

Science Learning+ Youth Equity Pathways in Informal Science Learning

Survey findings

May 2015

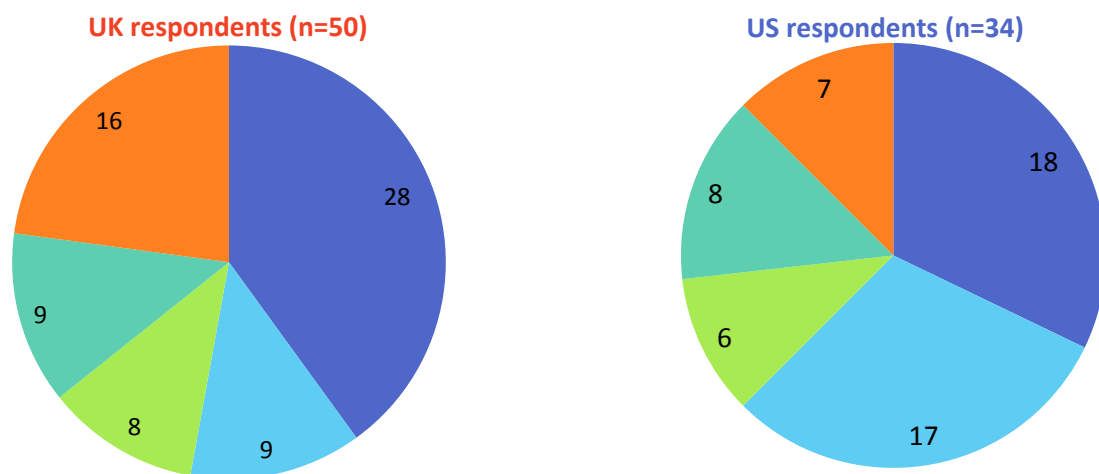
This document presents an overview of the quantitative survey data findings from the SL+ Equity Pathways in Informal Science Learning project. Further qualitative analysis on some of the open response data is yet to be completed. Findings are grouped into four areas: about the individuals taking part in the survey; their definitions and understanding of equity and related terms; their current equity practice; and their practices around equity work including reading, talking with colleagues and evaluation.

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Participants

The US survey had 50 participants and the UK version had 84 participants¹. Survey respondents represented a range of sectors, with the most represented sector in both geographical areas being the designed environments, see Figure 1.

Figure 1. Sectors in which the respondents worked or studied



Note: some participants selected more than one option to describe the setting in which they do their equity work.

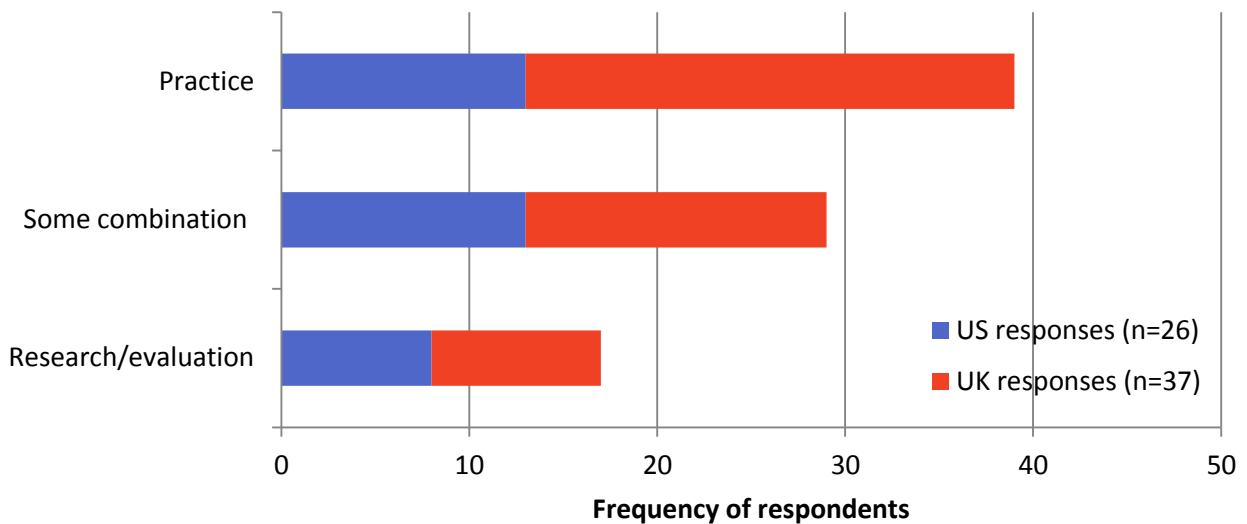
- Designed Space (e.g. Museum, Science Center, Zoo/Aquarium, Nature Center)
- Community-based organization (Boys and Girls Club, scouting, after-school program, Science society)
- Everyday Science (Electronic media producer, Broadcast media producer, Park, Publisher of printed books and magazines, Science Festivals, Theater group, Library)
- University
- Other- please describe

¹ Some respondents did not complete some questions, so the 'n' is provided throughout this report to indicate total number of respondents completing each section.

'Other' sectors included libraries, intermediary/interface organisations working with community groups, national parks, self-employed science communicators, art galleries and a combination of the other options.

Individuals were asked whether their work involved research or practice or a combination of both of these. The majority of respondents worked in practice, although this was slightly more pronounced in the UK sample, Figure 2.

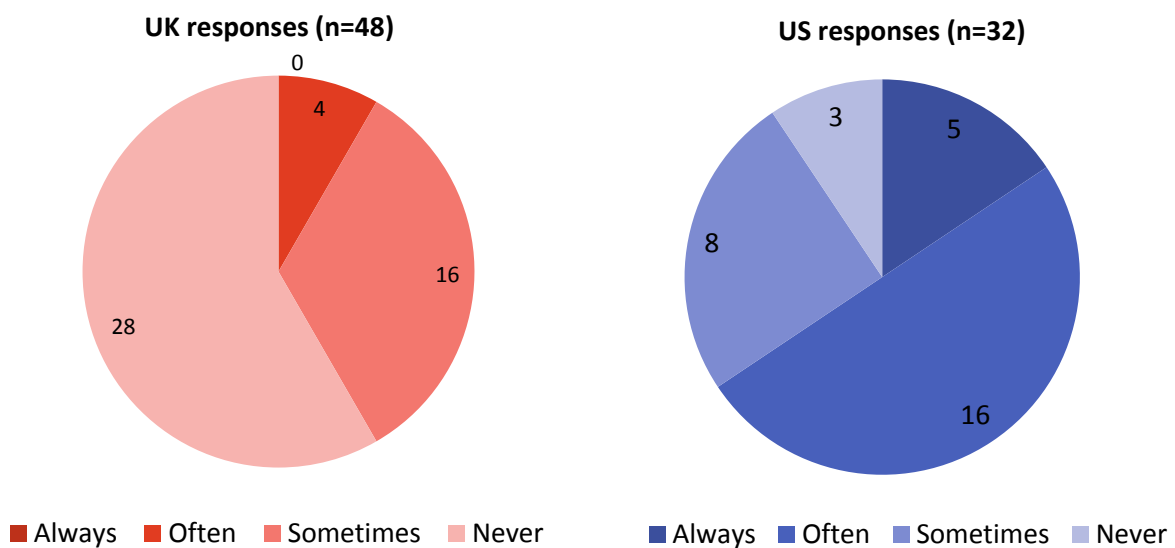
Figure 2. Participants' main area of work



Defining equity and speaking about equity work

Survey respondents were asked whether they and their organisation used the term equity, and if so how frequently, Figure 3. The US sample organisations used the term more frequently compared to the UK sample. No one in the UK sample said that their organisation *always* used the term, and the majority said that they *never* used it, whereas the US respondents reported using it much more, with half of them saying that they used the term equity *often*.

Figure 3. Frequency with which respondents said that their organisations used the term equity



Respondents were also asked whether they used other terms rather than, or alongside, 'equity' to describe this type of work. The participants were asked a similar question both referring to their organisation/institution and themselves personally.

Firstly, the results for other terms used by participants' organisations/institutions are presented, Figure 4. The most common 'other' term used was 'diversity' for both samples. Respondents also provided a list of other terms they used not provided as options in the survey, some of which referred to equity work itself (Figure 5) and some referred to the target audiences for this kind of work (Figure 6).

Figure 4. Other terms used to describe equity work (institution/organisation)

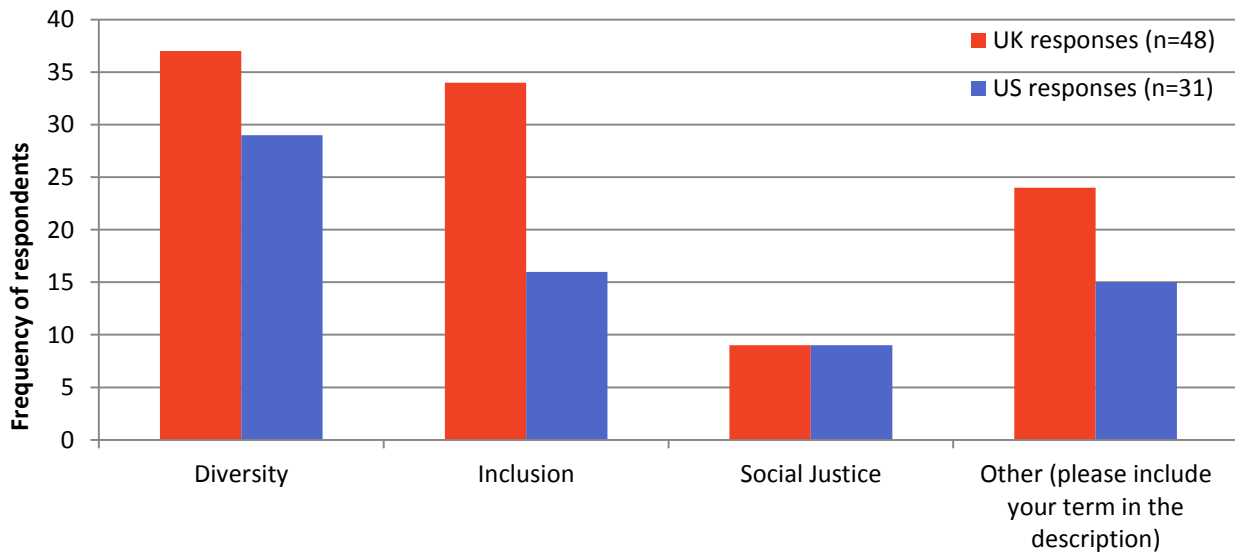


Figure 5. 'Other' terms: those used by institutions/organisations to describe equity work

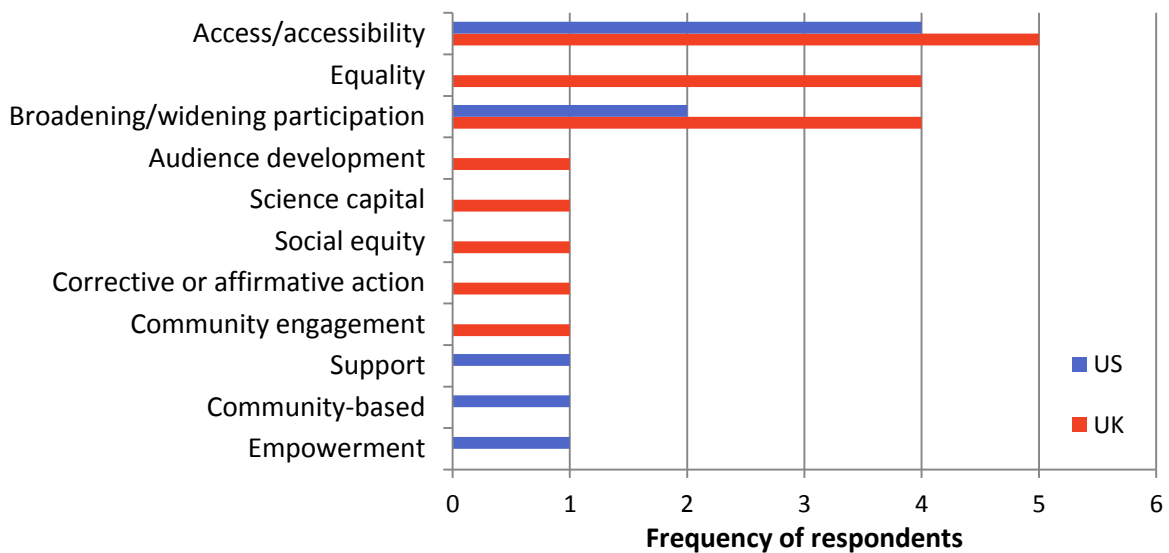
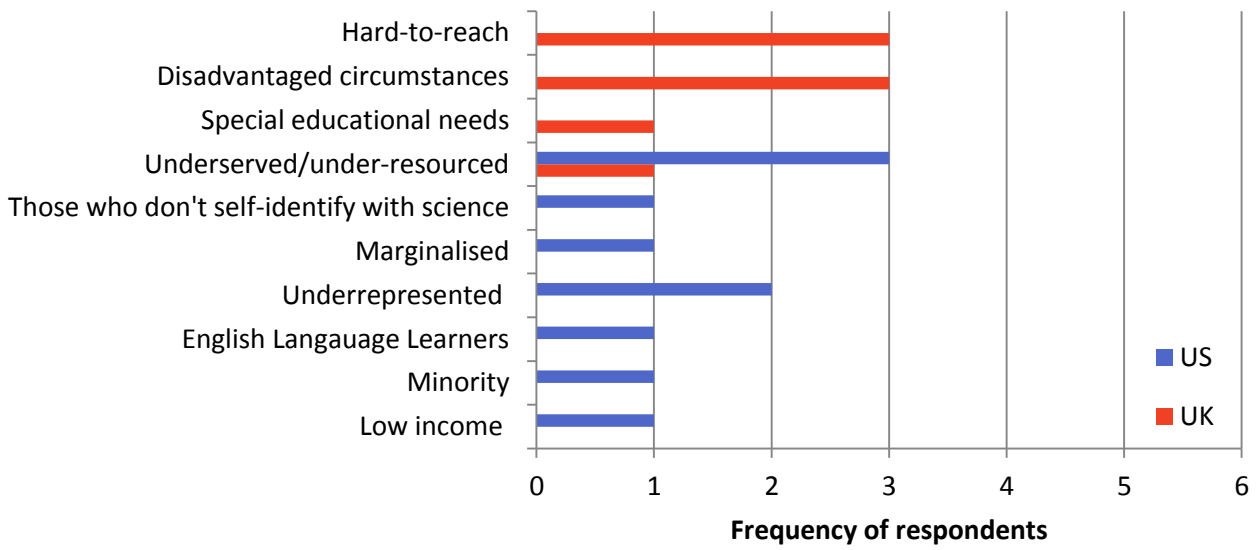
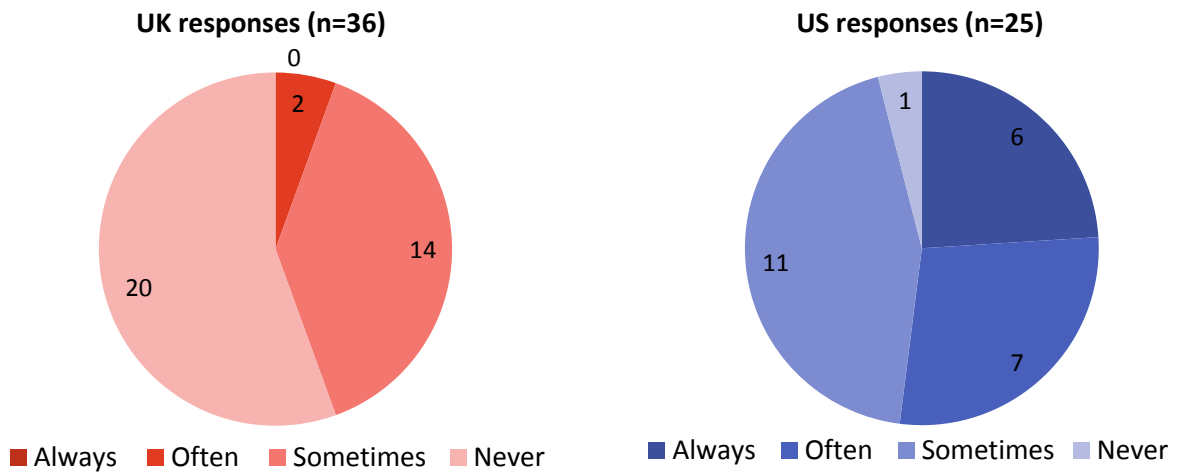


Figure 6. 'Other' terms: those used by institutions/organisations to describe target audiences for equity work



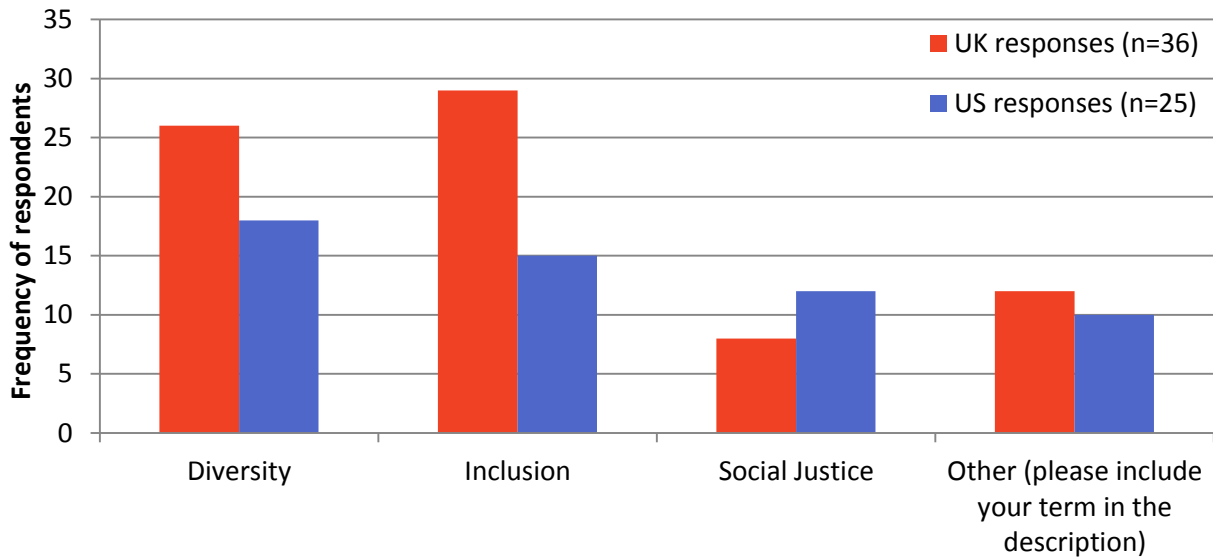
The participants were also asked about their own personal use of the term equity. Whilst the data broadly mirrored the responses for the same question for the institution, the US participants indicated that they personally used the term very slightly less than their institution, Figure 7.

Figure 7. Frequency with which respondents said that they personally used the term equity



Again, respondents' personal use of other terms to describe equity work generally mirrored that of their institutions/organisations, although the UK respondents were more likely to use the term 'inclusion' compared to their organisations, Figure 8.

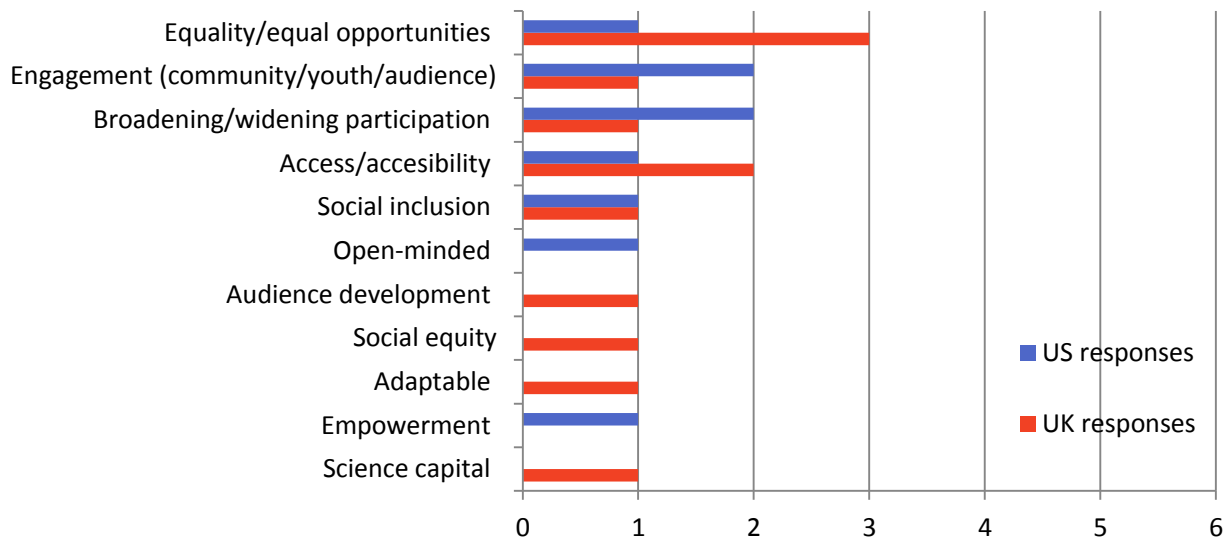
Figure 8. Other terms used to describe equity work (respondents personally)



The respondents also elaborated on the ‘other’ terms which they used to describe their work, Figure 9. Whilst for the institutional/organisational version of this question participants also mentioned terms which related to the target audience for the equity work, responses to this question about personal use of terms did not reveal so many of these.

Other terms used which described the target audiences for equity work rather than the work itself included the following: two UK respondents mentioned ‘hard-to-reach’ and the following were mentioned by one respondent each – disadvantaged, special needs, under-served. The following were mentioned by one US respondent each: under-served, under resourced and rural.

Figure 9. 'Other' terms: those used by respondents to describe equity work



Current equity practice

Participants were surveyed on their current equity practices, including their goals for their equity work, the activities they run at present and the challenges they face in their work,

In relation to missions and goals for participants' institutions, respondents were asked to rank a series of statements to indicate how much of a priority the statement was to their institution. They were asked to leave the statement blank with no ranking if the statement did not represent a goal for their organisation. To indicate which of the statements were goals for the organisations involved (and which were not), the frequencies of responses for each statement are provided first (Table 1), with the rankings of priority following (Figure 10).

Table 1. Equity missions or goals for institutions/organisations

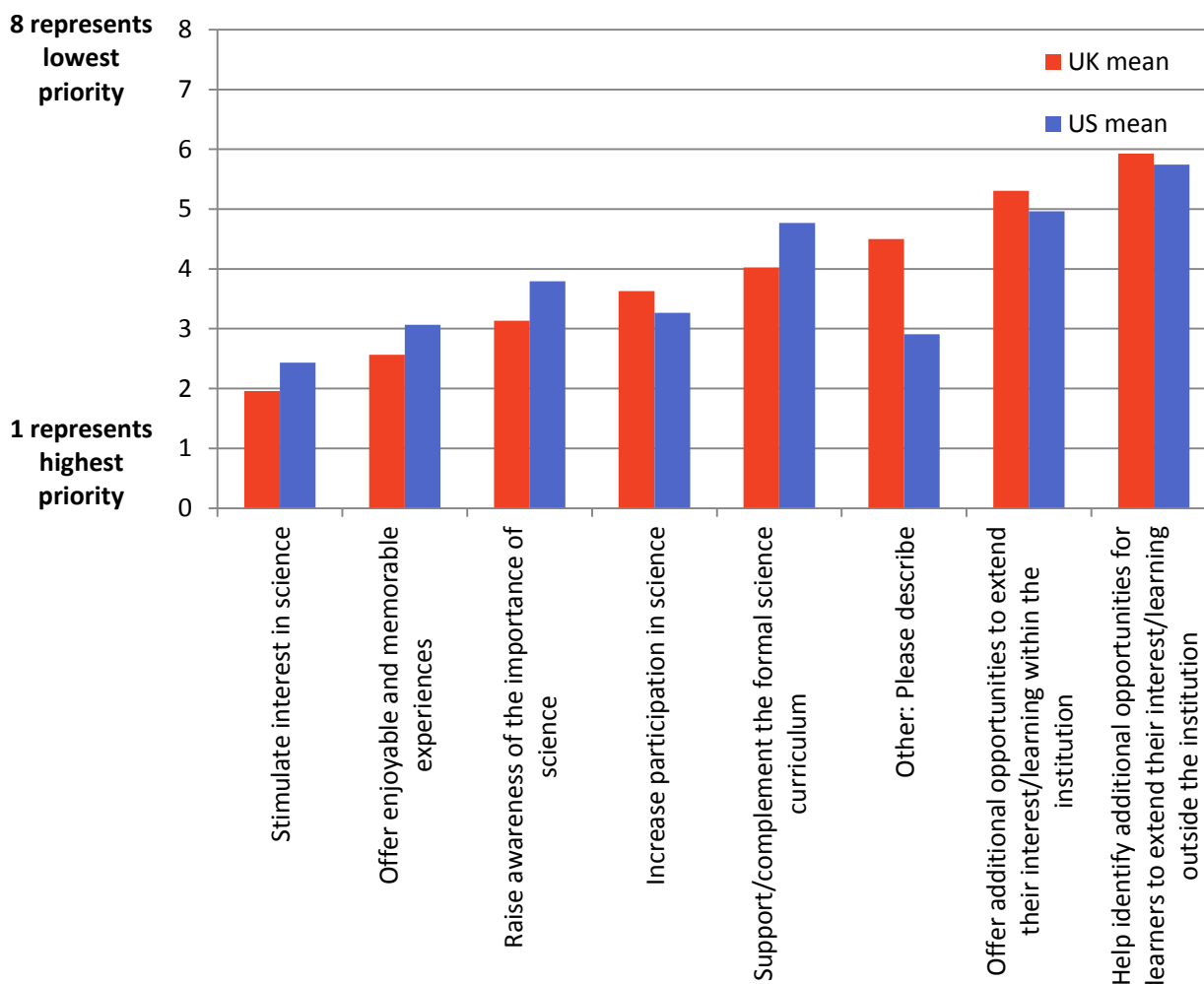
Goal or mission statement ²	UK frequency (n=48)	US frequency (n=30)
Stimulate interest in science	47	30
Offer enjoyable and memorable experiences	48	30
Raise awareness of the importance of science	45	29
Increase participation in science	43	30
Support/complement the formal science curriculum	43	30
Other: Please describe	14	11
Offer additional opportunities to extend their interest/learning within the institution	39	27
Help identify additional opportunities for learners to extend their interest/learning outside the institution	41	27

Those goals which were shared with most organisations included creating memorable and fun experiences, stimulating interest in science and increasing participation in science. Those which resonated less with institutions included offering experiences to extend learning within the organisation and outside.

Other goals for equity work mentioned included: supporting STEM identity development, building confidence, supporting young people to make informed decisions, develop connections to the ocean/environment, stimulate debate about the role of science in society, support local economic development and generate research ideas.

² Ordered to mirror priorities as shown in Figure 10.

Figure 10. Rankings of goals for equity work according to priority to institution/organisation



Participants were also asked about their personal goals for their equity work, rather than for their institutions as in the previous question, Table 2.

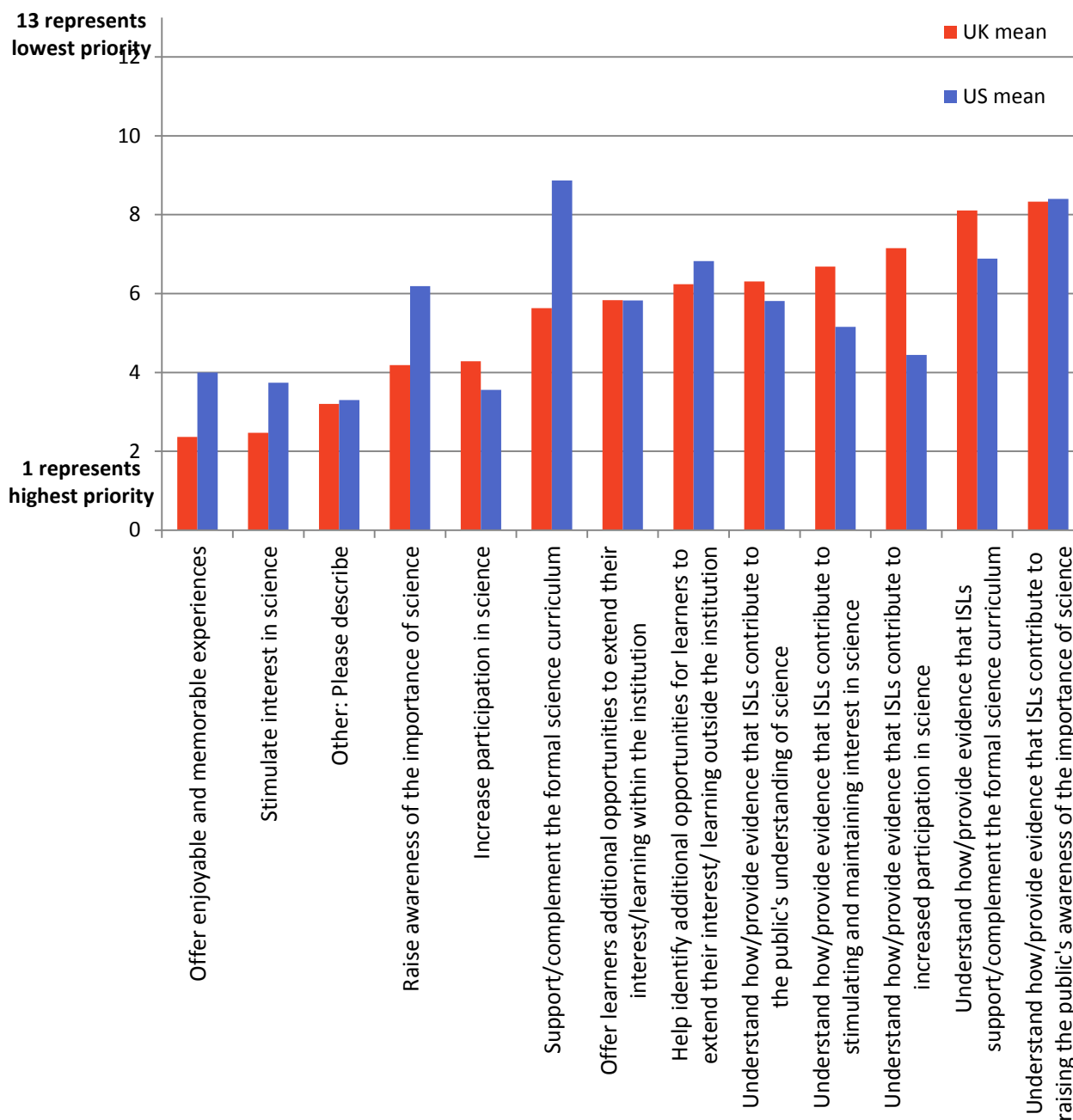
Table 2. Personal goals around equity work

Goal or mission statement ³	UK frequency (n=36)	US responses (n=20)
Offer enjoyable and memorable experiences	36	20
Stimulate interest in science	32	19
Other: Please describe	5	10
Raise awareness of the importance of science	32	16
Increase participation in science	28	18
Support/complement the formal science curriculum	27	15
Offer learners additional opportunities to extend their interest/learning within the institution	24	17
Help identify additional opportunities for learners to extend their interest/ learning outside the institution	25	17
Understand how/provide evidence that ISLs contribute to the public's understanding of science	23	16
Understand how/provide evidence that ISLs contribute to stimulating and maintaining interest in	22	19

³ Ordered to mirror priorities as shown in Figure 11.

science		
Understand how/provide evidence that ISLs contribute to increased participation in science	20	18
Understand how/provide evidence that ISLs support/complement the formal science curriculum	19	18
Understand how/provide evidence that ISLs contribute to raising the public's awareness of the importance of science	21	15

Figure 11. Personal priorities in terms of goals for equity work

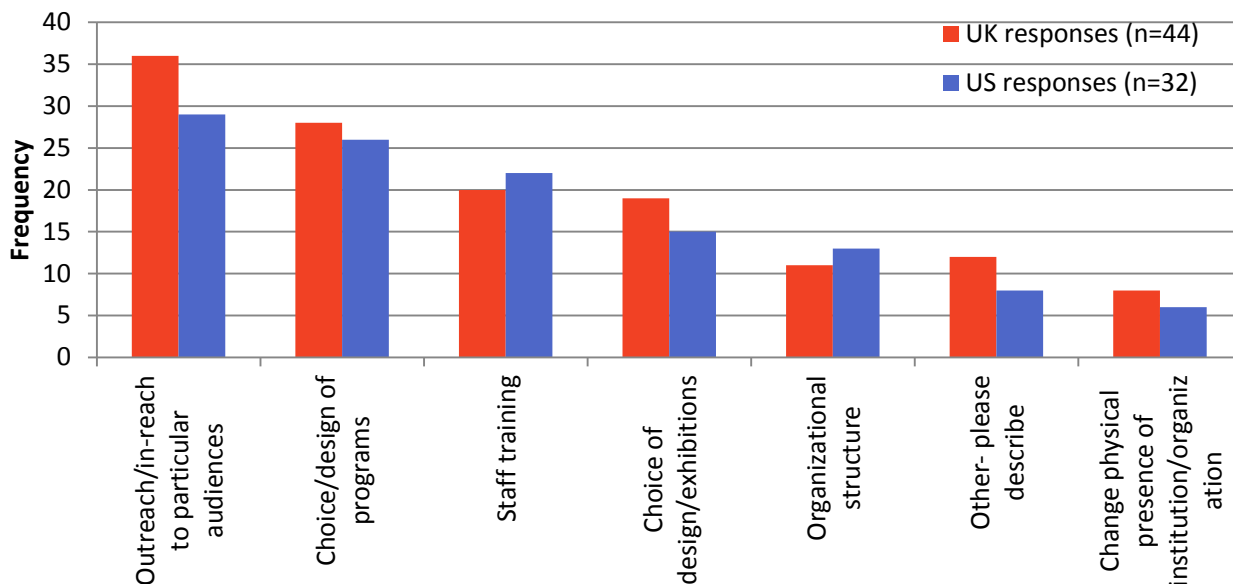


Similarly to the organisational/institutional data, the participants felt that offering an enjoyable experience, stimulating interest in science and increasing participation in science (as well as understanding evidence for the role of informal science learning in this) were high priorities for their equity work. Whilst the US sample did not regard it as such a high priority, the UK participants felt that raising awareness of the importance of science and supporting the school curriculum were important goals. Other goals mentioned included

welcoming others into the ‘hostile environment of science’, building relationships, combining art and science, support critical discussions about STEM.

Respondents were asked about the kinds of activities their organisation developed/delivered/took part in as part of their equity work, Figure 12. Outreach and designing specific programmes were the most common activities; initiatives at the organisational level were less common.

Figure 12. Activities undertaken as part of equity work



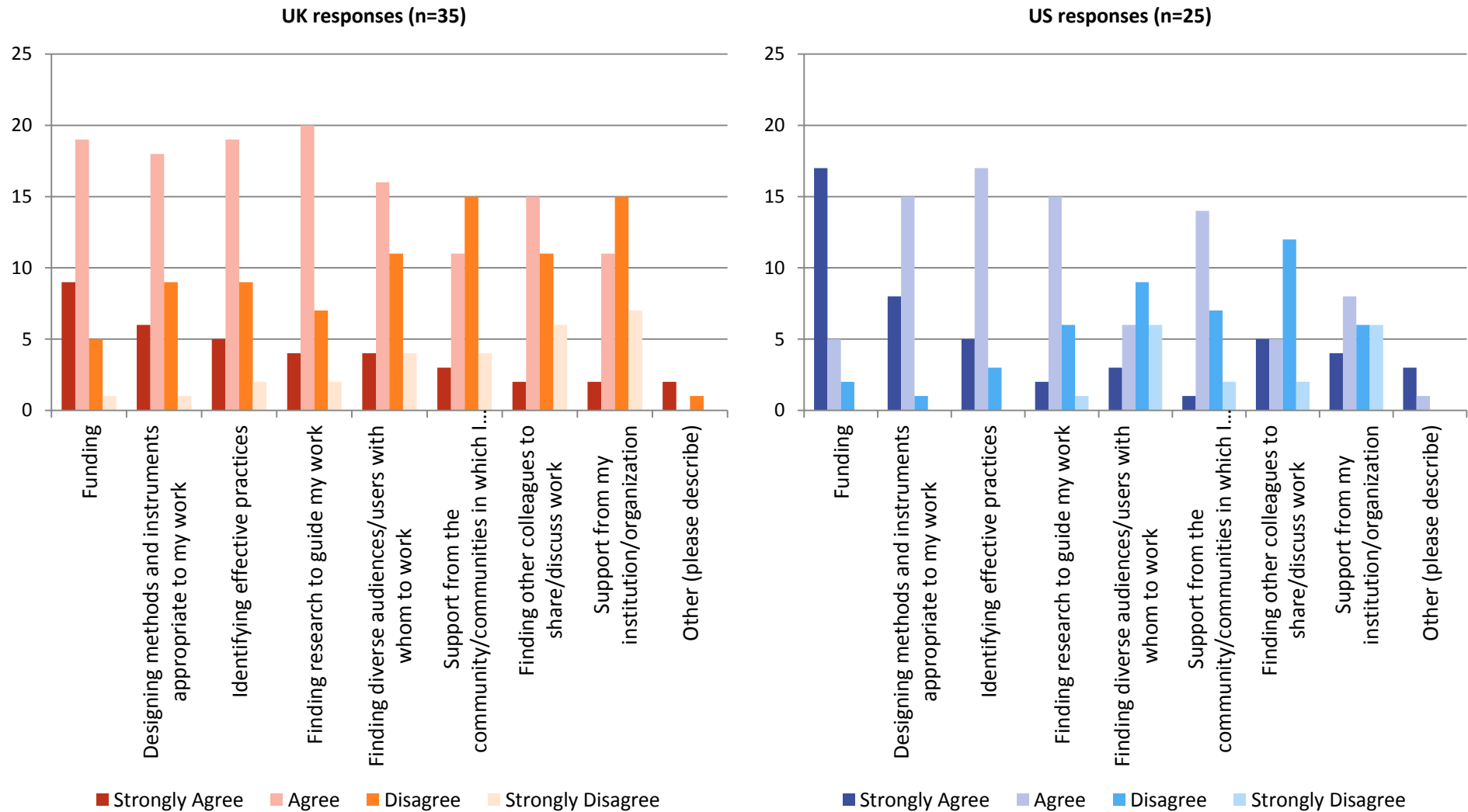
‘Other’ responses included the following activities:

- Working with schools with under-served children – 2 US, 4 UK
- Training resources – 1 US
- Reducing admission costs – 1 US
- Being an advocate amongst other institutions – 1 US
- Personal working relationships – 1 US
- Promoting case studies of scientists from different backgrounds – 1 UK
- Volunteer recruitment to reflect diversity – 1 UK
- Adult community workshops – 1 UK
- Co-design of programmes – 1 UK
- Consideration of format and accessibility – 1 UK

When asked if there were effective tools/strategies/resources which respondents had used in their personal equity work, 36 said ‘yes’ (13 UK and 23 US respondents) and 15 said ‘no’ (13 UK and 2 US respondents).

Participants were asked about the challenges they faced in their work in equity access and inclusion, they were asked to rate a series of potential challenges according to whether they agreed that the statement represented a challenge for them and their work or not, Figure 13. The factor which posed the biggest challenge to the participants was funding, with the US sample in particularly feeling strongly that this was a challenge to their work. Other challenges included issues around the design of programmes, identifying good practice and accessing research to inform practice.

Figure 13. Challenges faced by respondents in relation to their equity work



'Other' challenges included: staff time/resource – 6 respondents (3 US, 3 UK), Organisational structure (1 US) and integration of abstract research principles into practice (1 US).

Practices around equity

The survey also covered questions about practices around equity work – the related work participants might do which relates to their work in the area. For example: evaluation, reading and discussing with colleagues.

In terms of evaluation, participants were asked whether their organisation conducts evaluation of their equity work, and then whether they personally do evaluation, Table 3.

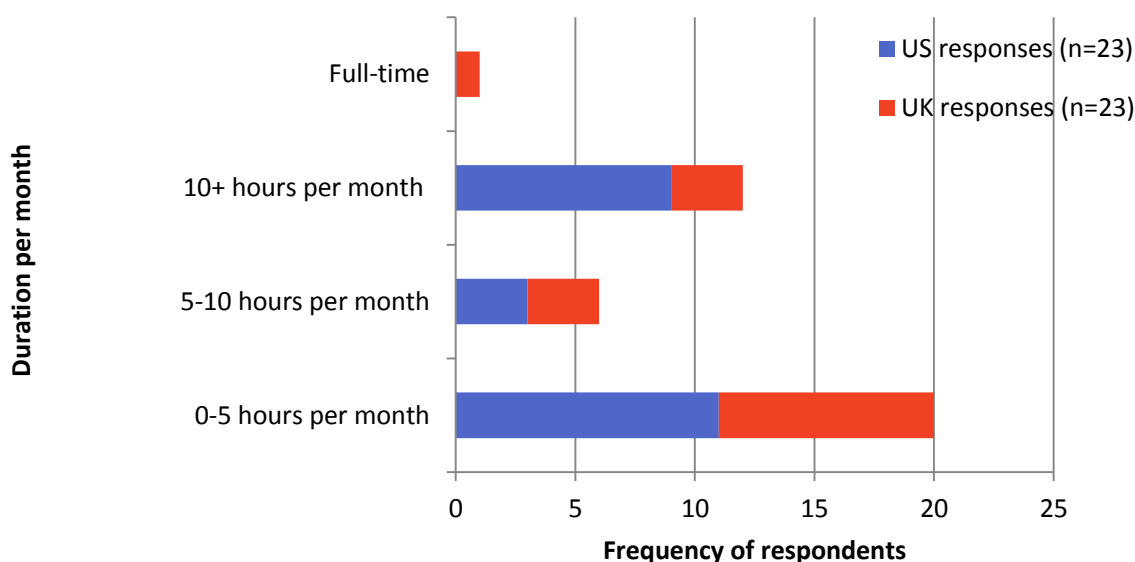
Table 3. Frequency at which evaluation is conducted

		Yes	No
Does your institution evaluate whether it is making a difference or improving its efforts to reach or study groups which are underserved?	UK responses (n=37)	19	18
	US responses (n=27)	19	8
Do you evaluate whether you are making a difference or improving your efforts to reach or study groups that are under-served?	UK responses (n=31)	17	14
	US responses (n=25)	17	8

The US sample were much more likely to evaluate their work: whilst half the UK participants did do some evaluation and half did not, the US distribution was closer to two thirds did do evaluation and one third did not.

When asked whether they spoke to their colleagues about equity-related issues, the majority of participants said that yes they did. Out of the 27 US responses, 24 said that they discussed these issues with colleagues, and 25/33 UK respondents also said they spoke to colleagues about these issues. When asked how much they spoke to others about these issues there was a variation in responses, but for most it was a few hours each month, Figure 14.

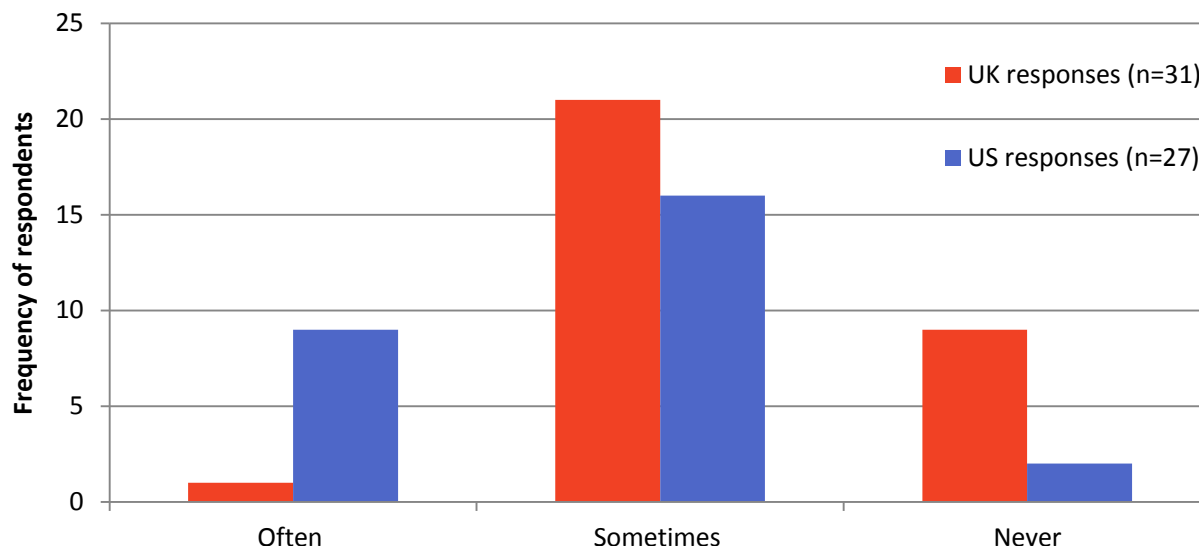
Figure 14. Duration spent speaking with colleagues about equity issues per month



Some respondents wrote in their answers that it was difficult to quantify how much they discussed these issues with colleagues and could not put a figure to this (3 UK respondents). Others used less specific ways of describing how much they spoke about these issues such as ‘many/frequently’ (2 UK respondents), ‘not much’ or ‘it varies’ (1 UK respondent each).

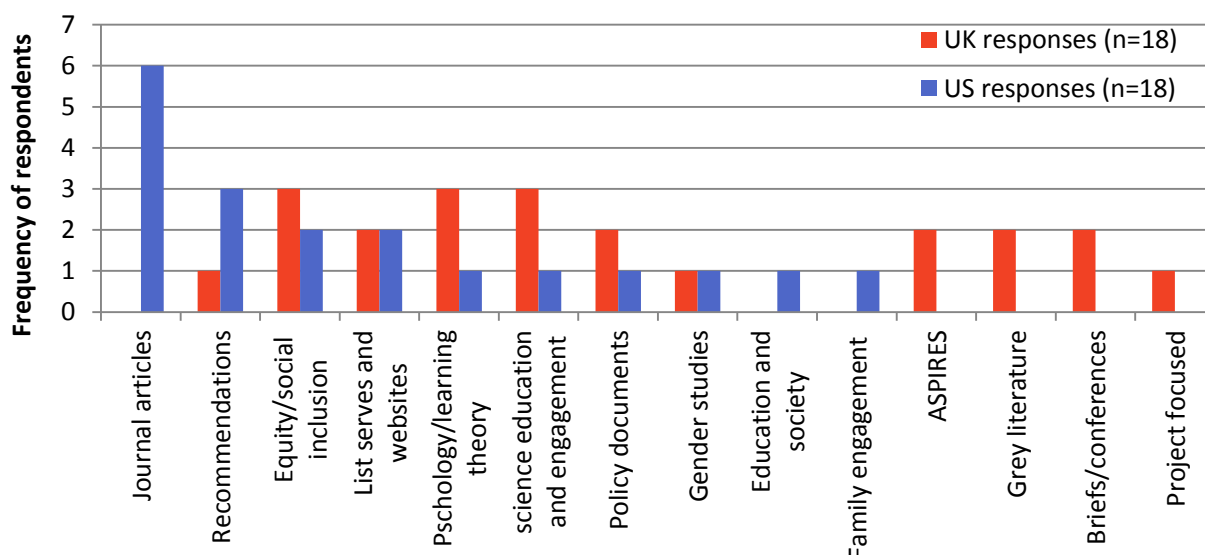
Participants were asked whether they read any materials relating to their work in equity. Responses as to how often participants read relevant material are shown in Figure 15. Whilst over half of participants in each geographical area said that they ‘sometimes’ read research material, the US participants were more likely to report often reading research compared to the UK participants. Proportions of researchers and practitioners were comparable across the two geographical areas so the differences were not necessarily down to differences in job roles.

Figure 15. Responses when asked if participants read research relating to issues of equity



When asked what they read in relation to equity research the participants gave the following responses, Figure 16. The US participants were more likely to read journal articles, whereas the UK participants mentioned topic areas which they said they had researched, such as equity and social inclusion more broadly rather than only reading in informal science learning.

Figure 16. Sources of reading around equity

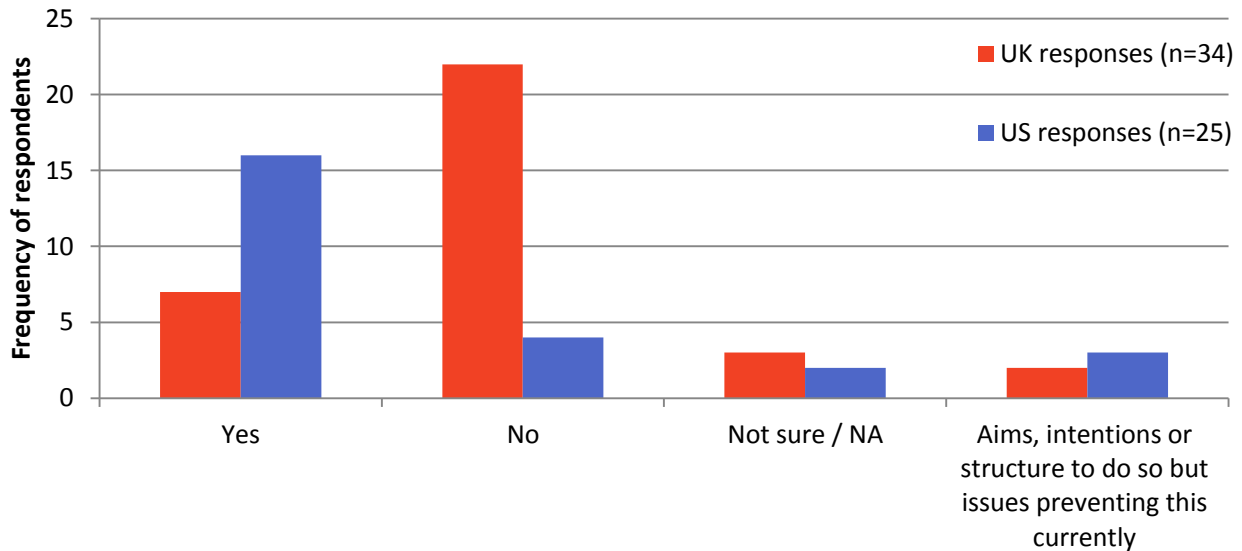


Participants were asked whether there had been changes in their institution/organisation over the past 5-10 years in relation to the way that it deals with trying to reach or study groups that are underserved (n=56). The majority said that their organisation/ institution had changed ‘somewhat’ (39; 14 US respondents, 25 UK respondents). Some felt that there had been ‘a lot’ of change (11; 8 US respondents, 3 UK respondents) and some felt that their organisation had changed ‘not at all’ (6; 1 US respondent, 5 UK

respondents). The US participants were, therefore, more likely to report changes in their institutions and the way that they approach equity work compared to the UK sample.

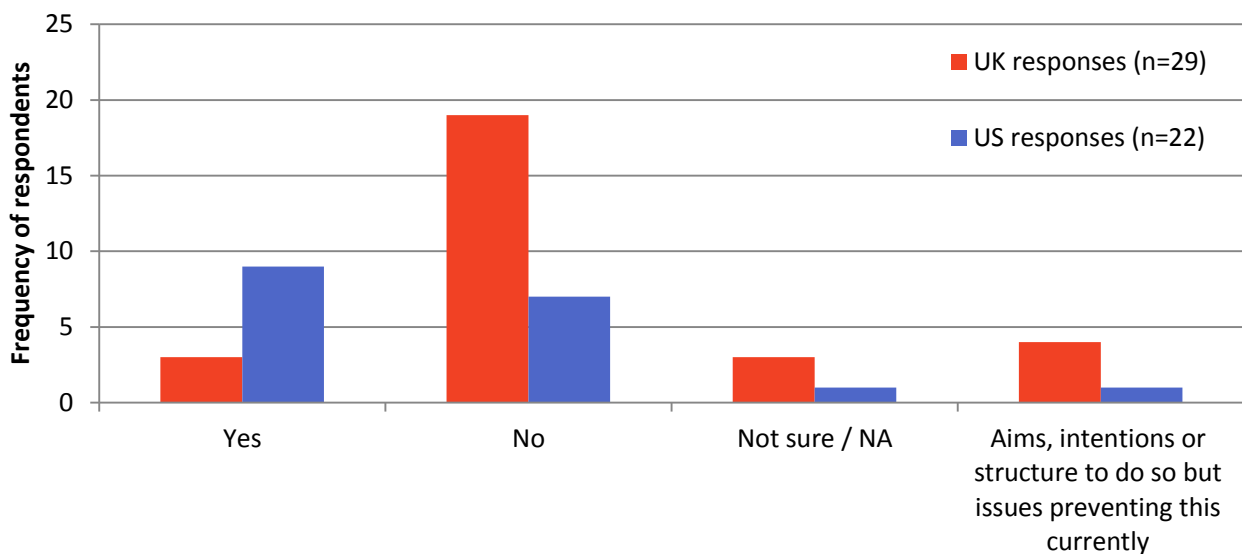
The survey also touched upon the topic of pathways and asked respondents whether they collected data around pathways for the young people they come into contact with. The question was asked both in relation to the organisation, Figure 17, and then about the respondent personally, Figure 18. Whilst some of the US participants do collect this kind of data already, both in their organisations and personally, on the whole the UK participants did not collect this kind of data.

Figure 17. Does the organisation currently collect data around young people's pathways in the institution/organisation?



Three individuals mentioned challenges around project-based information collecting, and three about the sporadic or anecdotal nature of the data which is collected currently by their organisations. Both topics present problems and reasons why information about pathways is not collected currently.

Figure 18. Does the respondent currently collect information around young people's pathways in the institution/organisation?



Summary

This report has illustrated that there are many differences between the US and UK ISL communities in terms of equity work; not least in the terminology used to describe work in this area, but also the extent to which it is evaluated and practices around youth pathways. That said, the survey also revealed broad similarities in the goals for equity work, types of activities already conducted and the range of challenges faced. Further analysis of the qualitative responses to the survey will explore equity practices in more detail, and alongside the data from within-sector and cross-sector workshops this survey provides an indication of the state of equity research and practice across UK and US ISL populations.