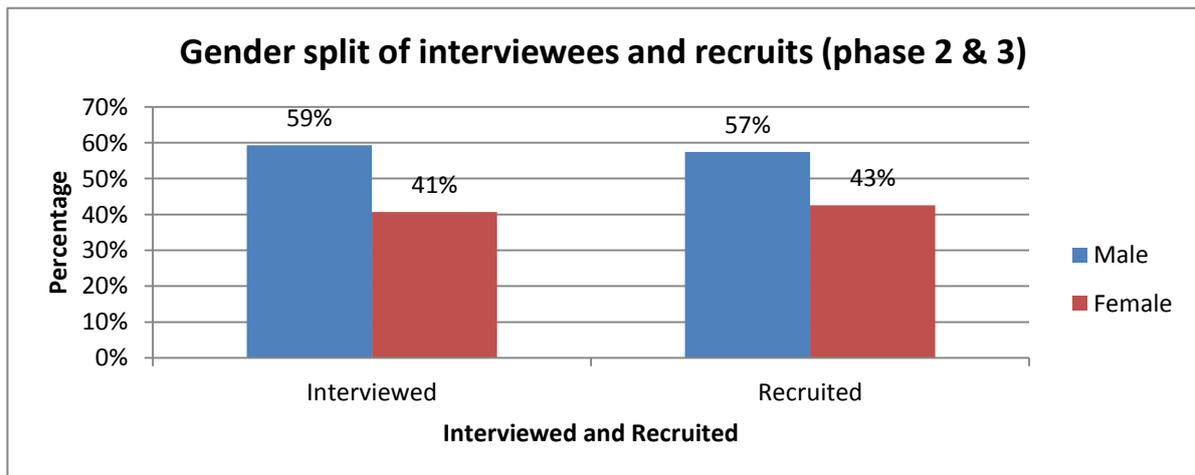


Figure 14 shows that across all phases of the project 58% of the recruits were male and 42% were female. 271 responses were received.

Figure 14 Gender split of recruits (all phases)

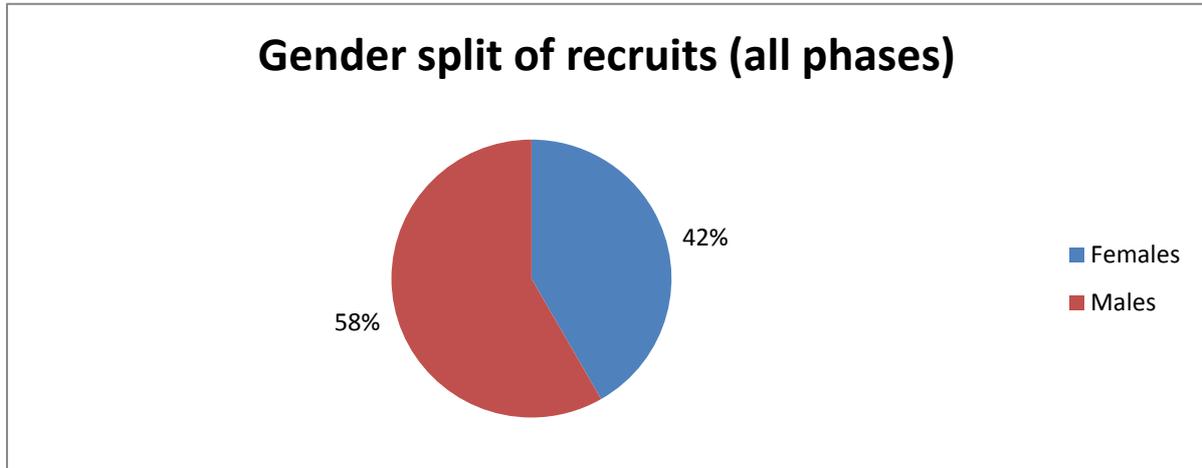


Table 14: Number of recruits by gender

Gender	Number of Recruits
Male	158
Female	113
<b>Total</b>	<b>271</b>

### 5.7.1.3 Interviewees and recruits by ethnicity

Of the 187 responses, 56% of those in the interview cohort within phases 2 & 3 were of white British origin, followed by those of Asian British origin at 13%.

Figure 15 Ethnicity of Interviewees (phase 2 & 3)

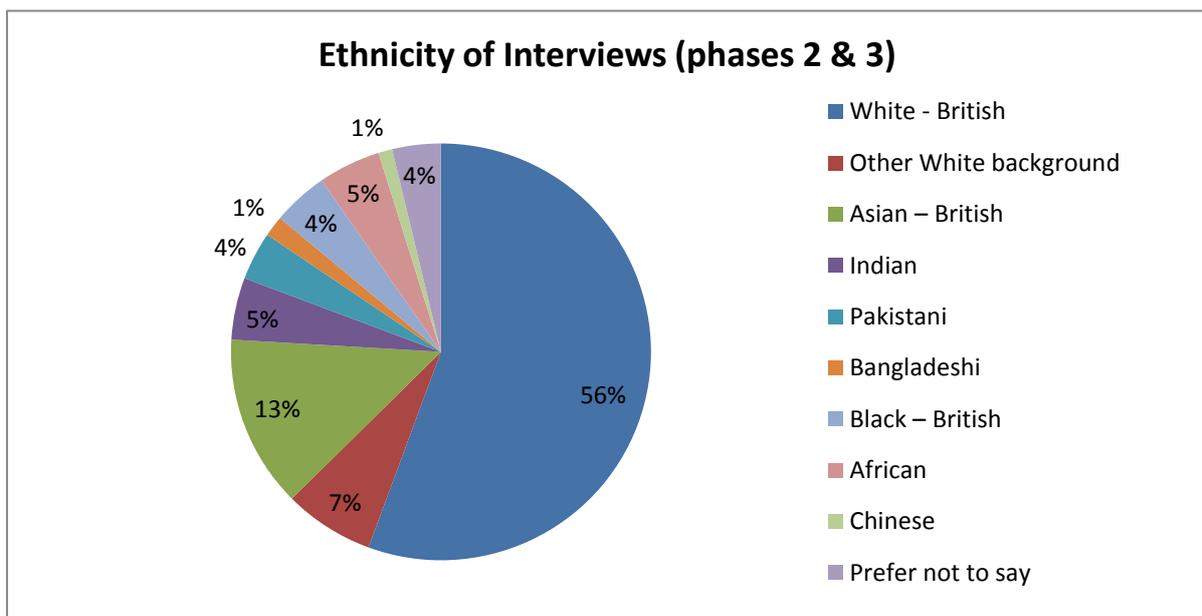


Figure 16 shows that of the 62 responses for those recruited in phases 2 and 3, 65% were of white British origin, followed by Asian British at 15%.

Figure 16 Ethnicity of Recruits (phases 2 & 3)

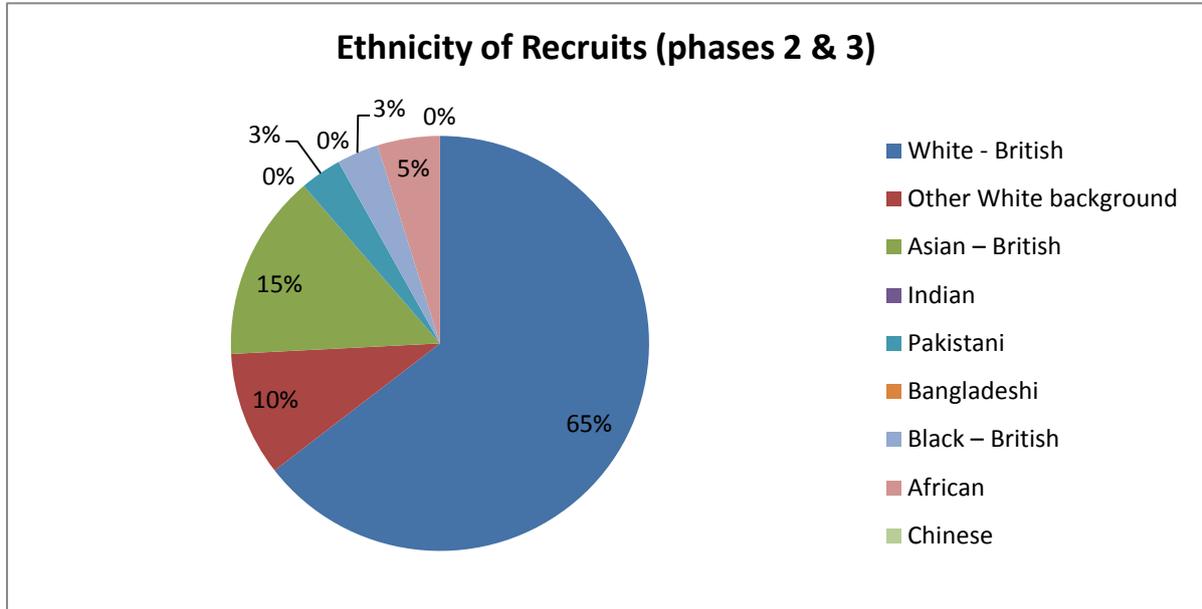
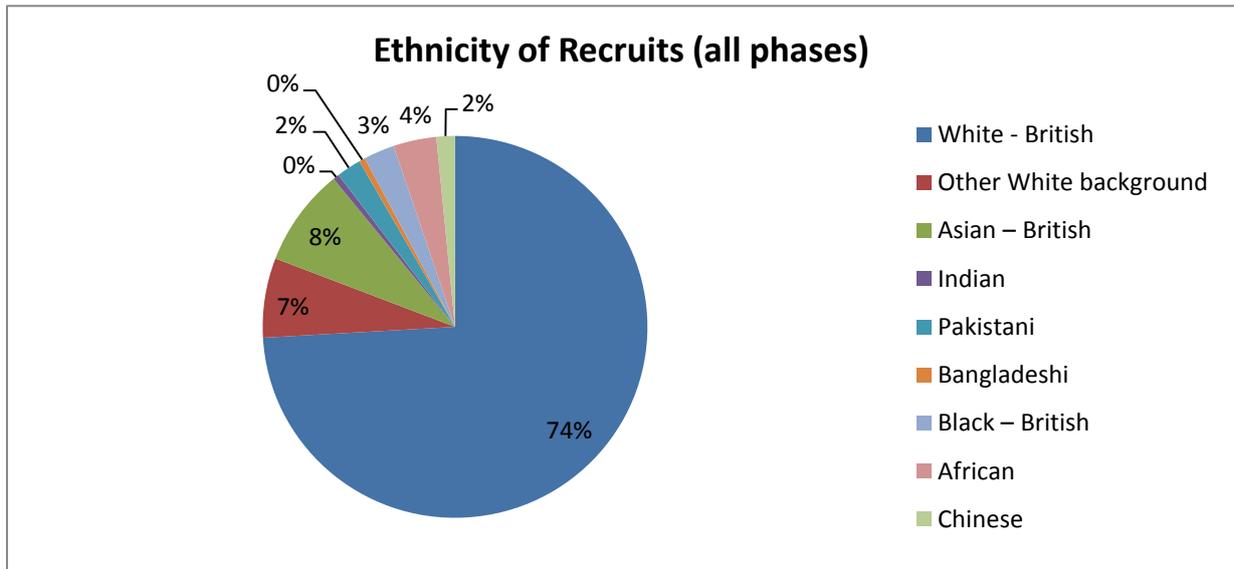


Figure 17 shows the breakdown of the 193 responses for recruits across all phases and yet again those of white British origin are the most prevalent at 74% of the cohort, followed by Asian British at 8%.

Figure 17 Ethnicity of Recruits (all phases)



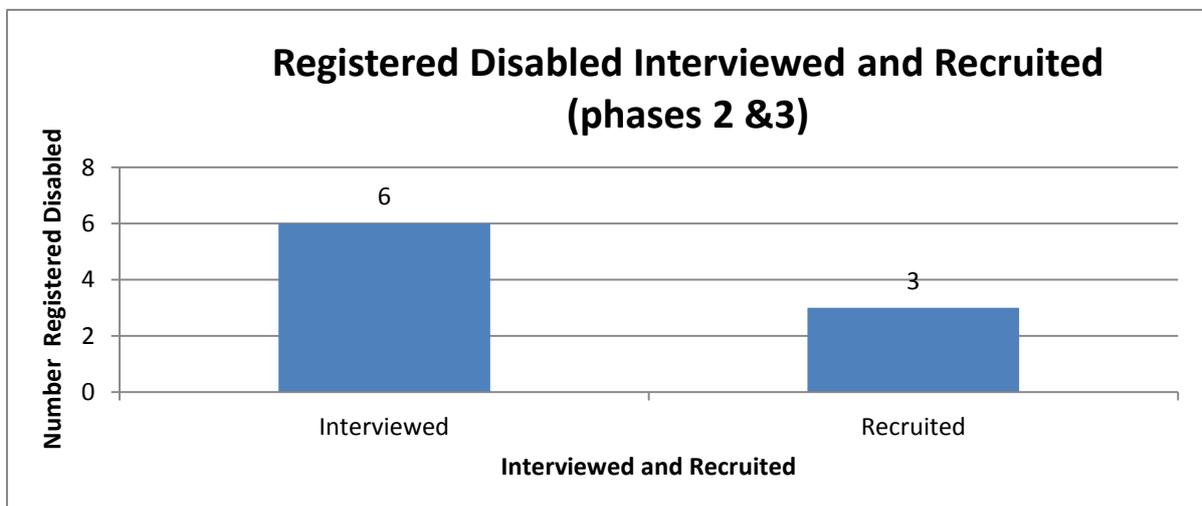
**Table 15: Number of recruits by ethnicity**

Ethnicity	Number of Recruits
White - British	143
Other White background	13
Asian – British	16
Indian	1
Pakistani	4
Bangladeshi	1
Black – British	5
African	7
Chinese	3
<b>Total</b>	<b>193</b>

#### 5.7.1.4 Registered disabled interviewees and recruits

Of the 313 people recorded as being interviewed in phases 2 and 3, six were recorded as being registered disabled and three of those were successfully recruited. A further two recruits from phase 1 were also registered disabled so a total of 2% of the recruits are registered disabled.

**Figure 18 Registered Disabled Interviewed and Recruited in Phases 2 & 3**



#### 5.7.2. General

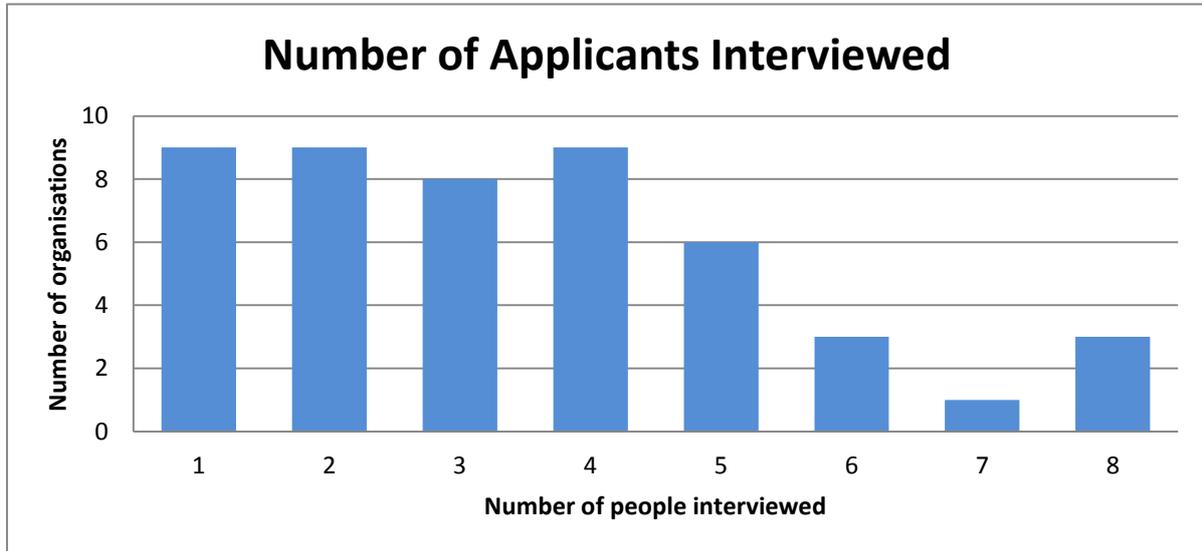
Award holders were asked if the award had had a positive impact on equality and diversity and of the 141 responses:

- 95% of respondents said the award had had a positive impact on equality and diversity in their organisation
- 4% said the award had had a positive impact on disability
- 27% said the award had had a positive impact on ethnicity
- 34% said the award had had a positive impact on gender.

### 5.7.2.1 Number of applicants interviewed

There were 161 responses to the question of how many applicants were interviewed in phases 2 and 3 by training providers and FE colleges. Some institutions only interviewed one applicant but others interviewed up to eight.

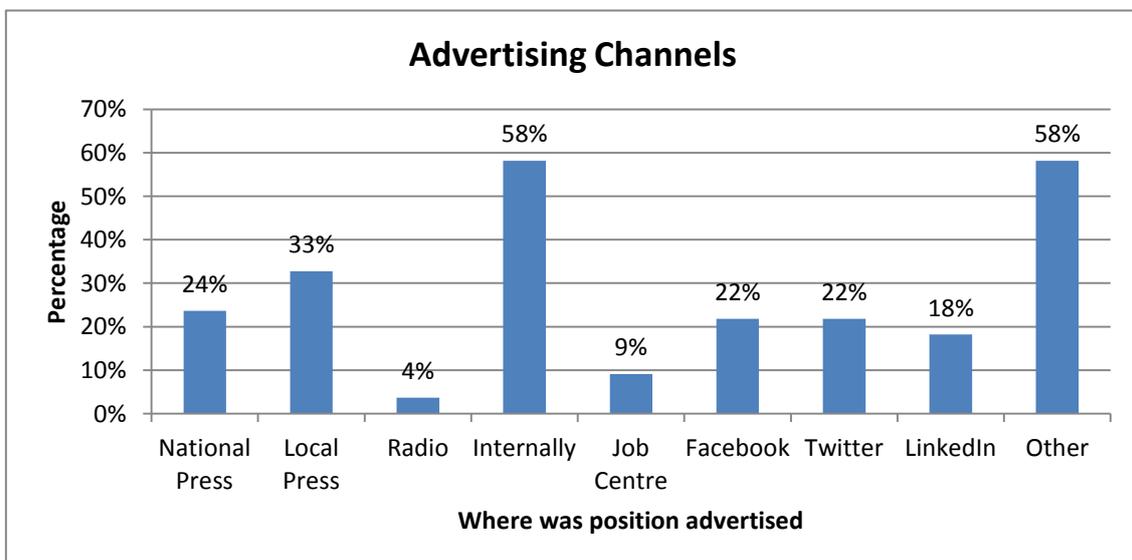
Figure 19 Number of Applicants Interviewed



### 5.7.2.2 Marketing

Award holders used a variety of media to market their vacancies including the national and local press, advertising internally and in job centres and using social media such as Facebook, Twitter and LinkedIn. When asked to indicate where they had advertised the maths teaching position, 55 people responded. 58% had advertised internally, 33% in the local press and 24% in the national press. The majority of organisations advertised in more than one place. 58% also said they advertised elsewhere, which in the majority of cases was at their local university, through FE contacts or with a recruitment organisation

Figure 20 Advertising Channels



***“A wider range of media was used for advertising for this opportunity than we are normally able to use due to cost. This allowed us to carry out a good analysis of the most effective methods for this type of position.” - Head of HR, Aspire Sussex Ltd***

***“It encouraged us to look at alternative methods and to encourage people who are qualified to think about teaching.” - Assistant Principal, Berkshire College of Agriculture***

***“We have gained more understanding of how our local University Careers services can promote our vacancies.” - Interim Manager, Chesterfield College***

The Tribal team also advertised the programme and individual institutions' posts through Twitter and through the website <http://www.femathsjobs.co.uk/>

## 6. Impact of award

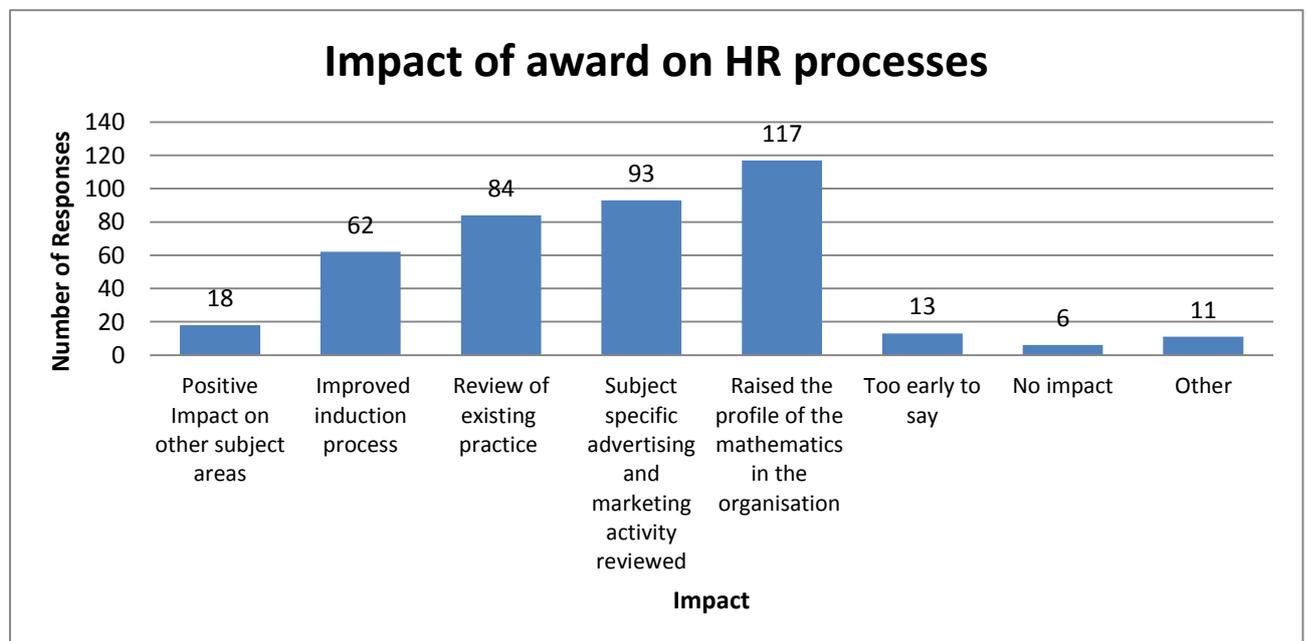
This section has been broken down into the following key aspects:

- Impact on human resources processes and recruitment
- Impact on induction, mentoring and CPD
- Impact on organisational maths strategy
- Longer term impact.

### 6.1. Impact on Human Resources processes and recruitment

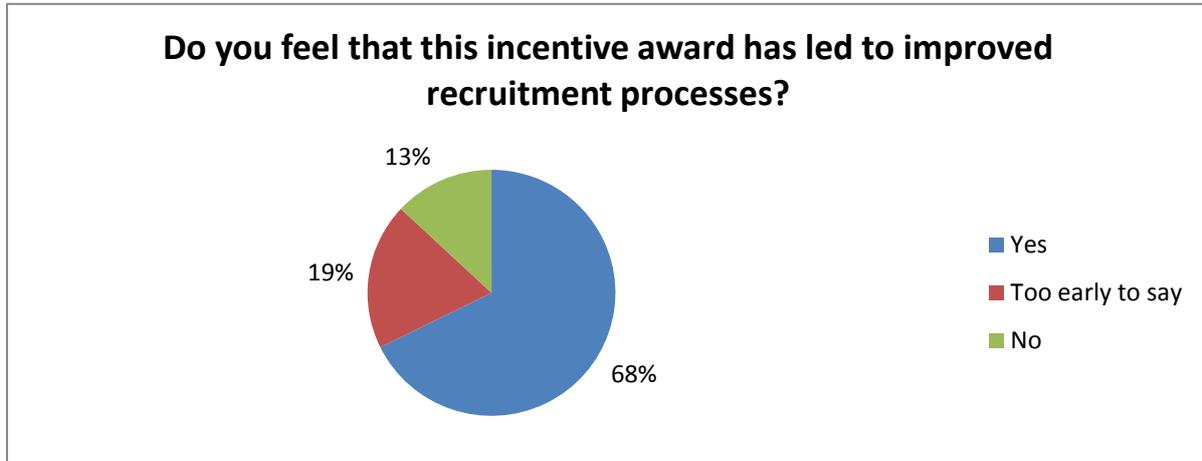
Award holders were asked if the incentive award had any impact on the HR processes and 166 people responded to this question with 96% responding positively. Figure 21 shows the responses in relation to the particular impact the award has had. 117 (70%) of them stated it has raised the profile of maths in the organisation and 62 (37%) of them indicated this award had helped them to improve their induction process. 93 (56%) said that the incentive fund had enabled them to try a different approach to marketing and recruitment. It is apparent from responses that this has had an impact on the way these institutions will market future vacancies and 62 (37%) said that it had improved their induction process, 84 (50%) that it had made them review their existing practice and 93 (55%) had reviewed their subject specific advertising and marketing activity.

**Figure 21** Has the incentive award had any impact on the HR processes?



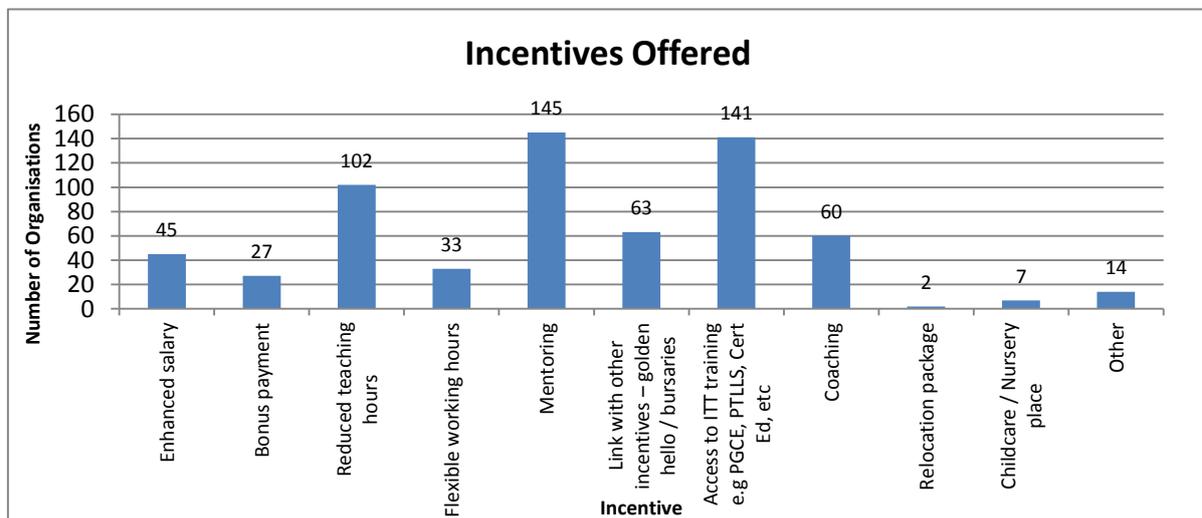
Award holders were also asked questions regarding their specific recruitment processes and 161 people responded. 68% of respondents to the surveys believed the incentive award had led to improved recruitment processes. 19% felt it was too early to say and 13% thought it had not improved their recruitment procedures. Of this 13%, five of them declared they already had robust recruitment procedures within their organisations.

Figure 22 Do you feel that this incentive award has led to improved recruitment processes?



Reduced teaching hours and a competitive or enhanced salary package have also been offered by many organisations who have found these invaluable incentives in successfully recruiting. The careful selection of appropriate mentors and teaching groups for the graduate has also been helpful to ensure the new recruit feels supported appropriately. Many institutions offered extra incentives to candidates, two organisations offered relocation costs and five provided childcare. Other incentives included access to additional courses and training, access to personalised CPD and in one case access to the healthcare scheme on successful completion of the probation period.

Figure 23 Additional incentives offered as a result of this award



From the 164 responses, the most common incentive was mentoring offered by 88% of organisations, followed by reduced teaching/contact hours at 86%. Many organisations offered a combination of incentives to provide an enhanced overall package to the appointee.

This project has shown that there are benefits in reviewing organisational recruitment processes. Evidence from discussions with award holders at events suggests that improving the dialogue between Human Resources staff and curriculum teams when planning recruitment promotes a better shared understanding of appointment needs.

Extending traditional approaches to recruitment has also proved beneficial and there are project examples of using social media, wider contacts and networks as effective recruitment methods. One organisation also commented that the project gave them the opportunity to focus on recruiting based on 'potential rather than previous experience' as a key recruitment criterion.

The feedback from award holders suggests that whole organisational approaches and senior leadership engagement are key factors when recruiting to skills shortage areas. 52 organisations also recruited internally appointing previously non-teaching staff. In these instances, the organisation had to communicate the opportunities clearly and effectively internally.

Below are case study examples of how the incentive award has impacted positively on the recruitment process of two organisations:

### Wigan and Leigh College

Wigan and Leigh College was able to link with universities and outside agencies to recruit maths teachers who had up-to-date knowledge of the teaching of maths GCSE. Advertising on a wider scale resulted in greater success in recruiting. In fact, they recruited six new staff; of whom two were newly qualified. They also recruited a trainee maths tutor who will complete her teaching placement with them in the academic year 2015/16.

Wigan and Leigh College believes that being part of this scheme has been a great help in recruiting highly qualified and passionate staff. They were able to make strong links with universities and plan to continue to work with HEIs, and so employ more post PGCE teachers in the future.

### South Leicestershire College

This college hosted comprehensive recruitment events supported by high quality information, advice and guidance and local and regional advertising campaigns. They currently work with an external recruitment marketing company which:

- Advertises Open Day events across Job Boards and Social Media, including sector specific LinkedIn Groups
- Conducts candidate search and contacting any suitable candidates about the Open Day
- Handles a Talent Pool database

The college also provides comprehensive information around the FE Bursary scheme, the Maths Enhancement Programme, provider recruitment awards and the 'Golden Hello' to maximise interest and benefits. The College works with their federation, with the Midlands Academies Trust and a national employer to offer teaching practice hours supported by professional mentoring by maths specialists.

As well as the above, the College's Initial Teacher Training team identifies potential and suitably qualified current and past learners whilst the Human Resource departments at both Colleges identify current employees who may have the appropriate skills set to become teachers. They also work with Job Centre Plus to engage those who are currently available for work or training opportunities and who have the correct level and skill. The college has excellent working relationships with all of the local JCP offices.

The selection of quotes overleaf from award holders illustrate how the award has impacted on their existing recruitment practices:

***“It has encouraged us to look within the organisation and at re-deployment of staff from sciences etc.”*** – Assistant Principal, Berkshire College of Agriculture

***“It has encouraged (us) to think differently about where we can recruit.”*** – Assistant Principal, Bridgwater College

***“Focused the organisation. Helped review practices linked to subject specialist recruitment.”*** – Projects Co-ordinator, Runshaw College

***“Helped us to innovate in terms of advertising but more importantly enabled us to provide a comprehensive support package and bespoke professional development programme for the candidates which we hope will encourage retention and avoid early exit from the profession.”*** – Assistant Principal, Exeter College

## 6.2. Impact on induction, mentoring and Continuing Professional Development (CPD)

***“The award has allowed us to offer a heavily remitted timetable (8 hours as opposed to 24 hours teaching) to allow the new graduate to undertake and concentrate on their professional studies as well as learn the role of a Lecturer by providing a mentor. This reduced timetable allows them to learn the FE environment and work with peers and their mentor without the pressure of a full teaching timetable.”*** – HR Manager, Lincoln College

The support for appointees when they commence work is critical to both their future success and to retention. The provision of a thoroughly planned induction into all aspects of the organisation is an equally important element of helping the graduate adapt to their new role. With new teachers, investment in subject specific CPD is essential, especially in a subject where there are so many current changes to the curriculum and pedagogy.

Support can take many forms, but often a very successful way to integrate a new teacher into the organisation can be by appointing a mentor. Many project organisations adopted this approach and with the appointment came the need to ensure that there was time available for the mentor to meet with the graduate, time for reflection and for regular meetings with other maths staff. Such support was often further enhanced by facilitating access to wider groups of maths teachers e.g. regional/local maths groups.

Overleaf are some comments from award holders regarding the positive impact of this award on their induction processes:

***“This gave way to our ‘wrap-around’ induction programme we termed the Teacher Academy. The Teacher Academy provides intensive induction for the new trainees covering all aspects of FE teaching – from understanding the roles across College (e.g. registry); enrolment; IAG & DA; SAR; the Quality Cycle and learner journey; peer observations; professional standards; coaching and mentoring; CPD workshops and team teaching” – Director – HR, Canterbury College***

***“Introduction of mentorship programme for new maths teacher and review of delivery methods to support new teacher. Substantial coaching and mentoring offered to candidate which enabled transfer of graduate's expertise into existing teaching team. Our new graduate's mentor is the key player for this new approach and she is actively supporting him in and outside the classroom.” – Head of Faculty, Abingdon and Witney College***

### Northumberland College

***“The College trialled the use of internet advertising rather than the more traditional approach and have continued to do this this going forward. It also enabled links with local Universities to be fostered and used going forward for other vacancies.” -  
Director of Human Resources, Northumberland College***

Northumberland College has been trialling an amended induction process for their successful candidate, with a wider range of staff being involved in the induction process. This has led to a full review of the induction processes within the college and will hopefully, as a result, increase retention in other areas too.

The funding has enabled remission for teaching staff to mentor the graduate trainee throughout their first two years of employment. Knowing how important mentor support is for a graduate trainee, the college has identified two suitable staff for this role. One is the tutor on the PGCE programme and this person will offer guidance and support on teaching and learning. They will also carry out observations and offer advice to support and develop good practice. The trainees will also be supported by a subject specialist mentor who is based at the outreach campus where the trainees will be teaching. The subject specialist mentor will offer detailed functional skills subject and content advice as required. In summary, there will be comprehensive advice for the trainee both in terms of their teaching practice and their subject knowledge and expertise.

The trainee will, once they are confident in their practice as a teacher, teach maths across the full range of the curriculum – from Entry Level through to Level 3, including maths within Foundation Degrees and HNDs.

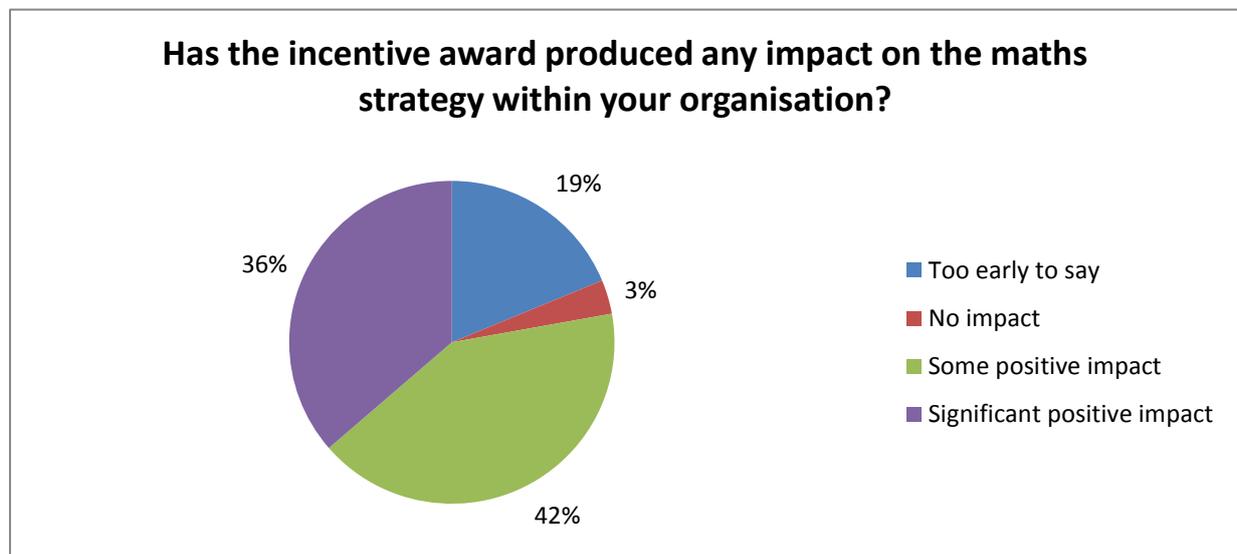
In addition, the Maths graduate will work in Northumberland College in term one with Early Years and Health and Social Care, in term two with Hair and Beauty and in term three with Land Based Industries. These are all areas of the college which struggle with the embedding of Maths. Initially, the trainee will spend two weeks shadowing vocational staff and then will produce training packages and will also undertake team teaching.

***“We believe that the melding of the project with the formal teacher training qualification is strength in terms of simultaneously qualifying participants with while they are in the workplace. Government Bursaries for good degree Maths teachers makes it possible to fund the training.” – Director – Centre for Lifelong Learning, City & Islington College***

### 6.3. Impact on organisational maths strategy

Award holders were asked ‘Has the incentive award produced any impact on the maths strategy within your organisation?’ Of the 176 who responded, 78% said that it had had a positive impact.

**Figure 24** Has the incentive award produced any impact on the maths strategy within your organisation?



Many who said that there had been positive impact commented on this:

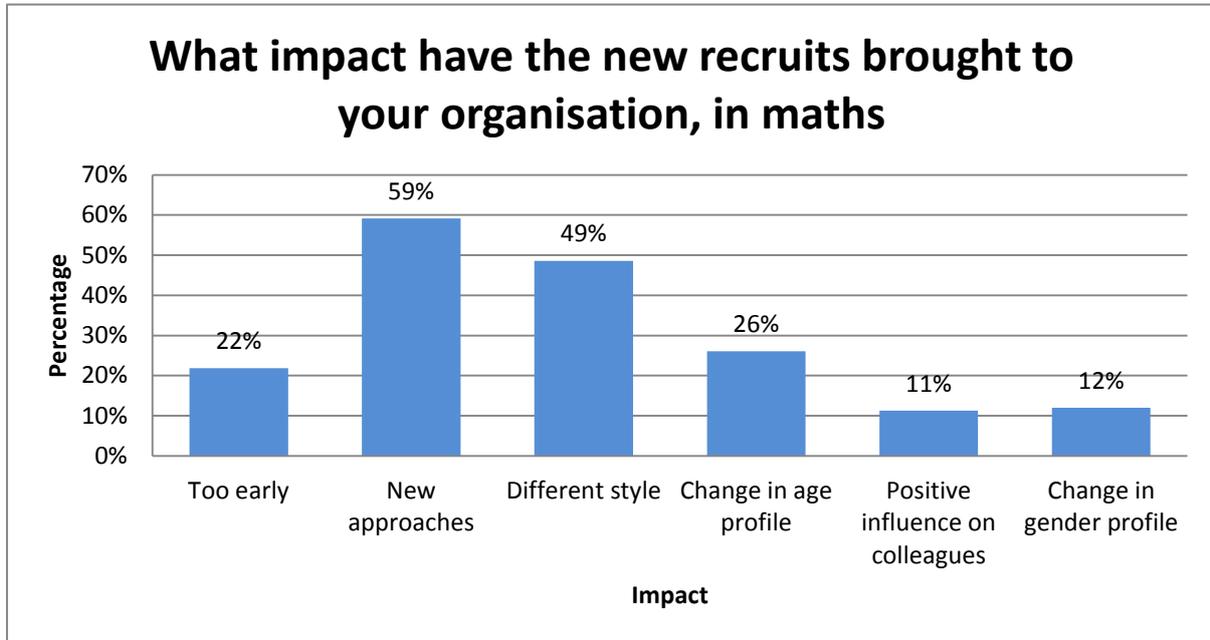
***“Retention has improved where Maths Graduates have been placed to support taught sessions with a tutor in 2014-15 in some cases between 74% and 95%.” – Programme Manager, Wolverhampton Adult Education Service***

***“We are now slightly overstaffed which has enabled us to release time to maths teachers to have link meetings with other departments to encourage (the) embedding of maths” – Assistant Principal, Berkshire College of Agriculture***

***“The graduates are at the forefront of what we are doing in terms of raising the profile of maths in college.” – Director of Teaching and Learning, Barnsley College***

The new recruits have impacted on their subject area within their organisation in many ways including bringing new approaches to maths, a change in the gender and/or age profile. Of the 142 responses, 11% also felt that the new recruit had a positive influence on their colleagues.

Figure 25 What impact have the new recruits brought to your organisation, in maths?



Some commented:

***“Further raised the profile of the importance of maths in the FE sector across the College, particularly at a senior leadership level.” – Section Leader English and Maths, Askham Bryan College***

***“One of the new staff has come from teaching Computing and has a wide range of experience with Vocational courses; this has provided an insight for the whole department on the vocational students that we teach.” – Curriculum Manager, Bury College***

***“We now have a much larger proportion of FT staff (even adding one post has made a big difference) and all our functional maths teachers can teach GCSE as well. This post has enabled us to attach a member of the maths team to each college faculty, greatly improving communication between the vocational and maths staff. Attendance in maths is 2% better than last year (still needs improvement) and students and teachers alike know who to go to for information, guidance and queries.” – Director of Curriculum, Foundation and Progression, Greenwich Community College***

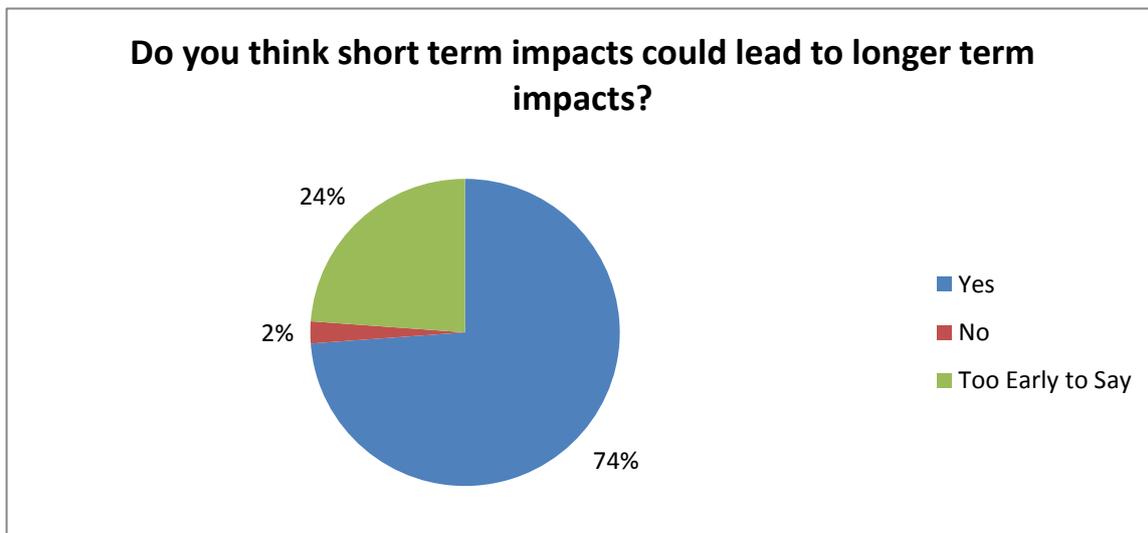
***“We now have a distinct maths team, the new teachers are having an impact across college in their delivery style and passion for maths and they have changed the dynamics within the maths team.”*** – Head of Department Foundation Learning, English & Maths, Trafford College

***“High impact in helping to create a dynamic new maths delivery team”*** – Director of HR, Basingstoke College of Technology

### 6.4. Longer term impact

A further question in the surveys asked if respondents believed that the short term impacts from the project could lead to a longer term impact on teaching, learner engagement and future learning results. Of the 130 responses, 74% agreed that short term impacts could lead to longer term impacts. One organisation (Wolverhampton AES) commented that they believe the scheme has encouraged newly qualified people to take a positive step forward into a very rewarding career. They said it has helped the service to strategically plan curriculum need that supports learning and expect this will increase success rates. Another (Newbury College) indicated that students and staff are benefitting from teaching in smaller groups with the maths champion and this is impacting attendance and success rates.

Figure 26 Do you think short term impacts could lead to longer term impacts?



Many added a comment such as:

***“Having staff with current, high level maths qualifications increases the capacity to deliver a wider range of maths qualification’ such as ‘Core, AS and A2. Provides opportunities for in house staff development for vocational tutors and introduces role models for students when graduates are closer to them in age. Certainly I am optimistic that vocational staff will be better able to help students with ratio, percentages etc. in their areas. This must surely have a long term impact on students,”*** – Assistant Principal, Berkshire College of Agriculture

***“Maths teaching will engage learners so that it is not seen as a “bolt on” to the main study programme and through developing maths teachers’ skills - this will lead to more engagement of learning, improved attendance and therefore better results.” – Director of Teaching and Learning, Barnsley College***

Below is a sample of case studies developed from the project, supported by quotes from the organisations, indicating how the award supported improvement which is likely to have a longer term impact:

### Truro and Penwith College

***“Improved student aspiration and achievement leading to increased progression to STEM related undergraduate courses at Russell Group Universities.” – Director, Cornwall Teaching School, Truro and Penwith College***

Truro and Penwith College recruited two maths graduates to work in the college as part of their School Direct QTS based teacher training programme with Cornwall SCITT. The trainee graduate teachers were recruited through advertising the posts in the press and on the college and teaching school websites. They targeted HEIs in the South West and partner institutions, and college students who studied Maths at the college and who then progressed to maths or related undergraduate degree programmes.

The additional funding facilitated sharing of good practice and dissemination at meetings and the development of a programme for non-specialists.

High travel costs because of Cornwall’s isolation causes problems for staff attending national or even regional events to keep their practice updated. The funding has supported the local provision of focused training to enhance subject knowledge. This has helped the college to become a centre of excellence for training and support in maths and will potentially raise maths achievement in the college and its partner organisations across the county.

The college believes that these initiatives will lead to increased progression to STEM courses by raising aspirations and achievement in maths and related courses. They also anticipate increased progression to STEM related undergraduate courses at Russell Group Universities as a result of improved student aspiration and achievement.

### South Leicestershire College

***“These changes have also changed the culture of Maths learning for many learners now and in the future”. – Director of Quality, South Leicestershire College***

This college, as a result of taking part in the Maths Graduate Incentive Award Scheme, has

- Recruited one Maths Graduate as a full time teacher and funded the PGCE training route for them. This teacher works in one of the college’s partner institutions and will work with staff across the federation to provide specific and dedicated training.
- Recruited six internal displaced staff who are currently undertaking ‘up-skilling’ Maths courses to ensure their skills and abilities meet the requirements of the levels of learning required across the Federation
- Recruited two new Engineering Maths specialists into that vocational area

- Identified and allocated responsibility to seven internal staff to be 'Maths Champions' within the curriculum directorates. These 'Maths Champions' will lead on training and contextualisation of learning opportunities in Maths, Functional skills and Core Maths programmes.
- Sixteen new Maths leads across the federation have been appointed.
- Many employers are now making more learning opportunities available for apprenticeship learners especially in their workplace.

The additional funding has also been used to support development costs for current vocational staff. The college learners relate well to teachers whom they view as having experience in the 'real world' and can demonstrate knowledge and experience relating to their own future aspirations

The feedback from employers has been positive and the college believes that these changes have also changed the culture of Maths learning for many learners now and in the future.

### Yorkshire Training Partnership Ltd (YTP)

***"X has come into post and has immediately made an impact. This would have not been possible without the award. As a small, not for profit business, we empower our sub-contractors to deliver all the activity to meet the requirements of the contract. As a lead, we provide a seamless support mechanism in order for the consortium partners to ready themselves for a direct SFA contract. In terms of equality and diversity, X has already suggested some ideas for motivational speaking which we are going to act on as soon as possible". – Director, Yorkshire Training Partnership***

Yorkshire Training Partnership Ltd was able to persuade existing staff without a teaching qualification to agree to undertake teacher training. These people were not currently in a teaching position as no direct delivery is undertaken by Yorkshire Training Partnership. Yorkshire Training Partnership has matched some of the funding by purchasing several ICT peripherals to equip an ICT suite which will become the consortium's initial assessment centre. The initial 'foot up' from the incentive award has meant that consortium partners, employers and learners all have a standardised approach to initial assessment with further autonomy provided from their own organisations. The system and associated resources are being used and implemented to meet the needs of the specific sector subject areas.

Progress with a resource library is well under way; with over 100 bespoke resources produced which can be used by the functional skills teachers in the relevant contextualised formats. Their Maths Graduate from phase 1 has worked hard on these resources and more resources than anticipated have been produced and published in an online library. One to one tutor sessions have also been a success.

YTP was recently graded by Ofsted as grade 2, good. It was noted by Inspectors that:

- Learners receive high levels of personalised support from trainers; this assists them in successfully overcoming any personal barriers to learning
- Good communications with employers ensure learning and assessment is tailored well to the individual learner
- Learners benefit from good information, advice and guidance and a comprehensive induction so that most join the right programmes best suited to their needs
- The large majority of teaching, learning and assessment are good, with some inspirational lessons

- Very effective partnerships enable Yorkshire Training Partnership (YTP) to meet the needs and interests of learners and employers
- Learners quickly increase their self-confidence and skills in English and maths within the workplace
- Tutors ensure that apprentices have a good understanding of tolerance and respect and celebrate differences including gender and heritage

Yorkshire Training Partnership state that ‘The utilisation of both awards has been instrumental in our Ofsted recovery plan and Yorkshire Training Partnership will continue to improve and strive to be an outstanding provider of Education and Training.’

These themes and other comments drawn from award holders indicate that organisations have made changes to existing practices and are noticing differences in teaching and learning. As one organisation noted *“She is changing the male-orientated view of maths and is making the lessons fun”*.

Often, the impact to organisations has been immediate and this seems to be particularly true for training providers.

## 7. Conclusions and recommendations

### 7.1. Conclusions

**The project was successful in achieving its aims because:**

- An additional 280 staff have been recruited into the FE and Skills sector
- 159 awards have resulted in one new maths teacher for their organisation and 47 awards have led to recruitment of more than one new maths teacher
- The awards facilitated recruitment to organisations which had struggled to recruit in the past.

These achievements have contributed towards the aspiration of developing a cadre of specialist English and maths teachers in every college.

**Incentives provided as part of the project have had a positive impact as evidenced by the following:**

- 109 organisations believe that the incentive award has led to an improved recruitment process
- 137 organisations believe this incentive award has positively impacted on their maths strategy
- 117 organisations said the award had raised the profile of maths in the organisation
- 62 organisations indicated this award had helped them to improve their induction process
- 145 organisations are now offering a mentoring programme to new recruits
- 164 organisations indicated they had offered some level of incentive to the graduates such as a bonus, enhanced salary and/or reduced timetable
- The project clearly supports the recommendations and spirit of the Commission on Adult Vocational Teaching and Learning report. This is exemplified by the encouragement and development of non-teaching staff, who have significant maths in their previous studies and are looking for a career change, to become teachers
- 134 organisations indicated the award had had a positive impact on equality and diversity within their organisation
- The workshops, webinars and additional support provided through the programme have been shown to be essential components and have been highly rated by award holders.

This evidence suggests that incentives do work and award holders considered that the award enabled them to offer more attractive packages to potential recruits. The project has also facilitated the reviewing and rethinking of existing recruitment processes.

**The monitoring surveys provide evidence of areas of practice which contributed positively towards success in recruiting and retaining maths teachers:**

- Internal advertising to teaching and non-teaching staff
- The use of local press and local contacts
- Building strong links with local HEIs
- The review and revision of the usual person specification criteria to encourage applications from a wider field of expertise and experience

- Enhancing salary packages
- In depth induction programmes to integrate graduates into the organisation
- The provision of additional support through mentoring and training
- The reduction in contact hours
- The provision of a structured teacher professional development scheme
- Providing appropriate training programmes allied with internal support e.g. mentoring, team teaching or internal CPD.

## 7.2. Recommendations

There is much positive work being carried out in the FE sector with regard to upskilling existing staff. Examples of this include the very successful Maths Enhancement Programme which has supported the maths subject knowledge and pedagogical development of 2,200 teachers and started them on the path to becoming effective maths teachers up to GCSE level. The million pound 'Maths Pipeline' project further built on the targeting of existing teachers involved in delivering maths, and extending the programme to vocational staff and teachers in the secure estate to support their personal development and provide a more confident cohort of maths teachers. The incentive awards have also widened the field for new recruits. It is to be hoped that this will become part of the normal recruitment process.

If the project is to continue in some form, the following specific recommendations are made:

- 1) The timing of the project has an impact on the success. Awards need to be distributed early in the academic year to match sector recruitment timetables and to provide enough time to maximise recruitment opportunities
- 2) Early opportunities for award holders to meet and discuss concerns and issues are key in setting the scene for the project
- 3) Senior Management Team involvement, including finance departments, is critical; it is evident that where this has happened changes have been facilitated more effectively
- 4) Early indicators show organisations linking with other funding opportunities to afford a range of incentives helps with the success of recruiting and support
- 5) Where organisations have used funds to support enhanced terms and conditions, recruitment and retention seems to have been successful
- 6) Policies on equality and diversity existed in all award holders; however, few have used the award specifically to address under-representation. This could be encouraged by weighting the scoring criteria in future rounds
- 7) Effective induction and mentoring programmes for graduates are essential
- 8) For shortage subjects, an effective dialogue between the curriculum area and Human Resources at the beginning of any recruitment process is essential to ensure the process recognises different needs
- 9) Locally and regionally, providers should be encouraged to share good practice and develop a dialogue to support the development of maths teaching in the sector.

At a time when it is essential to increase the number of teachers of maths in the FE and Skills sector, this project offers evidence to support the use of incentives in facilitating additional recruitment in

maths and hence a possible model for other shortage subjects. Colleges and training providers welcomed the opportunity to try different approaches to recruitment processes, incentives and bonuses, training and salary. The awards enabled them to explore different strategies with overwhelmingly positive outcomes. Following these positive outcomes it would seem a sensible consideration to continue to invest in similar projects for maths and other shortage subjects.

## Appendix A. Application assessment criteria

### ■ **Are there any partnership or collaborative arrangements?**

This question determined:

- which award the organisation was eligible for
- which organisations made up the partnership
- details of proposed partnership workings
- how leadership and reporting requirements would be met.

### ■ **Is the activity sustainable?**

A key objective of the project was to explore potential practice which will impact positively on recruitment to shortage subjects in the future.

### ■ **Has retention of the teacher been considered appropriately?**

While the aim of the project was improved recruitment, it was vitally important for the organisation to have a structured plan of support and training for the recruit to enhance the likelihood of retention. The initial experience of new teachers is critical in ensuring that they remain in the sector; therefore, it was important to check that plans from applicants included strong support.

### ■ **Is there acceptable consideration of equality and diversity?**

This tested the existence of rigorous policies but also sought information about whether applicants were planning innovative or different practices as part of the project.

### ■ **Is this a particularly innovative suggestion?**

The shortage of maths teachers in the sector was the main driver for the incentive awards and the project was looking for award holders to consider different approaches to recruitment to a subject that had proved difficult in the past. Doing more of the same was, therefore, not an option. It was important that award holders produced plans which incorporated different and innovative approaches to recruitment and retention.

### ■ **Has the application considered long term impact?**

Lessons learned from the success of the project should inform future recruitment practice and have impact on the teaching of maths in the organisation. It is hoped that this project, along with others, will lead to improvement in maths teaching and achievements within the sector.

## Appendix B. Withdrawn awards

Phase	Organisation	Type	Award Value	Reason
1	Focus Training and Development	Training Provider	£30,000	Did not fill in contract documents and was chased many times. ETF spoke to them and they withdrew
1	MidKent College	FE College	£30,000	Withdrew 3/10/14 as they had to close their PGCE program
1	Brooklands College	FE College	£20,000	Returned first payment 16/3/15 as could not prove they had done anything with money. Number of staff changes internally seemed to be the issue
1	Henley College - Coventry	FE College	£20,000	Restructure at college
1	Moulton College	FE College	£20,000	Turned down offer on 8/7/14
1	Riverside Training	Training Provider	£20,000	Application withdrawn 10/6/14 as restructure at college
1	Tresham College of Further and Higher Education	FE College	£20,000	Did not take up original offer
1	Walsall College	FE College	£20,000	Did not send in paperwork after much chasing and withdrew
2	Warrington Collegiate	FE College	£20,000	Withdrew from the scheme and are using SFA funding for existing graduate
3	KF Training	Training Provider	£20,000	Withdrew as were unable to provide the support that the graduate would require