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OfS Uni Connect Programme

EVALUATION REPORT

Does Engagement in Aimhigher Interventions Increase the Likelihood of Disadvantaged Learners Progressing to HE?

A mixed methods approach employing a quasi-experimental design and case studies.

MARCH 2020

Aimhigher West Midlands

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SECTION 1: EXECUTIVE SUMMARY

The purpose of this study is to evaluate the impact of the Aimhigher Plus widening participation programme (part of the national Uni Connect Programme[1]) on increasing the proportions of disadvantaged learners[2] that progress to higher education (HE). The study design addresses many gaps and limitations within previous widening participation evaluations, such as poor sampling and a lack of controlled comparisons between participants and non-participants. To evaluate the effectiveness of the programme and provide an understanding of 'what works' a mixed methods approach has been employed that synthesises both quantitative and qualitative evidence. The study includes the employment of a quasi-experimental approach to compare HE progression outcomes (UCAS acceptances) of a treatment *(n 513)* and non-treatment *(n 970)* group that respectively have and have not engaged in the programme. Two cohorts of year 13 students were tracked, over the 2018/19 and 2019/20 HE application cycles The sample includes learners that made a successful UCAS application and those that were not successful or did not apply at all. All learners were enrolled on full-time level 3 courses and were attending schools / FE colleges targeted by Aimhigher. UCAS data is supplemented by a number of in-depth learner and school case studies, which help to provide some context to the quantitative data and an understanding of the mechanisms which may act as enabling factors to support learners' later progression to HE. The report examines this data to review the strength of evidence in terms whether engagement in the Aimhigher programme is associated with an increased likelihood of progressing to HE.

KEY FINDINGS

Findings within this report provide tentative empirical evidence to suggest that there is an association between learners' engagement within the Aimhigher interventions and the increased likelihood of progressing to HE. Key findings from the UCAS analysis include that:

- Aimhigher target learners that engaged within one of more intervention(s) were **1.5 times more likely** to be accepted to HE than a comparison group of learners that did not engage at all.
- There seems to be a **positive linear association** (up to a critical point) between increased engagement and an increased likelihood of disadvantaged learners progressing to HE. **The optimal level of engagement** seems to be at **seven to eight activities**, where learners were **2 times more likely** to be accepted to HE compared to Aimhigher target learners that did not engage at all.
- After seven to eight engagements there is a slight fall in HE progression rates. The current analysis does not provide any indication of why HE progression rates seem to decrease after this point. It would be worthwhile for future phases of this study to provide a more detailed analysis of this finding

[1] Formerly known as the National Collaborative Programme (NOCP)

[2] Within this report learners that are the focus of Aimhigher targeted interventions are referred to as the Aimhigher populations, target or disadvantaged learners. This refers to learners that are domiciled within wards (NCOP) funded by the Office for Students. These wards a characterised by lower HE participation rates than might be expected given the GCSE results of the young people who live there (known as a 'participation gap').

Evidence from the in-depth learner and school case studies provides a better understanding of how the Aimhigher programme is improving learner outcomes, the context of these improvements and the mechanisms at play. Key findings from the case studies include:

- Interventions have helped to address many barriers that learners face in terms of progressing to HE by supporting increases in higher education ***knowledge, attitudes and learners reporting that they a now more likely to progress to HE study.***

- Wider benefits were reported to learners' ***behaviour, school attendance, confidence, motivation and school attainment*** all of which could help to increase the likelihood of future progression to HE.

- Schools highly value the Aimhigher programme and many outlined they were unlikely to access these activities without the dedicated funding and support provided. Evidence from the case studies suggests that ***Aimhigher Progression Ambassadors / mentors*** are perhaps more important than any single activity. The tailored approach gives learners more intensive and directed support, which cannot always be offered at larger scale activities. Further, schools reported that TLR payments encourage greater engagement with the programme by providing dedicated funding for a school member of staff to support the co-ordination of the programme.

Within the current UCAS analysis, it is possible that results suffer from sampling bias. Learners who did not engage within the scheme may differ to some extent in terms of prior attainment, socio-economic and demographic characteristics that have been found to be associated with educational achievement and HE progression. Within later phases of this project, data from schools and the NPD will support greater control over these variables. Despite these limitations, the current analysis does provide some control as both the intervention and comparison groups have been matched in terms of socio-economic background, as both groups of learners are domiciled within disadvantaged NCOP neighbourhoods and also in terms of prior attainment as both groups obtained the required GCSEs or equivalent to allow them to enrol onto a level 3 qualification. Therefore, the importance of prior attainment of HE progression rates for the treatment and non-treatment group may be less important than for pre 16 learners.

Due to the lack of controls in phase one of this study, it is not possible to make claims of causality. However, findings within this report are encouraging as they provide some tentative evidence and initial insights to support programme design by identifying what level of engagement seems to be most effective in terms of increases in HE progression rates (seven to eight engagements), evidence on the mechanisms and short / medium term outcomes that support this and interventions that seem to be most promising such as Aimhigher Progression Ambassadors and Mentors. Later phases of this study, will help to build on both the standards and strength of this evidence and provide a better understanding of 'what works' in terms of types of interventions and sequences of interventions that are most effective.

SECTION 2: INTRODUCTION

The purpose of this study is to evaluate the impact of the Aimhigher Plus widening participation programme (part of the national Uni Connect Programme[3]) on increasing the proportions of disadvantaged learners[4] from target (NCOP) wards that progress to higher education. To evaluate the effectiveness of the programme and provide an understanding of 'what works' a mixed methods approach has been employed that synthesises quantitative and qualitative data. This evaluation study focuses on the impact of the programme as a whole and in turn does not solely focus on the impact of a specific isolated intervention. The study includes the employment of a quasi-experimental approach to compare HE progression outcomes (UCAS acceptances) of a treatment *(n 513)* and non-treatment *(n 970)* group of learners that respectively have and have not engaged in the programme. Two cohorts of year 13 students were tracked, over the 2018/19 and 2019/20 HE application cycles. All learners were enrolled on full-time level 3 courses and were attending schools / FE colleges targeted by Aimhigher. The study design addresses many gaps and limitations evident within previous widening participation evaluations, such as poor sampling and a lack of controlled comparisons between participants and non-participants (Education Policy Institute, 2020, Gorard, See and Davies, 2012, See *et al*, 2011 and Gorard *et al*, 2007). This analysis will be completed over a number of phases, as more data becomes available in terms of important control variables (e.g. socio-economic and demographic characteristics and prior attainment). Increased availability of data (via the NPD) within each phase will support the improved standards and strength of evidence, allowing for testing to move from empirical to causality. Across the various phases of this study, analysis will identify what modes of engagement are most effective by establishing if there is an association between frequency, types and / or sequences of activities engaged within and learners HE application rates. This report presents findings from phase one of the study, which involves identifying if there is evidence to support an association between engagement within the programme and HE progression rates. This data is supplemented by a number of learner and school case studies which contextualise this quantitative data. The case studies explore the important short and medium term learner outcomes that Aimhigher interventions aim to support (e.g. shifts in attitudes, aspirations, confidence and knowledge) and how addressing these barriers may act as enabling factors to support learners' later progression to HE. Further, this report also outlines the methodology that will be employed within later phases of the evaluation.

BACKGROUND AND CONTEXT

SOCIAL INEQUALITY AND WIDENING PARTICIPATION

Within the UK there are persistent class based inequalities in terms of educational qualifications. These inequalities have a detrimental impact on later life chances of the lower classes in terms of employment, wealth, health and housing (Sutton Trust and Institute for Fiscal Studies, 2018). Furthermore, evidence suggests that inequalities are increasing with over one in five of the UK population living in poverty (Joseph Rowntree Foundation, 2018). Successive UK governments have attempted to address these inequalities through policies and funding to improve social mobility. A particular focus of such policies has included attempts to improve disadvantaged groups' lower progression rates into higher education. This often involves widening participation / fair access programmes. Such programmes aim to address '*the large discrepancies in the take-up of higher education opportunities between different social groups … by delivering activities and programmes that focus on raising aspirations*, awareness and knowledge of higher education and addressing

[3] Formerly known as the National Collaborative Programme (NOCP)

[4] Within this report learners that are the focus of Aimhigher targeted interventions are referred to as the Aimhigher populations, target or disadvantaged learners. This refers to learners that are domiciled within wards (NCOP) funded by the Office for Students. These wards a characterised by lower HE participation rates than might be expected given the GCSE results of the young people who live there (known as a 'participation gap').

other factors that may serve as barriers (e.g. misconceptions of HE) and often to a lesser extent educational attainment *among people from under-represented communities to prepare them for higher education'* (HEFCE, 2008)[5]. Such initiatives have been driven by university outreach teams and third sector organisations and requirements and regulations set out by the OfS (Office for Students). Such policies and associated initiatives are rooted in social justice and equity, as closing the gap in the proportions of disadvantaged groups participating in higher education is not only expected to benefit individuals' economic prospects in terms of improved social mobility (employment prospects, higher earnings), but also benefits to individual's life expectancy, health outcomes and wider benefits to society as a whole (e.g. less crime, faster economic growth and higher tax revenues etc. see BIS, 2013). More recently the OfS have funded the national Uni Connect programme with the aim of reducing the gap in higher education participation between the most and least represented groups.

THE UNI CONNECT PROGRAMME

Uni Connect is a targeted widening participation outreach programme, funded by the Office for Students (OfS). The programme aims to increase higher education progression rates of young people from wards (NCOP) where higher education participation is lower than might be expected given the GCSE results of the young people who live there (known as a 'participation gap'). The programme is funded from 2017-2021 and brings together 29 partnerships of universities, colleges and other local partners to deliver outreach programmes to young people with a primary focus on those in years 9 to 13. The programme aims to:

- reduce the gap in higher education participation between the most and least represented groups
- support young people to make well-informed decisions about their future education
- support effective and impactful local collaboration by higher education providers working together with schools, colleges, employers and other partners
- contribute to a stronger evidence base around 'what works' in higher education outreach and strengthen evaluation practice in the sector.

Phase 2 of the programme also includes the provision of outreach hubs across the 29 local partnerships. Hubs are being developed to help schools and colleges access the higher education outreach they need and provide a platform for wider collaboration.

THE AIMHIGHER PLUS PROGRAMME

Aimhigher West Midlands is a well-established partnership of local universities that have been delivering widening participation outreach programmes since 2004. Aimhigher Plus was developed to meet the requirements of the Uni Connect Programme. Delivery partners within this programme include six local HEIs (Aston University, Birmingham City University, Newman University, University College Birmingham, University of Birmingham and University of Worcester), several FE Colleges and commissioned service providers. The Office for Students awarded Aimhigher £10.5 million (2017-2021) to work across 25 NCOP rural and urban, West Midlands wards[6] with a population of circa 18,000 domiciled leaners in years 9-13 whom are mostly on roll within 81 target schools / FE colleges. The Aimhigher partnership aims to address the unexplained participation gap in NCOP wards by increasing disadvantaged learners:

- participation in all forms of higher education
- aspiration to progress to higher education

[5] https://webarchive.nationalarchives.gov.uk/20081202235800/http://www.hefce.ac.uk/widen/

[6] Birmingham, Solihull, Sandwell, Worcestershire, Herefordshire, and Shropshire

- awareness and knowledge of higher education, so learners can make an informed decision on whether to go or not
- confidence to succeed at school and progress to HE
- motivation to succeed at school and progress to HE
- attainment and learning in Key Stage 4 and 5

PROGRAMME DELIVERY MODELS

The models of delivery vary across rural and urban schools / FE colleges, in order to meet local needs. Within both urban and rural areas all activities and programmes delivered to learners are classified across a consistent group of typologies including summer schools, mentoring, subject tutoring, master classes, information advice and guidance, campus visits and community based interventions.

Urban area delivery model

There are five universities within the urban area. Each university is known locally as a spoke and has two members of staff to support the co-ordination of activities within schools / FE colleges. Within the urban areas, schools / FE colleges have been ranked in terms of the numbers and proportions of Aimhigher target learners on roll. This data supports how schools / FE colleges are funded and targeted by the programme. Organisations with large proportions of Aimhigher target learners receive higher levels of funding and resource and are locally known as being part of the embedded programme. Organisations with fewer target learners receive less funding and are eligible to access wrap-around activities.

Recent graduates known as Aimhigher Progression Ambassadors (APAs) are placed within embedded schools to deliver support to learners (mentoring, information, advice and guidance, and workshops for learners and parents / carers) and facilitate their access to activities delivered by partners. These schools are provided with additional funding in the form of Teaching and Learning Responsibility (TLR) payments which help to appoint a member of staff to build capacity to support the programme.

Rural area delivery model

Due to the very nature and remoteness of some of the rural Aimhigher target areas, it can be more difficult, expensive and time consuming for schools and FE colleges to engage in widening participation outreach activities. The rural area has a number of co-ordinators linked to particular schools / colleges in order to support their participation within the programme. As these areas are often remote the programme does not provide Aimhigher Progression Ambassadors. Instead Graduate Ambassadors and Further Education mentors are commissioned to visit and offer online support. The rural area runs a commissioning model, where schools / FE colleges bid for funding to deliver activities to meet the needs of learners and address gaps in provision within their organisation.

THEORETICAL APPROACH

The partnership recognises that in order to address the participation gap, interventions will need to focus on addressing the persistent barriers that learners face to enable them to progress to level 3 and higher education pathways. The partnership have conducted a rigorous literature review to identify the mechanisms associated with disadvantaged learners' lower HE progression rates. This evidence, supports the Aimhigher Theory of Change (ToC) and underpins the aims, content, outputs, outcomes and impact measures of interventions to address the barriers that such disadvantaged learners face. The Aimhigher Plus Programme is grounded on

the concepts of cultural, social and intellectual capital (Pierre Bourdiue, 1977), the psychological concept of self-efficacy (Bandura, 1977) and widespread research that demonstrates a strong association between socio-economic and demographic factors and attainment[7] through all key stages (Dfe, 2014 Gorard 2012; BIS 2013; Goodman et al., 2010; Chowdry 2013) and progression to HE (DfE, 2009; Department for Business Skills and Innovation, 2015 and HESA entry rates 2008-2019).

The concepts of cultural, social and intellectual capital provide a relevant framework for widening participation programmes to address social inequalities. The theory postulates that learners from disadvantaged backgrounds lack forms of capital, as their families are less likely to have been to university[8] and their family environment does not provide the knowledge, experience, connections and ownership or resources that enable them to progress to university, compared to their more advantaged counterparts (see Bourdieu, 1977).

Research suggests that non-cognitive psychological factors such as aspirations/expectations, attitudes and behaviours (known as AABs see Goodman et al, 2010, DCSF LYPSE study, 2009), knowledge and understanding of HE (Dumais and Ward; 2010; Davies et al., 2012) and self–efficacy (Bandura, 1977; Zimmerman et al, 1992) play an important role in attainment and HE participation (Bowles & Gintis, 2002; Farkas, 2003; Heckman et al., 2006; Jencks, 1979; Lleras, 2008). Dumais and Ward (2010) found 'that greater cultural knowledge and parental help with information about HE increased the likelihood that learners would apply to college'. Davis et al., (2012) found associations between cultural capital (parental employment and education) and intention to go to university. Davis et al suggest that 'Cultural capital may provide learners with increased awareness of information about HE and a greater ability to accurately interpret this information'. Heckman et al (2006) suggest that developing non-cognitive functions may help close the attainment gap between advantaged and disadvantaged young people and Chowdry (2013) suggests that learner's non-cognitive skills could be the key determinant of their likelihood of going to university.

In line with 'Cultural Capital' theory and research into AAB's the Aimhigher Plus Programme aims to address the following barriers in that Aimhigher target learners;

a) are less likely (than advantaged learners) to have an awareness, knowledge and understanding[9] of higher education and progression pathways (e.g. lack of transmission)
b) are less likely to see university as a place for people like them due to a lack of parental HE experience and socialisation practices
c) are likely to have lower confidence in their academic ability and lower aspirations to progress to HE.

The local programme also recognises that learners from target (NCOP) wards are not a homogenous group (see footnote 5) and will require intervention to support improvements with their attainment.

The Aimhigher programme aims to address these issues by working with learners and their key influencers such as peers / mentors, teachers / careers leads and parents /carers. The programme provides these key influencers with information advice and guidance about higher education pathways. Aimhigher practitioner's

[7] The initial analysis that supported the national funding of the NCOP found that across certain wards there was a gap in HE entry rates, than what would be expected considering the learners KS4 results. However, funding was provided on the basis of all 15 year olds domiciled within these wards, some of whom will be low, medium and high attaining. As evidence suggests that attainment is the key factor limiting disadvantaged learners' progression to HE, the local Aimhigher programme is targeting some intervention to support such learners (e.g. via subject specific tutoring).

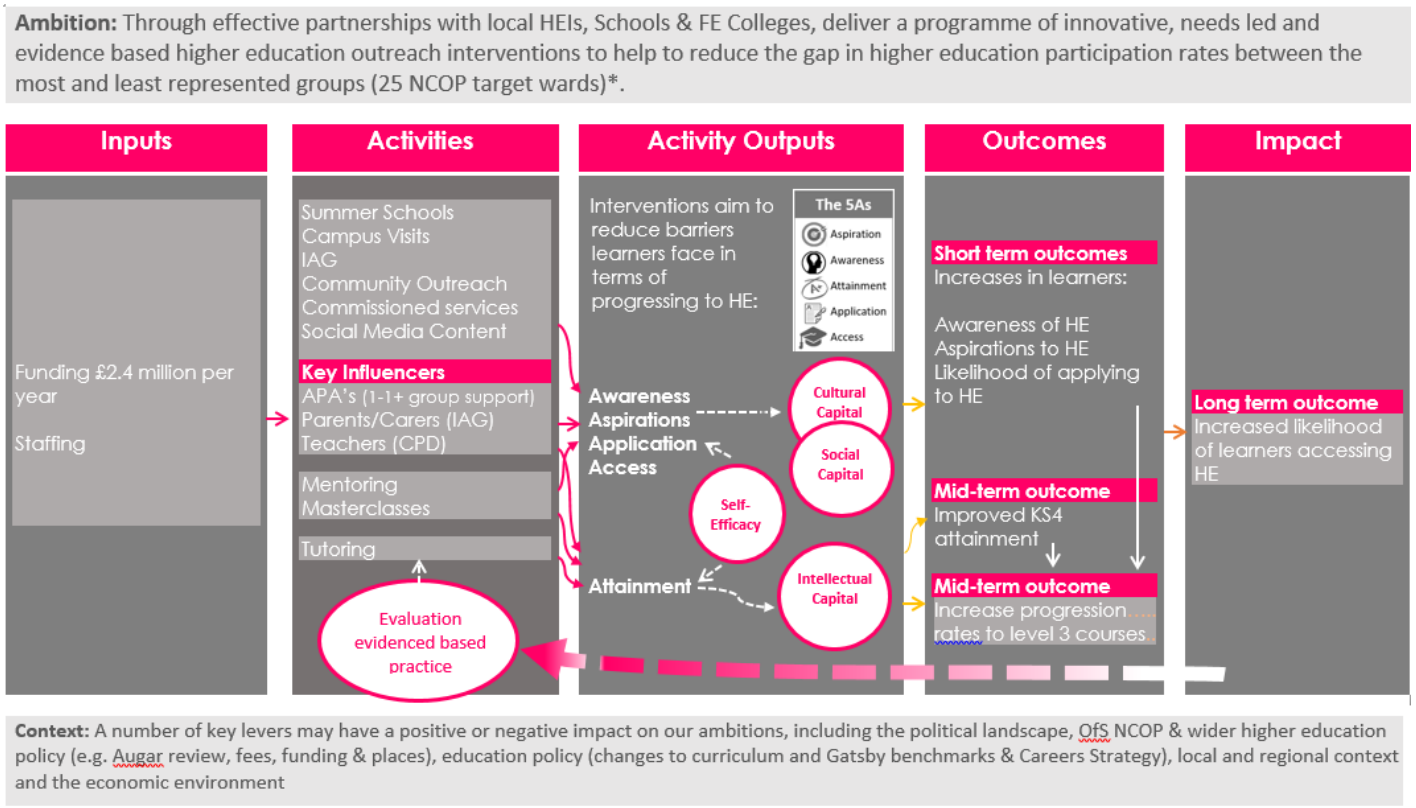
[8] Target learners are less likely to have parents who have progressed to HE (100% of local NCOP wards are AHE quintiles 1 and 2).

[9] For example disadvantaged learners may also lack awareness of how to apply to university, the choices available, hold misconceptions of student finance arrangements and the potential benefits of HE (graduate premium and employment prospects etc.) and consequently do not have the relevant information to make an informed decision on whether to go to HE or not.

and recent graduates (Aimhigher Progression Ambassadors) support this process by providing one-to-one and group support. Learners are also provided with opportunities to access a wide variety of widening participation activities. The aim of the programme is to address these barriers to HE progression by raising learners' aspirations, motivation and confidence and by increasing their awareness, knowledge and understanding (e.g. what student life is like, benefits of HE, student finance, qualifications and grades required etc.) and positive attitudes towards HE, so that they can make an informed decision on whether to go or not.

Our Theory of Change model (see figure 1) synthesises these Sociological and Psychological factors to provide an explanation of the possible casual factors that support the persistent inequalities in higher education progression rates between different socio-economic groups, throughout the learner lifecycle. In developing our Theory of Change, we have operationalised these concepts into five key barriers known as the 5As (Awareness, Aspirations, Attainment, Application and Access - see progression framework appendix 1) to be addressed through six key targeted intervention types (Campus visits, Information, Advice and Guidance (IAG), Masterclasses, Mentoring/Tutoring, Summer Schools and community based initiatives), which aim to increase the likelihood of disadvantaged learners progressing to HE. The aims, content and associated outcomes of activities vary depending on the audience group (e.g. age / key stage) and needs of participants (e.g. gaps in knowledge about HE). More detail on how the programme is monitored and evaluated in terms of the ToC is provided within the Aimhigher phase II evaluation plan.

FIGURE 1: THEORY OF CHANGE



STUDY OVERVIEW AND AIMS

The study design employs a mixed method approach and aims to address many gaps and limitations within previous widening participation evaluations, such as poor sampling and a lack of controlled comparisons between participants and non-participants. The purpose of this study is to evaluate the impact of the Aimhigher Plus widening participation programme on increasing the proportions of disadvantaged learners from target wards that progress to higher education, measured via a successful UCAS application (e.g. acceptance). The study primarily employs quasi-experimental design to track outcomes of those that have and have not engaged within various interventions. In turn this approach provides some control for *dosage* of intervention. This quantitative data is supplemented by a number of learner case studies which provide a 360 overview of impact through the learner, parent and school voice. These case study will provide contextual data to explore the extent to which the programme has enabled learners to progress to HE by increasing confidence, motivation, attainment, aspirations, awareness and knowledge of higher education, so learners can make an informed decision on whether to go or not. This analysis will be completed over a number of phases, as more data (prior attainment, socio-economic and demographic) becomes available in terms of important control variables. Increased availability of data within each phase of the study will support the improved standards and strength of evidence (e.g. moving from empirical to causal testing). The focus of this report aims to answer the following research questions:

Research question 1: Is there an association between engagement frequency and non-engagement within the programme and higher education acceptance rates?

Research question 2: What evidence do learner case studies provide in terms of the programmes success in supporting enabling factors / shifts in outcomes (knowledge, aspirations, confidence, motivation and attainment) that may increase the likelihood of their transition to HE**?**

SECTION 3: METHOD

STUDY

The purpose of this study is to evaluate the impact of the Aimhigher Plus programme on increasing the proportions of disadvantaged learners from target (NCOP) wards that progress to higher education. The study employs a quasi-experimental design where higher education progression rates (UCAS applications) are compared between a treatment group of learners (those that *have engaged* in the programme) and a non-treatment group (those that have *not engaged* in the programme). Secondary data sets were accessed to support the evaluation. The Aimhigher tracking database provided a record of individual learners' level of engagement (number of engagements and types of activities) within the programme. Learners within the treatment group will have engaged in one or more of the following activity typologies: summer school, mentoring, mentoring, subject tutoring, master classes, information advice and guidance, campus visits and community based interventions. These activities were delivered within schools / FE colleges or on university campuses of which the vast majority of engagements were face-to-face with Aimhigher staff / commissioned services and a small number online (e.g. subject specific tutoring). Learner activity engagement records were matched to student higher education acceptance data (UCAS), sourced from target schools and FE colleges. Within this study UCAS acceptance data refers to whether or not a student was accepted[10] or not (coded 'yes' of 'no') onto any course of prescribed a higher education, including the following modes of study HNDs, HNCs, foundation degree, a degree or degree or graduate level apprenticeship. The study analyses this data to identify if there is an association between engagement frequency and non-engagement within the programme and HE progression rates. This data is supplemented by learner and school case studies which were completed in previous evaluation work to explore the impact of the programme on learners' AAB's.

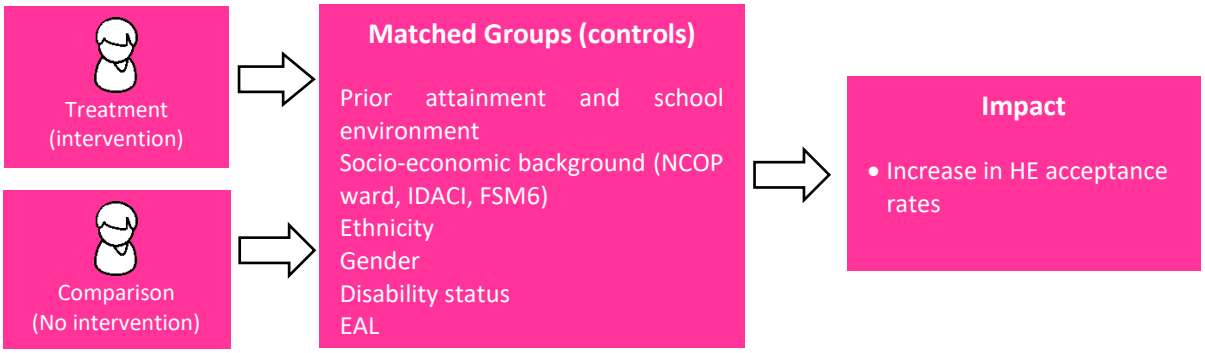
CONTROL VARIABLES

Comparisons between treatment and non-treatment groups are supported by a matched groups' design, where target learners both groups will be matched in terms of key variables which have been found to influence both attainment and HE progression rates. This approach will help to control for known confounding variables and support a robust evaluation of the programme. Evidence suggests that the most significant factors associated with progression to higher education (HE) are a learners' prior level of attainment (DfE, 2014 Gorard 2012; BIS 2013; Goodman et al., 2010; Chowdry 2013). Goodman and Gregg (2010) review of the Longitudinal Study of Young People in England (LYPSE) found that *'Differences in prior attainment explain about 60% of the gap in* KS4 *test scores between young people from rich and poor families.*[11] Prior attainment and HE progression rates vary across socio-economic and demographic factors (DfE 2009, DfE SFR 2013, BIS 2015, Sutton Trust 2010, HESA), gender (DFE SFR, 2016; HESA 2014/2015), ethnicity (DFE SFR, 2016; UCAS End of Cycle Report, 2015), disability (DFE SFR 2016) and EAL (Perry 2016). Regression analysis will be employed to adjust for these confounding variables and associated Type 1 errors (e.g. a false conclusion that the DVs are in a causal relationship with the IV). Figure 2 provides a summary of the confounding variables that will be

[10] This also includes learners who have been accepted onto a course but may have deferred for a year.
[11] Despite this finding it is important to note that the two cohorts within this study for which we have UCAS application data, were already in years 12 and 13 completing level 3 qualifications when the programme was fully operational. Therefore, the importance of prior attainment on HE progression rates for the treatment and non-treatment group may be less important than for pre 16 learners. For example in Gorard et al's (2018) analysis of NPD data found little variance in HE progression rates of learners completing KS5 courses.

controlled in later phases of this study[12]. Within the current phase of this study, controls will be employed on socio-economic status (all learners were from NCOP wards) and to an extent prior attainment (all learners were already enrolled on level 3 qualifications). Further, controls (as outlined later) will be applied through later phases of this study.

FIGURE 2: MATCHED GROUPS DESIGN



RATIONALE FOR DESIGN AND APPROACH

RCT Vs Quasi-Experimental Approach

Reviews of the literature have concluded that rigorous evidence is lacking on the impact that widening participation initiatives have on improving disadvantaged pupils HE progression rates (Education Policy Institute, 2020, Gorard, See and Davies, 2012, See et al, 2011 and Gorard *et al*, 2007). Evaluations tend to be characterised by poor sampling techniques and a lack of controlled comparisons between participants and non-participants. It has been suggested that randomised controlled trials (RCT's) and quasi-experimental approaches could address these limitations and provide a robust evidence base in terms of 'what works'.

The current study employs a quasi-experimental design to measure the impact of learners' engagement over a programme of interventions. Such approaches are popular within both medical and social research fields to measure the association of treatment and outcomes for large scale interventions. A quasi-experimental approach is also more flexible than an RCT as within the current study, it is possible for a learner to move from over time from the comparison group to the intervention group, if they engage within an intervention (e.g. group status is not fixed at a point in time like and RCT). The approach is also less expensive and resource intensive than a RCT. Unlike RCT's such approaches do not employ random assignment, but do meet some of the requirements of causality of temporality, strength of association and dose response. The lack of randomisation can reduce internal validity, increase the probability of selection bias leading to inflated effective size. These issues will be reduced within phases three and four of the current study (see pages 17-18) through large sample sizes, the provision of a comparison group and controlling for confounding factors.

[12] Due to the scope of this study it is not possible to incorporate all variables that have been found to influence young people's education (e.g. parental involvement in their children's education (Gorard et al 2012), parenting style, parenting expectations, learner motivation (Gorard et al 2012), poor behaviour, teacher-child relations and incentives to participate in interventions. Other factors such parental HE and whether a child is in care (CIC) have also been shown to be an important factor in terms of whether or not they progress to HE. Due to the sensitive nature of CIC data it is not possible to obtain such data from the NPD and control for this factor.

A quasi-experiment approach was preferred over an RCT, as the latter approach may not be easily implemented within real world contexts (see Hammersley, 2005). For example within the field of widening participation, it is difficult to control dosage, as learners may have accessed other widening participation activities before and after the RCT was implemented. In turn it is difficult to disentangle and isolate the extent to which (if a t all), the activity that was the focus of the trial or other WP activities accessed by the pupil outside of the trial (e.g. dosage contamination) were associated with positive outcomes being investigated. Trying to apply an RCT to the world of widening participation provides an oversimplification of context. Learners may be engaging in an intensive programme of activities, which vary by type and sequence and together in combination to different extents may impact on HE progression rates. This goes against the very nature of an RCT in terms of procedures and protocols which require the control group to be isolated from the treatment / dosage. This runs the risk of supressing any significant impact as the control group may have engaged in WP interventions. Importantly this is the very issue that RCT's are supposed to resolve and why they are considered to be the 'gold standard'.

Another major debate surrounding the use of RCT's outside the laboratory environment concerns the issue of how ethical it is to reduce selection bias via randomised interventions. To conduct a pure gold standard RCT within the field of widening participation would involve learners being randomly allocated to the treatment and control groups and starting this process in at least year 9 to the end of year 13, after which many learners will enter HE. Such an approach would require learners within the treatment and comparison groups not to be released to engage in any other interventions outside of the study. Purists may argue that this is ethical, as such control could help to establish a strong evidence base in term of 'what works' ensuring that resources are deployed more efficiently and effectively. However, in reality higher education providers who deliver widening participation programmes, can only do so by building strong partnerships with schools and FE colleges. Employing such an RCT approach within the programme would mean that some disadvantaged learners would not be able to access interventions, leading to concerns about fairness and ethics. A quasi-experimental approach can easily address such concerns as randomisation is not a requirement.

Data Sources

The study includes secondary data such as records of student engagement sourced from the Aimhigher database and UCAS acceptance data sourced from schools / FE colleges. The rationale for utilising these data sets within the study are outlined below.

Student acceptance rates: this data was sourced directly from target schools / FE colleges. Alternative administrative data sets were not utilised due to inherent limitations in terms of time lag (HESA entry rates) and a lack of access to individual student records (UCAS – Strobe). HESA entry data sets are not available until 18 months after a student has entered higher education. Due to this time lag, data will only be available in March 2020 for the first cohort within this study. However, HESA data does have the benefit of providing information on actual entry rates which will be lower than UCAS acceptance rates, due a small proportion of learners not taking up their offers. UCAS provide a data matching service (Strobe) that includes high level aggregate reports in terms of applications and acceptances for cohorts of learners. The major limitation of this service is that it is not possible to access data on individual learners, even if fully informed consent has been obtained from learners or their parents. The analysis required within later phases of this study is detailed and extensive and includes statistical testing (regression analysis). In turn UCAS aggregate data is not conducive of a thorough exploration of data and robust academic inquiry.

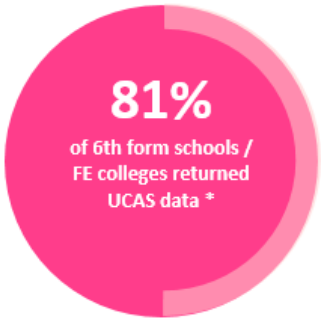
Student engagement records: The Aimhigher database provides a robust source of data as all activities delivered across the programme and student engagements are recorded. The quality of data inputted onto

the database is supported by regular data quality audits across consortia partners and mechanisms developed on the database to ensure that duplicate activities or student engagements are not inaccurately recorded. These processes and procedures ensure that Aimhigher database records are a valid reflection of the activities and student engagements across the programme.

SAMPLING AND RESPONSE RATES

The Aimhigher plus programme is targeted at disadvantaged learners who are domiciled within Aimhigher target (NCOP) wards, where higher education participation rates are lower than expected based on their KS4 attainment results. The partnership targets schools and FE colleges with large proportions of target learners. Schools / FE colleges and learners that engage within the programme are self-selected in terms of that they are interested in engaging within the programme or their schools / FE colleges perceive that the programme will benefit them and in terms of the treatment group vice versa.

This report includes an analysis of UCAS acceptance rates for two cohorts of learners who were accepted onto a HE course in the 2017/18 and 2018/19 academic cycles. The sample includes learners that made a successful UCAS application and those that were not successful or did not apply at all. The earlier cohort had the opportunity to engage within the programme over two academic years (years 12 and 13) and the second cohort for just one academic year (year 13). In total our tracking database suggests that across both cohorts there were 2706 pupils[13] (domiciled within Aimhigher wards) in year groups 13 / and FE year 2, whom were completing full-time level 3 courses within embedded schools / FE colleges. A selective sampling approach was employed, where data was requested from schools / FE colleges that had large numbers (100 plus learners) or proportions (20%+) of target learners on roll and / or had high levels of resource / funding. Data was returned for 40 out of 46 schools / FE colleges in the 2017/18 cycle and 32 out of 40 in the 2018/19 cycle[14]. This provided a return rate across both years of 81% of schools / FE colleges. The study secured data for 50% (1348) of known learners attending school sixth forms or full time level 3 courses at FE colleges. The sample has a margin of error of plus or minus 2% at a 95% confidence level. This suggest that the sample is highly representative of the population for which the data was sourced. The sample consisted of 935 learners that had engaged within the programme (treatment group) and 413 which had not (non-treatment / comparison group[15]). The programme has been fully operational over 2 academic years and as would be expected engagement was lower in the first cohort who had the opportunity to only access the programme in year 13 only. 46% of this cohort did not engage in the programme at all compared to 11.7% of the second cohort who had the opportunity to engage in the programme over 2 academic years. On average the intervention group in cohort 1 engaged 2.9 times (median 2 and range 1-29) within the programme compared to 5.3 times in cohort 2 (median 3 and range 1-35).



[13] The actual population of learners in years 13 and FE2 will be higher, as we did not sample schools / FE colleges that had engaged less in the programme and we do not hold records or data for all schools / FE colleges with smaller proportions of target learners.
[14] The number of target schools reduced from 17/18 to 18/19 mainly due to a number of sixth form closures
[15] It is likely that the comparison group within this study will disappear as the programme progresses and more learners engage. From cohort 1 to 2 within this study there has been a significant decrease in the proportions of learners who have not engaged at all. This issue is likely to become more pronounced with the next UCAS cohort who have had longer to engage. It is likely that future analysis will need to compare outcomes between learners by level of engagement (dosage) or compare outcomes with schools that have similar characteristics and have not engaged within the Aimhigher programme (e.g. a differences in differences approach).

Sample Characteristics

Figure 3 and table 1 provides a more detailed assessment of how representative the samples are against the Aimhigher population[16]. Figure 1 shows that the population for which we obtained UCAS data is identical to the Aimhigher population in terms of gender. Table 2 also shows that the UCAS sample is broadly similar to the population in terms of all ethnic groups with the exclusion of learners describing themselves as White and whom are slightly over-represented within our sample. Therefore, the UCAS sample seems to be representative of learners in terms of both gender and almost all ethnic groups. It is not currently possible to assess how representative the sample is in terms of prior attainment and other socio-economic and demographic characteristics (disability, FSM eligibility and EAL) which have been shown to be associated with differential HE progression rates. Access to this data via the NPD should be available in the coming months.

FIGURE 3: GENDER

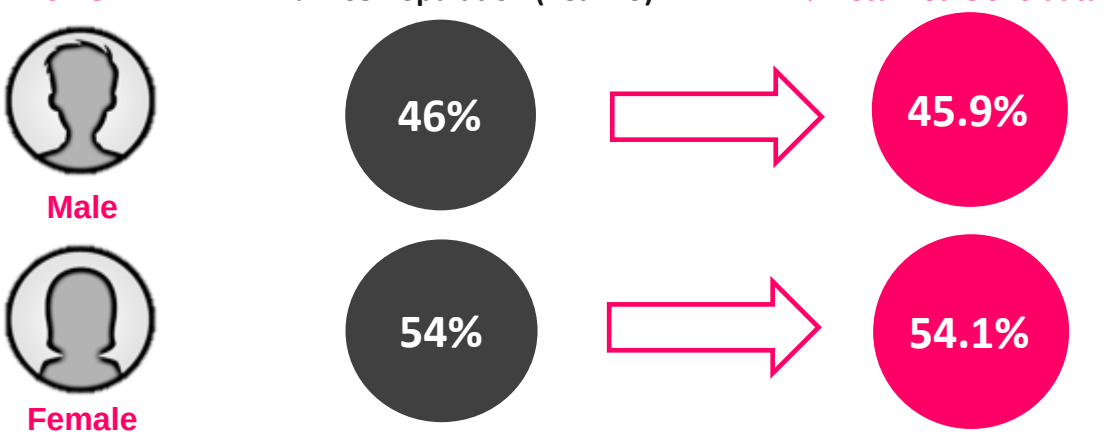


TABLE 1: ETHNICITY

Ethnic Group	% KS5 Population (Year 13)	% returned UCAS data
White	5.9%	11.3%
White - British	65.8%	63.4%
White - Irish	0.3%	0.0%
White Scottish	0.3%	0.4%
Irish Traveller	0.0%	0.1%
Other White background	0.0%	0.1%
Asian or Asian British - Indian	2.7%	2.7%
Asian or Asian British - Pakistani	6.9%	5.2%
Asian or Asian British - Bangladeshi	1.1%	0.7%
Chinese	0.3%	0.3%
Other Asian background	2.2%	1.6%
Mixed - White and Asian	0.9%	1.2%
Mixed - White and Black African	1.3%	1.6%
Mixed - White and Black Caribbean	2.6%	3.3%
Other Mixed background	2.1%	1.5%
Black or Black British - African	3.4%	2.8%
Black or Black British - Caribbean	3.3%	2.8%
Other Black background	0.7%	0.7%

[16] This population refers to learners completing FT level 3 qualifications aged 18-19 and that are listed on the Aimhigher database. This is not the total population of this age group, as some learners will be on other pathways such as completing PT level 3 qualifications, re-taking level 2 qualification, completing an apprenticeship or employment / training etc. Actual HE participation rates will be lower than those stated within this report.

This study also incorporates findings from learner and school based case studies which were completed in 2018. The case studies included 12 in-depth learner face-to-face in-depth interviews with learners, their parents, school staff and Aimhigher Progression Ambassadors. Learners also completed video interviews. The case studies included two learners in year 10, three learners in years 11, 12, two learners in year 13 and one learner in the second year of their FE studies. Seven of the case studies are female and four are male. The case studies are not representative of the Aimhigher target population, as all were nominated by either Aimhigher Progression Ambassadors or teachers, based on them having experienced significant perceived benefits as a result of their involvement in Aimhigher activities. An additional seven school case studies were completed to explore the wider impact of the programme. These included face-to-face interviews with school staff and / or Aimhigher Progression Ambassadors.

Characteristics of Outreach Programmes and Activities

The table below provides an overview of the activities and programmes delivered by the Aimhigher programme and recorded on the Aimhigher tracking database from January 2017 to February 2020. This includes a summary of the primary activity typologies, the typical length and duration of these activities, number of times they have been delivered and when they were delivered. The introduction section (pages 7-9) provided a summary of the programme outcomes (including the ToC and Progression Framework). The expected learner outcomes associated with each activity vary depending on the age and needs of the learner (e.g. current age / key stage) as outlined within the Progression Framework (see appendix 1).

TABLE 2: CHARACTERISTICS OF AIMHIGHER PROGRAMMES AND ACTIVITES

Activity typology	Activity Duration and Length			# times activity was delivered	Time of year
	Delivery period (# weeks)	Hours / Days[17]	Frequency (weekly / fortnightly)		
Summer Schools	2/3 days	20-30hrs	Annual	34	March-April or June-July
Mentoring*	40 weeks	19hrs	Weekly	6 (programmes)	September to July
Subject Tutoring*	20 weeks	10hrs	Weekly	2 (programmes)	
Masterclasses	Throughout the year	1-7hrs (average 3hrs)	Throughout the year	699	
Campus Visits		2-7 hrs (average 4.45hrs)		296	
Information Advice and Guidance		½ -7 hrs (average 2 hrs)		1690	
Community Based Interventions	40 weeks	1-5 hrs (average 2 hrs)	weekly	1 (programme)	

*Both mentoring and tutoring sessions typically last for 1 hour

[17] Activity length in hours was recorded from September 2019 only.*Mentoring & tutoring sessions typically last for 1 hour

EVALUATION TIMEFRAME

The evaluation design is heavily reliant on access to national administrative data sets including the NPD data (school census / ILR and attainment) to support the control of important confounding variables and UCAS / HESA data to measure the impact of the programme on HE progression rates. The availability, time lags and ease of access to these data sets varies considerably. In turn as these data sets become accessible, the ***standards of evidence*** and ***strength of evidence*** will considerably improve, moving from ***empirical testing (type 2) to causal testing (type 3)***. Aspects of this evaluation will be completed by the central team, whilst other components will be commissioned through the Aimhigher Evaluation Working Group (EWG). The study is a programme evaluation, in that it does not focus on the specific impact of a standalone intervention, but instead on the types, sequences and dosage of activity that is most effective in providing the optimal impact on HE acceptance rates. The current evaluation is broken down in four key phases which include:

Phase 1: November 2019 – March 2020: This current report provides a high level analysis of UCAS progression rates, where outcomes are compared between a treatment-group of target learners that have engaged within Aimhigher activities against target learners that have not engaged. The analysis also explores if there is an association between increased levels of engagement and increased progression rates. As our NPD request is currently being processed at this stage, it is not be possible to control for KS4 prior attainment and important socio-economic and demographic factors. However, prior attainment may be less important, as all learners being tracked via UCAS data were on level 3 courses when they engaged in the Aimhigher programme and all learners were from target (NCOP) wards. This phase of the evaluation also incorporates a number of learner case studies (completed in 2018) to provide more context in terms of the impact of the programme via the learner, parent and teacher voice.

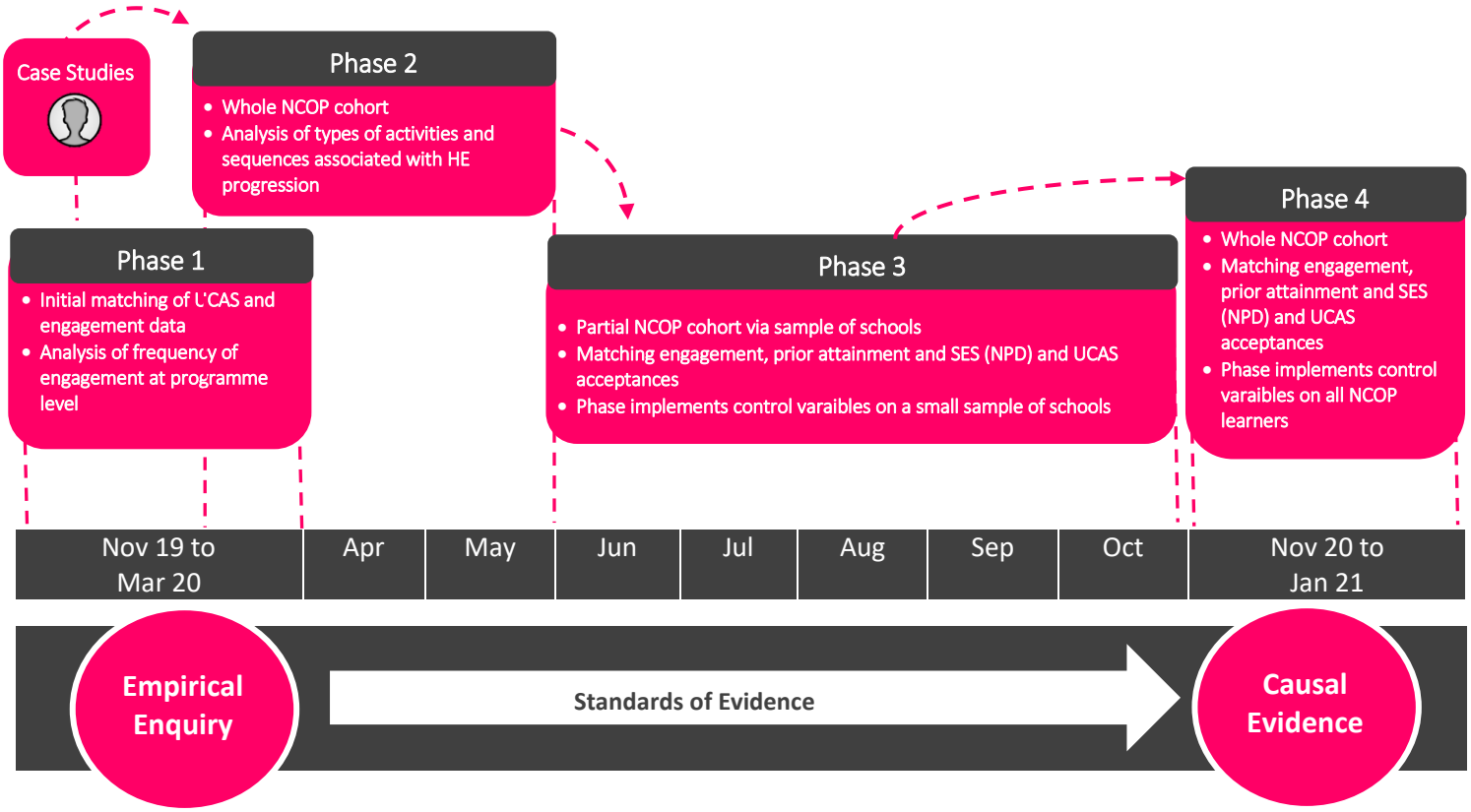
Phase 2: March – May 2020: This phase will build on the descriptive preliminary analysis of phase 1, by providing a more statistically rigorous evaluation of the data using logistic regression. Analysis will focus on the relative success or failure of different types of intervention on predicting higher education outcomes (UCAS acceptances). This will involve identifying if different activities contribute to improving the rate of HE applications independently of each other or whether there is a cumulative effect (sequence) with a hierarchy of participation. This can be determined by examining the conditional probabilities of participating in different activities. The analysis will explore developing a hierarchical scale, using Thurstone scaling or Guttman scalogram analysis to represent the relative importance of different types of intervention. If successful, the resulting scale will enable us to identify not only those interventions which are most effective individually but also which combinations of interventions are most effective. We should also be able to identify the point at which further interventions cease to be statistically significantly beneficial. By comparing higher education outcome data from pupils who have and have not taken part in any activity, will form a 'quasi-experiment' that can be used to evaluate the effectiveness of interventions. Findings will provide tentative recommendations on the most effective interventions and the intensity/ number of interventions necessary and sufficient for the desired outcome of progression to HE. The recommendations will be tentative because of the omission of socio-economic, demographic and prior attainment data, which are likely to be important factors that influence progression to HE.

Phase 3 – June to October 2020: This phase will identify a sample of target schools to obtain pupil attainment, socio-economic and demographic data (via schools census / college administrative data sets). This will support a more detailed and reliable analyses of outcomes through controlling important factors associated with differential HE progression rates. Within this phase we: (i) will analyse the relative success or failure of various categories of intervention on predicting higher education outcome using logistic regression analyses which will also include pupil socio-economic and demographic data and information on prior attainment. As well as providing further - and more reliable - information on which types of intervention are

most successful (intensity/number and sequence), these analyses will also provide evidence as to whether interventions improve the rate of successful HE applications, over and above what would be expected on the basis of pupil socio-economic and demographics characteristics and prior attainment factors. That is, we will be able to estimate the added-value that interventions provide. At this stage, we will also review and optimise our cumulative scale. This phase will also advise on the current coding of types of interventions in terms of their intensity, providing alternative recommendations if appropriate. This phase of the evaluation will produce recommendations on the point at which further interventions cease to be statistically significantly beneficial.

Phase 4 – November 2020 to January 2021: this phase of the evaluation will involve matching programme data (learner engagement) to NPD (census and prior attainment) and UCAS data. Matching data sets will support control for the key variables associated with attainment and HE progression. Analysis will explore if HE application rates (UCAS) are higher for the treatment group of learners compared to the non-treatment group. The analysis will build up outputs obtained from phases 1-3. This analysis will be completed when the NPD release the required data.

FIGURE 4: EVALUATION TIMELINE (2020-2021)



DATA ANALYSIS AND APPROACH

This evaluation is primarily quantitative in design, where both descriptive and inferential statistics will be employed across various phases. Phase one of the analysis includes descriptive statistics in the form of counts, frequencies and percentages to compare HE acceptance rates between learners with different levels of engagement within the programme.

Statistical tests: Phases 2 to 4 will employ logistic regression to identify the types and sequences of activities that are most and least effective in terms of higher education progression outcomes. Regression is preferred over propensity score matching (PSM), as within the matching process a number of cases will be lost and in turn reduce generalisability of findings.

Statistical controls: within phases 3 and 4 of this study, a number of statistical controls (via approaches such as partial correlation or analysis of covariance) will be employed on factors that have been shown to be associated with educational attainment and HE progression including prior attainment, school environment, SES background, ethnicity, gender, disability status and EAL (see page 12, figure 2). This approach will help to control for most factors, to ensure erroneous conclusions are not derived from the interpretation of data. As previously outlined it is not possible to apply controls to other factors that have been associated with differential educational outcomes due to data for these variables (e.g. children in care and parental HE) not being available for this study.

Weighting: Samples will be unweighted as in later phases of this study, regression analysis will be employed. Weighting samples runs the risk of exaggerated odds ratios.

Decisions about appropriate analysis, statistical techniques and control procedures will be refined as the evaluation progresses through each phase.

SECTION 4: RESULTS

Within this section data is summarised in the form of descriptive statistics to identify if engagement within interventions is having an impact on learners likelihood of progressing to HE. This quantitative data is supplemented with a series of learner and school based case studies to help determine the extent to which the programme has supported improvements in learners' aspirations, attitudes and their likelihood of entering higher education. The empirical evidence and data is presented against the key research questions.

UCAS ANALYSIS

Research question 1a. Is there an association between engagement frequency and non-engagement within the programme and higher education acceptance rates?

The graph on the following page plots the proportions of Aimhigher learners that were accepted to higher education against their frequency of engagement within interventions. Key findings provide tentative evidence to suggest that:

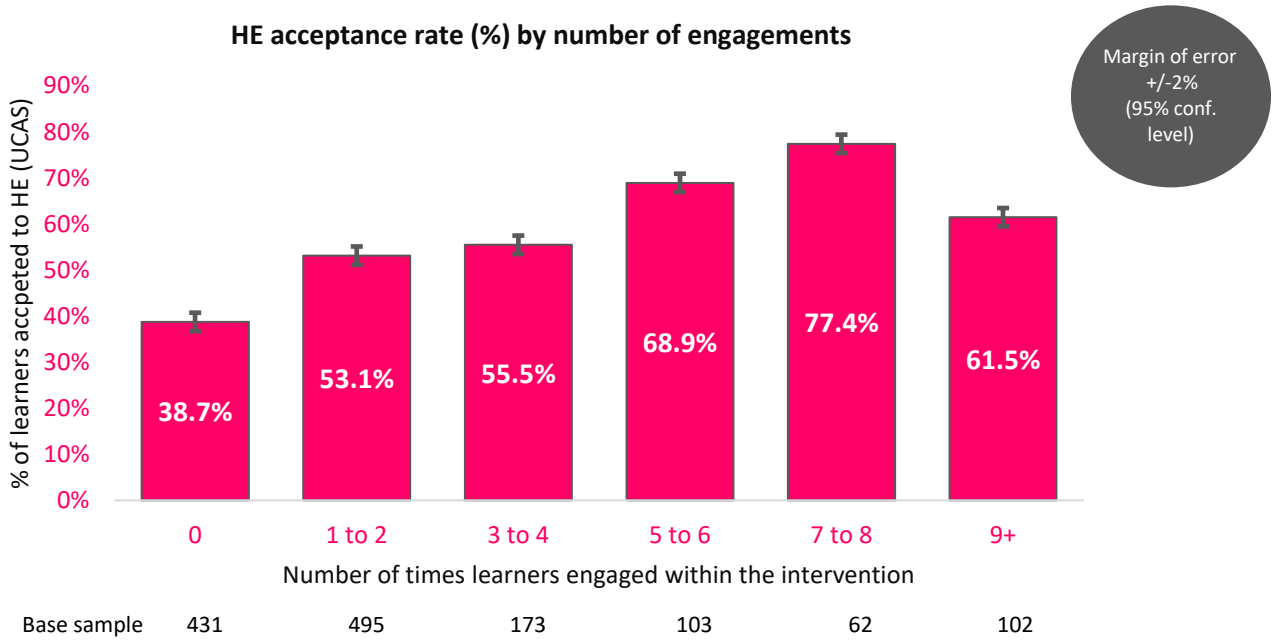
[1] *An association between engagement frequency and HE acceptance rates*

Learners who engaged in the programme (at all frequency levels) were more likely to progress to HE, than learners that did not engage at all. 38.7% of learners that did not engage in the programme were accepted to HE compared to 53.1% of those who engaged 1-2 times and 77.4% of those who engaged 7 to 8 times. Those who engaged in 7 to 8 interventions were 2 times more likely to be accepted to HE, than learners that did not engage at all within the programme. Learners that engaged once or more times within the programme (57.9% were accepted to HE) were 1.5 times more likely to be accepted to HE than, learners did not engage at all.

[2] *A linear association between engagement frequency and HE acceptance rates, up to an optimal point of engagement*

Data suggests that there may be a linear relationship between increased engagement within the programme and HE acceptance rates. The optimal level seems to fall at 7-8 engagements and after this point HE acceptance rates begin to decrease. The current analysis does not provide any indication of why HE progression rates seem to decrease after 7-8 engagements. It is possible that these learners may start at a point of higher need and lower aspirations or that increased engagement could be having a negative effect on programme gains. Interestingly a previous review of the Aimigher mentoring scheme (2015/16) also found similar results in that the optimal level engagement seemed to occur at around 6 to 9 engagements, at which point learners reported improved outcomes[18]. It is possible that the data is skewed in the current study, as only 102 learners had engaged 9 or more times within the programme.

[18] At this level of engagement learner's (cohort size 895) reported increased improvements in attainment, confidence in their academic ability, and motivation to succeed. Beyond 9 engagements there were still improvements in areas such as aspirations to progress to HE, study skills, behaviour and attitudes to learning and knowledge of HE. However, self-reported gains had begun to plateau and were much smaller (2%) beyond the point of 9 engagements. A standardised pre and post questionnaire was employed to measure these shifts.



*the average HE acceptance rate of learners that engaged in the programme was 57.9%

Caution must be applied to these results, as it is possible that learners who did not engage within the scheme differ in terms of prior attainment and other socio-economic and demographic characteristics. Therefore, at this phase of the study there are a lack of controls that limit our ability to make any firm conclusions. Such controls will be bought into place within phase 3 and 4 of the study. Despite these apparent limitations, it is possible that prior attainment is less important within this study as all learners sampled were in either years 12 or 13 when the programme was fully operational. Evidence suggests that prior attainment is more important in terms of predicting HE outcomes at Key stage 4 and earlier and less so important at Key Stage 5, as there is little difference between the HE progression rates of advantaged and disadvantaged learners (see Gorard et al, 2018). Further, the current study does include a control for socio-economic background, as all learners were domiciled within Aimhigher target (NCOP) wards[19] (mainly POLAR4 quintile 1 and some quintile 2), where HE progression rates are lower than might be expected given the GCSE results of the young people who live there.

[19] There are limitations of using area based postcode measures as a proxy indicator for disadvantage. Often such measures include large populations that are not homogenous in terms of other characteristics and social class background. Phases 3 and 4 of this study will address these limitations via accessing more valid individualised measures.

CASE STUDIES

Analysis of data within the previous section seems to suggest that there is an association between engagement within the Aimhigher programme and the likelihood of learners progressing to higher education. This initial data provides tentative empirical evidence to suggest that the programme is having a positive impact on disadvantaged learners and the strength of these claims will be tested further in later phases of the evaluation. This analysis of quantitative data is very encouraging, however, the data in itself does not explain how the programme may be improving learner outcomes that may be associated with an increased likelihood of learners' progressing to HE. The data lacks context, in terms of explaining how Aimhigher interventions may be benefit learners and in particular what mechanisms are most important in creating this change. The introduction section outlined the Aimhigher Theory of Change and approach that underpins programme delivery and evaluation. The programme aims to improve learner outcomes through addressing particular barriers (mechanisms) they may face in terms of progressing to higher education. Previous evidence suggests that important mechanisms include cultural, social and intellectual capital, awareness/knowledge of higher education, attitudes, aspirations and self-efficacy as outlined within the Aimhigher ToC (see figure 1, page 9). The next section presents qualitative evidence from a number of in-depth learner and school case studies conducted in 2018. These case studies will help to identify the changes in cognitive and non-cognitive mechanisms which may act as enabling factors for learners to progress to HE. The case studies provide insights into perceptions of learners, parents, teachers and Aimhigher staff in terms of how the programme has both benefited learners and more widely benefited both schools and FE Colleges.

LEARNER CASE STUDY EVIDENCE

This section summarises findings from 12 in-depth learner case studies conducted within 2018. These case studies investigated the impact of the programme on factors such as learners' aspirations, attitudes and behaviours towards higher education. Key insights from the report suggest that:

- Almost all learner case studies agreed (as did their parents, teachers and mentors) that they were ***more likely to progress to HE study*** following their involvement in Aimhigher activity.

- Wider benefits were also reported in terms of ***behaviour*** and ***motivation*** towards school. In particular learners felt more motivated in their school work as a result of having a clearer idea of what they want to do in the future and by knowing the importance of what they do now will affect them. ***Attendance*** and ***attainment*** improved in a number of the case studies and improvements were reported more broadly by many of the schools.

- In particular engagement within the Aimhigher programme supported learners to make choices and ***complete their HE applications***. Learners reported that they felt better equipped to ***succeed*** in whichever choices they ultimately take, with the help of revision, time management and study skills.

- More general personal developments were also reported. Many learners reported 'life-changing' impacts of their experiences, far beyond any links to HE. All round ***confidence*** was significantly improved, to varying extents, across all twelve case studies.

- Schools highly value the Aimhigher programme and many outlined they were unlikely to access these activities without the dedicated funding and support provided. Evidence from the case studies suggests that ***Aimhigher Progression Ambassadors / mentors*** are perhaps more important than any single activity. The tailored approach gives learners more intensive and directed support, which cannot always be offered at larger scale activities. Further, schools reported that TLR payments encourage greater engagement within the programme by providing dedicated funding for a school member of staff to support the co-ordination of the programme.

Three of these learner cases studies are summarised on the following pages and provide greater detail and context of how the Aimhigher programme has benefited them.

JULIA'S STORY

Julia comes from a single parent household. Her background has made her very ambitious with clear goals for the future. Julia's biggest achievements are being offered a place at Cambridge University and becoming a member of the Royal Geographic Society. Her family don't understand the ins and outs of university, but they are very proud.

SCHOOL LIFE AND CHANGES

Julia achieved mainly C grades in her GCSEs and did not value the importance of education. At the beginning of Sixth Form, Julia was on course to achieve a grade E, which she was really disappointed in. It was a reality check and switched her attitude. Julia has found the college environment incredibly supportive and has tutors who have helped to build her confidence. Her next assessment was graded at an A* and she's never gained below that since. Julia is now confident in her abilities to achieve the grades for Cambridge as she has invested lots of hard work.

"My GCSE grades could have really held me back - no one would have imagined the grades I was capable of - but I was determined enough to prove that I could achieve higher grades." [Julia]

AIMHIGHER ACTIVITY AND IMPACT

Julia engaged within 10 Aimhigher activities, including Masterclasses, Information Advice and Guidance and a Campus Visit. The Fund my University Visit (NCOP) had the biggest impact on Julia, supporting a visit to Liverpool University and Cambridge for her interview. Julia lives in a rural area and without the fund, she doesn't know how she would have afforded the travel and would have felt limited to look at universities close by, missing the opportunity to attend her interview at Cambridge. An NCOP Student Finance workshop gave Julia confidence and knowledge to navigate and access as much support as possible. Julia attended masterclasses, trips and debates funded by Aimhigher, which helped to demonstrate her curiosity during the interview for Cambridge.

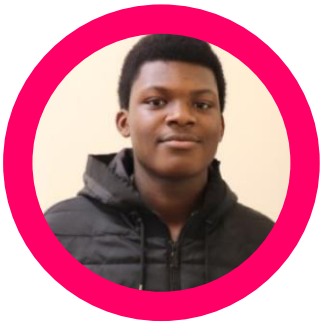
"Aimhigher & college support has been fundamental in my offer from Cambridge University… by helping to turn my dream into a reality by providing funding, access to knowledge and support." [Julia]

"Aimhigher opportunities are wide ranging and potentially life changing. The extra support offered to Julia has been a tremendous help …..and have certainly made a difference to her life." [Assistant Principal]

FUTURE GOALS AND PROSPECTS

Julia is excited to be the first person in her family to explore university and has been offered a place at Cambridge University. One-to-one NCOP careers support helped Julia to choose which course to apply for and really focussed her mind. Julia loves Archaeology, but was concerned about career prospects. This one-to-one guidance has supported her to opt to study for Archaeology, with an affiliate year in Law and Politics. Julia has a very enquiring mind and would love achieve a doctorate and have a career in academia and publish books.

"Hereford students have less exposure to university, it is difficult for them to imagine what a university experience is and to imagine leaving Hereford - so they don't open themselves up to the prospect of HE." [Julia]



CHRISTIAN'S STORY

When making decisions about his education and career, Christian is strongly encouraged and influenced by his mother, who has high aspirations for him. Christian had struggled with motivating himself at school, but now that he has a clear goal, he is finding it easier to persevere.

SCHOOL LIFE AND CHANGES

Christian is a quiet, studious and polite student. During his first year of A level study, he found it difficult to balance his workload and keep up with his coursework. He often feels under pressure to succeed, and particularly feels the strain around exam periods, however, Aimhigher is helping him deal with the demands of 6th Form. He has always been interested in cars and mechanics. Christian thought that he might want to pursue an apprenticeship in engineering, although maths was a problem area for him. He worked hard and resat his GCSE maths to come out with a better grade. Aimhigher has given Christian better study skills to improve his exam and revision techniques in the future.

"When I first went into the school he was a shy individual. He's definitely improved his awareness in what decisions he can make at the end of Year 13." [Aimhigher Progression Ambassador]

AIMHIGHER ACTIVITY AND IMPACT

Christian has had 14 engagements in total with Aimhigher, including Mentoring; Summer School; Masterclasses; Information, Advice and Guidance; and Campus Visits. A Time Management session taught Christian new methods of timetabling, which enabled him to keep track of his work and reduce the pressure he was feeling during his A level study. The Apprenticeship Residential at Aston University reaffirmed for Christian that an Apprenticeship was not the best option for him. After this residential, Christian attended the NEC Skills Show, where he learnt about the degree apprenticeship route, which he feels would be a much better fit

"Aimhigher had a significant impact on me because it helped me change my habits and ways in how I was going about life in general, and helped me focus more on what's important. I am know looking into completing a degree apprenticeship in engineering.'' [Christian]

"The Skills Show was probably the most useful event I attended because I gained lots of knowledge on how businesses offer apprenticeships along with degree apprenticeships." [Christian]

FUTURE GOALS AND PROSPECTS

Christian has changed his priorities now that he has a deepened knowledge of the various apprenticeship options. He has talked about his future with his Aimhigher Progression Ambassador, and his new goal after Sixth Form is to plan a career path in engineering. He is focused and studying hard to get the required A level grades to apply to universities and he wants to pursue a degree apprenticeship in engineering.

"I wasn't sure whether or not I wanted to go to university. My Aimhigher Progression Ambassador helped me decide and pick the right path on how to achieve that goal." [Christian]

OLIVIA'S STORY

Olivia is a conscientious student who has been planning ahead and working hard to prepare for her GCSEs since year 9. She talks to her parents about her education and future career, and her mother helps her to research university courses and explains student finance options.

SCHOOL LIFE AND CHANGES

Olivia enjoys school life and she has a supportive group of friends. Olivia's year 9 target grades suggested that she would not be eligible to take Triple Science at GCSE level. She revised and worked hard to boost her grades, particularly in Science, because of her engagement with Aimhigher. She has since been accepted onto the Triple Science programme largely because the head of science recognised Olivia's enthusiasm and determination to become a vet, which she gained after taking part in the Aimhigher Medical Maverick's event.

"Medical Mavericks gave me the boost to opt for Triple Science and not think that I might not be accepted." [Olivia]

AIMHIGHER ACTIVITY AND IMPACT

Olivia has had 5 engagements in total with Aimhigher, including: Masterclasses and Information, Advice and Guidance activities. Medical Mavericks has had a significant impact on Olivia's attainment in school and on her future career path. Her enjoyment of this masterclass reaffirmed her goal to become a veterinary surgeon, which gave her the motivation and confidence to achieve higher grades. Olivia also benefited from the Forensic Science masterclass, which enhanced her interest in Science, as well as teaching her deeper analytical skills and perseverance, which in turn has helped her schoolwork. A Mind-Mapping Assembly gave Olivia new revision methods, which she is using in her Science classes.

"The sessions showed me that science is different, and it stands out. It changes your whole perception of the world." [Olivia]

"I was just worried that science was going to be a hard topic and not that interesting, but the Aimhigher programme definitely helped me decide that I want to be a vet. " [Olivia]

FUTURE GOALS AND PROSPECTS

Now that Olivia has solidified her career choice, largely thanks to the Aimhigher masterclasses, she is looking into university courses and researching specialisms within her chosen pathway. She plans to take science and maths A Levels, after which she wants to go to university to do a veterinary degree. With her new perception of science and her confidence in her abilities, she is on-track to achieve the grade 7s she needs in her GCSEs to follow this path.

"She seems pretty dedicated to pursuing a career in that field and has said specifically that she wants to go to university, which she wasn't talking about before those sessions." [Acting Deputy Headteacher]

The next section summarises exerts from seven school case studies that involved interviews with school leaders and Aimhigher Progression Ambassadors. These case studies provide an understanding of how Aimhigher staff, resources and funding are supporting partnership working within schools and the impact of this work including the effects felt across the school as a whole. Schools placed huge value on the breadth and scope of available opportunities.

Key themes from the case studies suggested that learners were exposed to a range of activities to which schools would otherwise have limited access. Activities were generally seen to be high quality, pitched at the right level and well-organised by a variety of skilled practitioners / companies. Schools largely appreciate the range of opportunities available; many say they wouldn't be able to afford if it wasn't for the support of Aimhigher. Supporting comments included:

> *"Aimhigher has had a massive impact. Without their funding we wouldn't have been doing these trips. Actually going to a university and seeing the halls of residence and the facilities… Learners are talking about applying to university, it's absolutely amazing."*
> ***Head Subject Leader***

> *"It's difficult for schools to be able to afford things or to dedicate time to HE activities, so the dedicated funding helps us to put this as a higher agenda item for learners."*
> ***Deputy Headteacher***

Some schools also reported improvements in pupil behaviour, attainment and study skills:

> *"Teachers have also noticed improvements in behaviour. Learners are more focused and motivated, which has led to calmer and more attentive classes."*
> ***Deputy Headteacher***

> *"Grades have increased, particularly for the learners who attended the Forensic and Medical Mavericks workshops. Those who attended have been inspired to take Triple Science and to pursue careers they otherwise would not have considered. Study Skills sessions with parents and carers have increased their abilities to support learners at home."*
> ***Deputy Headteacher***

Learners are thinking about their future more, during and following events. Schools report increased engagement and more talk about the future across the student population after involvement with Aimhigher activities. Schools also report learners asking about future activities and how they can get more involved. In turn evidence suggested that learners were more inspired across schools:

> *"Just having learners more inspired and wanting to carry on in education has been a really positive thing."*
> ***Deputy Headteacher***

> *"The advice, opportunities and support that learners have received …. are wide ranging and potentially life changing. Learners are thinking about the full range of routes moving forward and Aimhigher has empowered them to take control of their academic journey."*
> ***Assistant Principal***

SECTION 5: CONCLUSION

Findings within this report provide tentative empirical evidence to suggest that there is an association between learners' engagement within Aimhigher interventions and an increased likelihood of progressing to HE. Key findings from the UCAS analysis suggest that:

- Learners that engaged within one of more intervention(s) were ***1.5 times more likely*** to be accepted to HE than a comparison group of learners that did not engage at all.

- There seems to be a ***positive linear association*** (up to a critical point) between ***increased engagement*** and an ***increased likelihood of disadvantaged learners progressing to HE***.

- The ***optimal level of engagement*** seems to be at ***seven to eight activities***, where learners were ***2 times more likely*** to be accepted to HE compared to learners that did not engaged at all.

- After seven to eight engagements there is a slight fall in HE progression rates. The current analysis does not provide any indication of why HE progression rates seem to decrease after this point. Possible explanations include that learners may have reached saturation point in terms of engagement and that increased engagement could be having a negative effect on programme gains. Alternatively it is possible that these learners may start at a point of higher need and lower aspirations. It also possible that the data for those engaged 9 or more times is skewed, as the cohort only includes 109 learners. It would be worthwhile for future phases of this study to provide a more detailed analysis of this finding.

Findings suggest that the sample obtained for the UCAS analysis is highly representative of the population for which data was sourced, with a very low margin of error. It is important to note that both the intervention group and comparison groups have been matched in terms of a number of control variables including socio-economic background as both groups of learners are domiciled within disadvantaged NCOP neighbourhoods and to a certain extent prior attainment as both groups would have the required the GCSEs or equivalent to allow them to enrol onto a FT level 3 qualification. Therefore, the importance of prior attainment on HE progression rates for the treatment and non-treatment groups are likely to be less important than for pre 16 learners. Despite these controls caution must be applied to the results, as it is possible that learners who did not engage within the scheme may differ to some extent in terms of prior attainment, socio-economic and demographic background characteristics (e.g. gender, ethnicity, FSM, SEN and EAL) that have been found to be associated with academic achievement and HE progression. Within later phases of this study we will be accessing this data via the NPD. No matter how many controls are applied, it will always be difficult to account for all important confounding variables and the impact widening participation programmes. Controlling for confounding factors outside the laboratory, is much more difficult as Aimhigher learners may be engaging in other widening participation activities within schools and delivered through university / third sector organisations. In turn it is not possible to obtain a fully accurate measure of intervention *dosage* and identify what interventions are most effective. However, a mixed methods approach as employed within this study, that includes case studies and feedback from learners, parents, teachers and Aimhigher staff, has gone some way to addressing issues surrounding the contribution and attribution of Aimhigher activities.

The quantitative analysis of UCAS data in itself, does not explain how the programme may be improving learner outcomes. Evidence from the in-depth learner and school case studies provides a better understanding of the context of these improvements and the mechanisms at play. Key findings from the case studies include:

- Interventions have helped to address many barriers that learners faced in terms of progressing to HE by supporting increases in ***knowledge, attitudes and learners reporting that they a now more likely to progress to HE study.***

- Wider benefits were reported to learners' ***behaviour, school attendance, confidence, motivation and school attainment*** all of which could help to increase the likelihood of future progression to higher education.

- Schools highly value the Aimhigher programme and many outlined they were unlikely to access these activities without the dedicated funding and support provided in terms of in school Aimhigher Progression Ambassadors / mentoring and TLR payments for teachers to help co-ordinate the programme.

- Evidence from the case studies suggested that ***Aimhigher Progression Ambassadors / mentors*** are perhaps more important than any single activity. The tailored approach gives learners more specific support, which cannot always be offered at larger scale activities.

Due to the lack of controls, at this point it is not possible to make claims of causality. The strength of evidence will be improved with later phases of this research project. However, findings within this report are encouraging and provide some tentative evidence and initial insights to support programme design by identifying at what level of engagement in a sustained progressive programme seems to be most effective in terms of an increase HE progression rates (seven to eight engagements), evidence on the mechanisms and short / medium term outcomes that support this and interventions that seem to be most promising such as Aimhigher Progression Ambassadors, Mentors and TLR payments to support co-ordination of the programme within schools.

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APPENDIX 1: The Aimhigher Progression Framework

Phases	Learning Outcome & the 5As				
	Aspiration	Awareness	Attainment	Application	Access
Exploring [KS3-KS4] Phase Description Time given to investigate future educational and career pathways	Feel motivated and confident to succeed in school	Recognise and understand the full range of options available in key stage 4 and / or post 16 and higher education	Recognise the importance of succeeding at school • Recognise that GCSE and post 16 qualifications are required to access higher education	Recognise that higher education is complex and competitive, offering learners great choice and requiring active and informed decision-making	Have an awareness of the learning environment in higher education and student life
Progressing [KS4-KS5] Phase Description Time given to build on and develop expectations, attitudes, experiences, knowledge and skills associated to future educational and career pathways.	Feel motivated and confident to progress to post 16 option	Recognise how post 16 choices impact on future progression • Understand the necessity of higher education for progression to certain careers • Understand the finance support available whist attending higher education • Recognise different higher education pathways and options (e.g. FT/PT, home or away etc)	Achieve the GCSE grades required to progress to post 16 and higher education • Develop the commitment and study skills to perform well	Recognise the various entry requirements and routes to higher education • Identify and apply to a post 16 option	Make a successful transition to post 16 • Recognise the opportunities that may arise from attending higher education
Affirming [KS5] Phase Description Time given to establish future educational and career pathway goals and strategies to access them.	Feel motivated and confident to succeed at higher education	Recognise the skills and qualifications required for chosen higher education pathway • Understand the financial support available for students in higher education and the means to access this • Identify the potential career options following participation in higher education	Achieve the grades required at level 3 to progress to higher education	Understand the higher education application process • Understand the significance of the choices made • Develop and submit a strong higher education application	Successfully engage with the entry process following level 3 results, including confirmation and clearing if required • Prepared for a successful transition to higher education study and life as a student