EngineeringUK
INSPIRING FUTURES TOGETHER

THE IMPACT OF THE ENGINEERINGUK PRIORITY SCHOOLS APPROACH

September 2025

engineeringuk.com

Contents

Summary

This document uses data from EngineeringUK's programmes between the school year 2019/20 and 2023/24 to assess the impact of the priority schools approach. The priority schools approach, initially called the EDI criteria, was developed in response to the consistent underrepresentation of the same groups in the workforce, and the need to meet growing demands for engineering and technology skills in the economy. EngineeringUK wanted to ensure that our outreach programmes were reaching young people from groups known to be under-represented in the workforce, in order to inspire them into the profession.

Overall, the priority schools approach appears to be working as we intended. Since its introduction, we have seen a noticeable increase in the numbers of students from underrepresented groups participating in our programmes.

We are confident that EngineeringUK programmes are including young people from underrepresented groups at a proportion that is in line with or higher than the overall population of their age group.

While the data in this report indicates that the approach is working, we continue to monitor and assess the criteria on an annual basis. Additionally, a whole school perspective does not guarantee that programmes will reach underrepresented groups, and we will continue to support schools to understand the importance of ensuring that all students have access to STEM engagement programmes.

Introduction

This document uses data from EngineeringUK's programmes between the school year 2019/20 and 2023/24 to assess the impact of the priority schools approach.

About the priority schools approach

EngineeringUK's vision is that the UK has the diverse workforce needed for engineering and technology to thrive and to drive economic prosperity, improve sustainability and achieve net zero. The engineering and technology workforce could and should be much more diverse – women make up just 16.9% of the workforce, compared to 56% across other sectors; 14% are disabled, compared to 19% in other sectors; and 14% are from a UK minority ethnic group, compared to 18% in other sectors[1]. Additionally, young people from lower socioeconomic backgrounds find it harder to enter the workforce in any occupations or sectors[2].

The priority schools approach, initially called the EDI criteria, was developed in response to the consistent underrepresentation of the same groups in the workforce, and the need to meet growing demands for engineering and technology skills in the economy. EngineeringUK wanted to ensure that our outreach programmes were reaching young people from groups known to be under-represented in the workforce, in order to inspire them into the profession. The approach enables us to identify schools that we should prioritise for our programmes in order to reach more young people from groups under-represented in engineering and technology.

Three groups were initially prioritised for the criteria:

- Schools with a high proportion of students on Free School Meals (FSM)
- Schools with a high proportion of students from UK minority ethnic backgrounds
- Special schools
- Schools in rural areas

We initially developed a criteria for secondary schools, which has been remained broadly unchanged since introduction with the exception of adding additional inclusion of all-girls schools at a lower FSM or minority ethnic threshold in 2021/22. In 2023/24 we also introduced a criteria for primary schools, taking the same approach as secondary schools.

Further information about the approach can be found on the Tomorrow's Engineers website.

Demographic data collection

In addition to the school-level data we use to determine priority school status, we also collect data on the demographics of students who participate in our programmes. This helps us to understand whether we are engaging with young people from groups under-represented in engineering and technology, and the extent to which the priority schools approach has helped us improve this.

---

[1] www.engineeringuk.com/keystats

[2] https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/youngpeopleinthelabourmarketbysocioeconomicbackgrounduk/2014to2021

Impact of the approach

Priority school programme participation

This section looks at the proportion of schools who have participated in EngineeringUK's programmes who meet the priority schools criteria. The programmes we examine are (please click on the links for more information about each programme):

- Energy Quest
- Climate Schools Programme (CSP)
- The Big Bang Fair
- Big Bang at School
- Big Bang Competition
- Neon

As the priority schools approach was established in 2020/21, we have included 2019/20 as a baseline year. We then have 4 years of data where we have been prioritising participation from priority schools in our programmes. Table 1 shows the improvement in our reach of these schools since the introduction, showing that since introducing the criteria, we now reach more schools with higher proportions of students on FSM and from UK minority ethnic groups, and more special schools and schools in rural areas.

Table 1: percentage of schools participating in EngineeringUK programmes that meet the priority schools criteria

	2019/20 (before the criteria were introduced)	2020/21	2021/22	2022/23	2023/24
Energy Quest	48%	64%	62%	76%	49%[3]
Climate Schools Programme	N/A	N/A	N/A	N/A	55%
Big Bang Fair	42%[4]	51%	50%	54%	55%
Big Bang at School	27%	83%	100%[5]	86%	95% for delivery partner model 81% for Blueprint model
Big Bang Competition	30%	47%	40%	51%	61%
Neon	N/A	43%	43%	43%	52%

[3] This drop is not as concerning as the data implies, as the delivery model changed from previous years away from delivery providers to teacher-led workshops.
[4] Both 2019/20 and 2020/21 delivery of the fair moved to an online model because of the pandemic. 2021/22 returned to in-person.
[5] In 2021/22 we trialled a priority schools-only approach for the Big Bang at School programme, which has since been removed with the introduction of the two models.

Student demographics of participants

While we can easily see that uptake of EngineeringUK programmes by priority schools has improved since the creation of the approach and focus on schools that meet the criteria, it is also important to establish that the approach has resulted in higher participation of students from these underrepresented backgrounds.

We aim to collect demographic data for participants in all programmes, but this is optional, which leads to some coverage gaps. Additionally, this data is primarily provided by teachers rather than students themselves, and often some time before or after an event, so may not be completely accurate. We are happy with the assumption that there is nothing inherently different about the schools we have this data for and those we don't, so in looking at the aggregate level data across all schools, we are happy that the data provides a broadly accurate picture. The same is true for any variation between reported and real numbers – there might be some noise in the data and individual cases will be inaccurate, but at a total level we feel confident in using the data for the purpose of assessing the priority schools approach. To aid in the interpretation of the data, we have provided below each table the total number of students who participated in each programme in the year, and within the table the proportion of these participating students for whom we have the relevant data.

Some of the programmes listed in table 1 do not collect demographic data at all. For example, because of Neon's capacity as a website supporting schools to find engaging STEM activities, we do not know which schools and students are participating in non-EngineeringUK programmes, and so this would not be relevant. We also do not ask for demographic data for Big Bang at School, as whole year groups or whole schools should be included. Finally, Energy Quest is included for 2022/23 but not 2023/24 because of the delivery method on 2023/24 – the programme shifted to a teacher-led session with downloadable resources and minimal support, and so we did not ask for demographic details of the participating students.

We are always looking to improve our collection of this data, and will continue to monitor the success of the priority schools approach through this and other measures.

Gender

For 2023/24 we can see through data for the Big Bang Competition and the Big Bang Fair that we are reaching more girls through schools that meet the EDI criteria than through those that don't (table 2). The data for Climate Schools Programme does not show the same pattern, but as this was a pilot year, some caution should be placed on this data.

Table 2: Proportion of female students participating in EngineeringUK programmes, 2023/24

Gender (proportion of female students)				
	Priority schools	**Non-EDI meeting schools**	**Benchmark***	**% of available data**
Climate Schools Programme	43%	47%	49%	23%
Big Bang Fair	55%	51%	49%	34%
Big Bang Competition	62%	43%	49%	87%

Total base sizes: CSP=2,638, BBF=20,438, BBC=738

*The national benchmark is the proportion of female students at mixed-sex schools in the UK

For 2022/23, all three programmes with data shows a higher proportion of female students participating from priority schools compared with those schools that did not meet the EDI criteria (table 3).

Table 3: Proportion of female students participating in EngineeringUK programmes, 2022/23

Gender (proportion of female students)				
	Priority schools	**Non-EDI meeting schools**	**Benchmark***	**% of available data**
Energy Quest	54%	50%	49%	88%
Big Bang Fair	52%	46%	49%	21%
Big Bang Competition	61%	40%	49%	92%

Total base sizes: EQ=19,484, BBF=12,201, BBC=483

*The national benchmark is the proportion of female students at mixed-sex schools in the UK

Ethnicity

We see a large difference between priority schools and non-EDI criteria meeting schools with regards to the proportion of students from a UK minority ethnic background participating. We see this across all programmes in 2023/24 (table 4) and 2022/23 (table 5), and priority schools had a higher proportion than the national average across all programmes.

Table 4: Proportion of UK minority ethnic students participating in EngineeringUK programmes, 2023/24

Ethnicity (proportion of UK minority ethnic students)				
	Priority schools	**Non-EDI meeting schools**	**Benchmark***	**% of available data**
Climate Schools Programme	41%	6%	37%	22%
Big Bang Fair	68%	14%	37%	16%
Big Bang Competition	52%	28%	37%	84%

Total base sizes: CSP=2,638, BBF=20,438, BBC=738

*The national benchmark is the proportion of students from a UK minority ethnic background at schools in the UK

Table 5: Proportion of UK minority ethnic students participating in EngineeringUK programmes, 2022/23

Ethnicity (proportion of UK minority ethnic students)				
	Priority schools	**Non-EDI meeting schools**	**Benchmark***	**% of available data**
Energy Quest	48%	12%	36%	78%
Big Bang Fair	52%	28%	36%	14%
Big Bang Competition	50%	14%	36%	83%

Total base sizes: EQ=19,484, BBF=12,201, BBC=483

*The national benchmark is the proportion of students from a UK minority ethnic background at schools in the UK

Eligibility for Free School Meals (FSM)

As with ethnicity, we see a large difference between priority schools and non-EDI meeting schools with regards to participation from students who are eligible for FSM (which is used as an indicator of socioeconomic status). This is true across all programmes in 2023/24 (table 6) and 2022/23 (table 7).

Table 6: Proportion of students eligible for FSM participating in EngineeringUK programmes, 2023/24

FSM (proportion of students who are FSM eligible)				
	Priority schools	**Non-EDI meeting schools**	**Benchmark***	**% of available data**
Climate Schools Programme	27%	9%	24%	Unknown
Big Bang Fair	50%	26%	24%	62%
Big Bang Competition	28%	12%	24%	72%

Total base sizes: CSP=2,638, BBF=20,438, BBC=738

*The national benchmark is the proportion of students at schools in the UK who are eligible for FSM

Table 7: Proportion of students eligible for FSM participating in EngineeringUK programmes, 2022/23

FSM (proportion of students who are FSM eligible)				
	Priority schools	**Non-EDI meeting schools**	**Benchmark***	**% of available data**
Energy Quest	34%	19%	24%	90%
Big Bang Fair	49%	21%	24%	58%
Big Bang Competition	20%	15%	24%	65%

Total base sizes: EQ=19,484, BBF=12,201, BBC=483

*The national benchmark is the proportion of students at schools in the UK who are eligible for FSM

Special Educational Needs and Disabilities (SEND)

For SEND data, we have not included the coverage of the data because of the way it is collected. We believe that schools have provided this data where necessary, but that it is not full coverage. However, we do not believe that there is any difference in the way priority schools and schools that don't meet the EDI criteria provide this data, and so for the purposes of comparisons between the two, the data is usable.

Similarly to other demographics, we see a large difference between priority schools and non-EDI meeting schools with regards to participation from students with SEND. This is true across all programmes in 2023/24 (table 8) and all bar the Big Bang Competition in 2022/23 (table 9), where the proportions were the same across both types of schools.

Table 8: Proportion of students with SEND participating in EngineeringUK programmes, 2023/24

FSM (proportion of students who are FSM eligible)			
	Priority schools	**Non-EDI meeting schools**	**Benchmark***
Climate Schools Programme	13%	12%	18%
Big Bang Fair	11%	6%	18%
Big Bang Competition	9%	5%	18%

Total base sizes: CSP=2,638, BBF=20,438, BBC=738

*The national benchmark is the proportion of students at schools in the UK who are eligible for FSM

Table 9: Proportion of students with SEND participating in EngineeringUK programmes, 2022/23

	Priority schools	**Non-EDI meeting schools**	**Benchmark***
Energy Quest	17%	12%	16%
Big Bang Fair	13%	5%	16%
Big Bang Competition	6%	6%	16%

Total base sizes: EQ=19,484, BBF=12,201, BBC=483

*The national benchmark is the proportion of students at schools in the UK who are eligible for FSM

Bursaries

In addition to using the criteria to monitor participation in EngineeringUK programmes, we also offer bursary schemes to priority schools for participation in programmes via Neon, and to put on their own Big Bang at School events.

In 2023/24 a total of 146 bursaries were offered, and 90 completed an activity. If they used Neon, teachers were required to complete a survey following their activity, sharing demographic information about participating students. The data for those who received bursaries for Big Bang at School events are included in the above data. All teachers also provided feedback on the bursary's usage and its impact on students.

Overall, the feedback from teachers was very positive across all bursary types with an overwhelming majority of teachers agreeing that the bursary had motivated and enabled their school to participate and made the activity more engaging and accessible for their students.

With regards to students engaging in the activities, teachers involved in the Neon primary and Neon secondary bursary programmes were asked to provide data on student gender, ethnicity, disability and FSM status. The data returned suggests that the Neon bursary scheme was effective in reaching higher proportions of girls and students eligible for FSMs. The exception was for students from UK minority ethnic groups, who were underrepresented in the Neon bursary scheme.

Just under half (46%) of students who participated in the Neon activity for which their secondary school received the Neon bursary were eligible for FSM, higher than the benchmark average across all schools (24%)[6]. 52% of the participating students were girls, compared to the national benchmark of 49%. However, 23% of students were from UK minority ethnic groups, lower than the 37% national average.

We know that this lower level for ethnicity is because more schools receiving the bursaries were eligible for the EDI criteria because of their proportion of students on FSM, rather than their proportion of students from UK minority ethnic backgrounds. This does mean that overall we were reaching more students from underrepresented groups, but that we can do more to monitor how bursaries are reaching various under-represented groups.

[6] This data is based off the 29 teachers who provided this information about their students.

Conclusions

Overall, the priority schools approach appears to be working as we intended – it is helping to reach a higher proportion of students with demographic characteristics that are underrepresented in the engineering and technology sector.

While the data indicates that the approach is working, we continue to monitor and assess the criteria on an annual basis. It has remained the same for 2024/25, and we are very likely to continue using it in its current form into 2025/26.

Additionally, a whole school perspective does not guarantee that programmes will reach underrepresented groups, and we will continue to support schools to understand the importance of ensuring that all students have access to STEM engagement programmes. We know that some programmes by default go to whole classes or schools, and that some programmes are self-selecting by already interested students. There is little we can do to force students to participate, but we do communicate the importance of underrepresented group participation to teachers.