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**REPORT FOR BELFAST CITY COUNCIL: AN EVALUATION
OF THE PARKLIFE EDUCATION PROGRAMME 2018-19**

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Report for Belfast City Council: An evaluation of the ParkLife Education Programme 2018-19

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Glossary of terms

Closed question: a question with a defined set of responses to choose from. For example; yes, no, not sure or strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

Cohort: a group of people with a common characteristic. In the case of the current study, this refers to the group of children involved in the ParkLife Education Programme.

KIDSCREEN 10: this is a set of health-related quality of life questions for use with children and adolescents. It was designed by Ravens-Sieberer et al. (2010).

Likert scale: a group of questions used to ascertain people's attitudes towards something. For example, strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

Mean scores: A mean is the same as an average score.

N= in this study, this is shorthand for 'number of respondents'. For example, n=124 means that 124 children answered the specific question being presented.

Open question: a question that does not have a defined set of responses to choose from. Respondents are presented with a blank space to provide their own answer.

Paired samples t-test: a t-test is a statistical analysis used to compare mean scores from a set of results (or answers to questions) to see how they are related and, in relating to this study, whether or not differences in the mean scores are a result of chance or a result of engagement with the Programme. A paired t-test is used to compare two mean scores where you have two samples (i.e. pre and post responses) in which observations in one sample can be paired with observations in the other sample.

Reliability: there are various different reliability constructs and measures in research. In the current study, a statistical test called Cronbach's alpha was used. This measures the internal consistency of a group of questions (a scale) to see how closely related a set of questions are as a group. In other words, if they belong together (are about the same thing) and have been understood by the respondents as belonging together.

Scale: a group of questions that belong together as they are about the same concept and/or are measuring the same construct.

Statistically significant difference: when a result is not attributed to chance. In other words, in relation to this study when there is a difference between responses before and after the Programme and it is very unlikely to have occurred because of the chance – it can be said to be attributed to the intervention or programme. This can be in a positive or negative direction. In this study, a positive direction shows a beneficial impact of the Programme.

Subscales: this is a smaller set of questions with a larger scale, which are about part of a concept and/or are measuring a theme within a larger scale.

Executive summary

This report presents findings from an evaluation of Belfast City Council's (BCC) ParkLife Education Programme which ran between September 2018 and June 2019. This is the second evaluation of the Programme – a report on the evaluation of the 2016-17 cohort of children involved can be found [here](#)¹ (Kerr, 2017). To ensure comparability, many of the measures used in the 2018-19 evaluation are the same as those used in the 2016-17 evaluation.

Belfast City Council manage the ParkLife Education Programme. The Programme uses and promotes the Council's parks and open spaces as a resource for outdoor learning. There are three main elements to the ParkLife Education Programme: schools, Saturday Clubs and community groups. The school element is the focus of this evaluation and the previous evaluation, which was completed in 2016-17 (Kerr, 2017). In total, 171 children in eight schools in the Belfast area took part in the current evaluation of the Programme. The children completed an online pre-programme and post-programme questionnaire. In addition, 12 children from two schools took part in two focus groups and spoke in greater detail about their thoughts on the Programme.

This evaluation presents strong evidence that the ParkLife Education Programme benefits children across all its primary and secondary outcomes. Children who take part spend more time engaging with nature in their local parks, learn more about their local park and are more connected to nature, after taking part in the ParkLife Education Programme. Overall, they also have more positive attitudes towards and awareness of environmental sustainability and have more positive attitudes to learning outdoors. They also rate their health and well-being as higher.

The children in this cohort spend more time in their local parks (particularly on their own or with family) and take part in a more diverse range of activities, after their involvement in the ParkLife Education Programme. This was evidenced through their responses on the online questionnaire and during the focus groups. The findings presented for engagement with local parks for this cohort of children (2018-19) are more or less in line with the findings for the previous cohort (2016-17, cited in Kerr, 2017).

The data from this cohort of children shows substantial improvement in their knowledge of their local parks and nature within them. This was of particular note in the responses to the knowledge-based questions on the online questionnaire but also obvious in their detailed discussions about their learning, during the focus groups. It is also important to highlight that this increase in knowledge was not as substantial for the previous cohort of children in 2016-17 (Kerr, 2017). The children were more positive about their connection to nature at the end of the Programme - the mean Connection to Nature scores was **1.14** [n=147, Standard

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Deviation (SD) =0.56] at pre-programme and **1.22** (n=148, SD=0.51) at post-programme. They were also more positive in relation to their Empathy for creatures and Sense of oneness. The children in this sample also gained a lot from the Programme in relation to their views of their own responsibility, particularly around the idea that their own actions and picking up litter will help the environment.

The children in this cohort were more positive for seven out of the 11 items related to attitudes to environmental sustainability. Their attitudes remained stable for two items and they were slightly less positive for two items. It is interesting to note that these findings are more or less in line with the results from the previous cohort – they are slightly more positive in that nine questions were either more positive or neutral, with only two less positive for the 2018-19 cohort but three items were less positive at post-programme for the 2016-17 cohort (Kerr, 2017). It is also important to note that the question ‘People are treating nature very badly’ evidenced a statistically significant difference in responses, in a positive direction for both cohorts. The children were asked to ‘*write down a problem that’s happening in the environment at the moment*’ in a blank space on the online questionnaire. Whilst there remained a focus on littering/rubbish/dirt/trash in their post-programme responses, some children talked about a wider range of issues to include animals being endangered/at risk of extinction and bugs being harmed. Of particular note is the increase in the number of children who specifically mentioned plastics as pollutants and ‘Brexit’. Perhaps this reflects an awareness of current issues in the media, given the timing of the post-questionnaire (May/June 2019) as opposed to the pre-questionnaire (September 2018). It also demonstrates that some children are aware of current affairs!

The children in this cohort were significantly more positive about learning outdoors, after the ParkLife Education Programme as evidenced through the closed questions on the online questionnaire. The mean score for the attitudes to learning outdoors scale (Kerr, 2014) for this cohort of children was **3.67** (on a scale from 1 to 5) in the pre-questionnaire and **3.98** in the post-questionnaire. In fact, **four out of five** of the items on this scale evidenced a statistically significant difference, in a positive direction, on the post-questionnaire. The children were also much more positive about learning outdoors in their open responses on the questionnaire and the children involved in the focus groups talked very positively about how they feel when learning outdoors. It is important to note that this cohort of children evidenced a more positive shift in attitudes to learning outdoors, compared with the 2016-17 cohort (Kerr, 2017).

The children in this cohort were more positive in their responses to nine out of 11 items related to their perception of their health and well-being. Their responses remained the same for one item and they responded slightly less positively, post-programme, for one item. It is interesting to note that these results are more or less in line with the results for the 2016-17 cohort of children, with the exception of fewer items which evidence a statistically significant difference, post-programme - four items showed a statistically significant difference, in a positive direction, for the 2016-17 cohort (Kerr, 2017). However, it is important to note that the baseline (pre-programme) percentage of positive responses for the current (2018-19) cohort were noticeably less positive for the majority of the health and well-being questions. In the focus groups the children talked at length about the health benefits of learning outside, both in relation to their physical health (for example, more exercise and less weight gain) to their mental health – for example, they described learning outside as relaxing, calming, free/can express yourself, happy and the importance of getting “fresh air”.

The children were asked several questions on the post-programme questionnaire designed to allow them to reflect on and evaluate their experience of the ParkLife Education Programme. In total, 93% of the children responded 'yes' to the question '*Did you enjoy learning outdoors during the ParkLife Education Programme?*' on the post-programme questionnaire. This is the same result as for the 2016-17 cohort of children.

When asked why they enjoyed/did not enjoy the Programme, 94.4% of their responses were positive and they talked about how fun the Programme was and how much they learned/enjoyed specific activities and/or learning about/being in nature/outdoors. There were very few negative comments and two of these were about how the children didn't like the worms or felt 'sorry for them'. When asked to record their '*two best memories of learning outdoors*' after the Programme, 97.9% of the comments were positive and they noted specific activities, namely digging for worms, making/building a fire, toasting marshmallows, learning about/experiencing living things and nature and the activity related to butterflies. These comments are particularly useful as they were given in response to an open question.

The children were also asked if there were any problems when they were learning outdoors. In total, 81% said there were no problems and, in a follow up question about what the problems were and how they were put right, only 10 of the comments were negative and most of these are not within the control of the Programme delivery team. The children were also asked to record any worries they still have about learning outdoors. They were less worried about fewer issues by the time they had completed the ParkLife Education Programme. Their comments also offer some suggestions for issues which may need to be dealt with more directly (getting stung/hurt/fear of animals and fear of animals being harmed) as they tend to persist for a minority of children, even after an outdoor learning intervention.

The final question on the online questionnaire was '*If you were running the ParkLife Education Programme, how would you teach in the outdoors?*' The children were very positive about how the Programme is being taught and made some interesting and useful suggestions for it, going forward. Their comments were more or less in line with those from the 2016-17 (Kerr, 2017) cohort. The most frequently mentioned suggestions were: learn/explore nature, have time in the play park after the learning, learn how to look after/protect nature, explore beyond the park and visit the park more as well as keeping the Programme's activities the same.

The positive evidence for the benefits of the Programme is strengthened further by the fact that this is the second evaluation— an evaluation of the 2016-17 cohort of children also showed similar, very positive results (Kerr, 2017). Also, the positive quantitative evidence (online questionnaire) is further supported by some positive qualitative evidence (the 2018-19 focus groups). Therefore, it is recommended that the Programme continues to be delivered in its current model to as many schools as possible, so many more children can benefit. Belfast City Council has shared this best practice with other local Councils and should consider sharing this with other organisations throughout Northern Ireland and beyond. The ParkLife Education Programme already exists as a neat package of lessons using an effective model of delivery. Therefore, the ideal would be a 'scaling up' of the Programme throughout other areas/countries together with a further in-depth evaluation, such as a trial (with a control group) and a process evaluation. Ideally, this would go hand in hand with a 'scaling up' of the Programme, within and beyond the Belfast Council area.

Background

This report presents findings from an evaluation of Belfast City Council's (BCC) ParkLife Education Programme which ran between September 2018 and June 2019. This is the second evaluation of the Programme – a report on the evaluation of the 2016-17 cohort of children involved can be found [here](#)² (Kerr, 2017). To ensure comparability, many of the measures used in the 2018-19 evaluation are the same as those used in the 2016-17. Where additional measures/data were collected, these will be made clear throughout the current report.

In total, 171 children in eight schools in the Belfast area took part in the current evaluation for the Programme. A range of primary and secondary outcomes were measured using a range of questions on an online pre-programme and post-programme questionnaire. In addition, groups of children from two schools took part in focus groups and spoke in greater detail about their thoughts on the Programme and their views will be shared throughout the report. In total, 12 children took part in the focus groups.

This report will outline the background to the ParkLife Education Programme and its evaluation to include details on the sample, the measures used for each of the outcomes under consideration, the findings (from the questionnaire and focus groups) as well as conclusions and recommendations.

1.1 The ParkLife Education Programme

Belfast City Council manage the ParkLife Education Programme. The Programme uses and promotes the Council's parks and open spaces as a resource for outdoor learning. Not only does the Programme take place in schools but it is also designed to encourage children and their families to explore their local parks and to get outdoors. The Programme aims to encourage children to:

- care for their local park
- learn about their local park
- meet new friends
- interact with other children
- play and exercise
- enjoy the fresh air, and
- become self-reliant

There are three main elements to the ParkLife Education Programme: schools, Saturday Clubs and community groups. The school element is the focus of this evaluation and of the previous evaluation completed in 2016-17 (Kerr, 2017). The school element of the Programme

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comprises supervised sessions in parks (three sessions) throughout the school year as well as preparation and follow up lessons in the children's classrooms (two sessions). The teachers walk with the children to their local park where they can learn about different topics, such as:

- animal and bird survival
- how trees change with the seasons, and
- bushcraft

The Programme is delivered to Key Stage 2 children (aged between 8 and 11) in 39 schools across Belfast. It is carefully designed to be closely linked to the curriculum. The evaluation presented here included a sample of eight schools who took part in the Programme between September 2018 and June 2019.

1.2 The Evaluation

Acting as external evaluators, Queen's University Belfast was commissioned by Belfast City Council to evaluate their ParkLife Education Programme. The evaluation included two online questionnaires which the children completed before they took part in the Programme (September 2018) and after the Programme was over (June 2019). It also comprised focus groups in two of the evaluation schools.

The primary and secondary outcomes of the ParkLife Education Programme were evaluated. The primary outcomes for the Programme were that, as a result of participating in the Programme, the children will:

- Spend more time engaging with nature in their local parks
- Have learned more about their local park
- Be more connected to nature

The secondary outcomes were that, as a result of participating in the Programme, the children will:

- Have more positive attitudes towards and awareness of environmental sustainability
- Have more positive attitudes to learning outdoors
- Rate their health and well-being as higher

Table 1 (overleaf) presents all the measures used, in line with the outcomes they evaluated. In order to get a picture of the sample of children involved in the evaluation, some background factors were also included in the questionnaire: age, gender, school and country of birth. With the aim of ascertaining children's previous experience with outdoor learning and the ParkLife Education Programme, they were also asked if they knew anyone who had taken part in the Programme before and, if so, who it is. The children were also asked if they have had lessons in the outdoors before and, if yes, where it was and what did they do.

The children were also asked to evaluate the Programme for themselves, in the post-programme online questionnaire. They were asked the following questions:

- Did you enjoy learning outdoors during the ParkLife Education Programme? Why or why not?
- After the ParkLife Education Programme, what are your two best memories of learning outdoors?

- During the ParkLife Education Programme, were there any problems when you were learning outdoors? If so, what were they and how were they put right?
- Now that the ParkLife Education Programme is over, what worries do you still have about learning outdoors?
- If you were running the ParkLife Education Programme, how would you teach in the outdoors?

Outcome	Measures/questions
Primary outcomes	
Spend more time engaging with nature in their local parks	<ul style="list-style-type: none"> • Frequency of park visits • Activities you do in your park • Favourite activity outside school • Focus group questions 2, 5, 6, 11
Have learned more about their local park	<ul style="list-style-type: none"> • Multiple choice questions directly related to the Programme content • Focus group questions 2, 3, 5, 6
Be more connected to nature	<ul style="list-style-type: none"> • Connection to Nature Index (Cheng and Monroe, 2010) • Focus group questions 7-10
Secondary outcomes	
Have more positive attitudes towards and awareness of environmental sustainability	<ul style="list-style-type: none"> • The New Ecological Paradigm scale for children (adapted from Manoli, Johnson and Dunlap, 2007) • Write down a problem that's happening in the environment at the moment
Have more positive attitudes to learning outdoors	<ul style="list-style-type: none"> • Attitudes to learning outdoors scale (adapted from Kerr, 2014) • Word to describe how you feel about learning outdoors • Focus group questions 2, 4-6, 7-10
Rate their health and well-being as higher	<ul style="list-style-type: none"> • KIDSCREEN 10 (Ravens-Sieberer et al., 2010) • Focus group questions 7,8

Table 1: An outline of the measures/focus group questions used in the evaluation, matched to the primary and secondary outcomes for the ParkLife Education Programme.

A complete list of all the questions, scales and answer choices for the online questionnaire are listed in Appendix 1. An outline of the questions used for the focus groups are outlined in Appendix 2. Section 2 will present the findings from the measures used to examine the primary outcomes, section 3 considers the findings related to the secondary outcomes. The children's responses to the questions asking them to evaluate the Programme are presented in Section 4 whilst Section 5 brings together the key findings, conclusions and recommendations. A summary of views, to include quotes, from the children involved in the focus groups will also be presented throughout the report.

1.3 The sample

In total, 171 children took part in the evaluation, across eight schools in the Belfast area. A total of 178 children completed the pre-programme online questionnaire and 171 children completed the post-programme questionnaire. Absence on the day of testing accounts for the difference in the number of responses between the pre-programme questionnaire and post-programme questionnaire. Further details on the sample of children are outlined below:

- 59% of the children are girls, 41% are boys. One of the schools involved in the evaluation has a girls-only intake, which would explain the difference in the number of boys and girls who took part.
- All of the schools were in the Belfast City Council area
- 57% of the children recorded that they were 8 years old and 43% said they were 9 years old.
- 83% said they were born in Northern Ireland, 9% said they were born in the Republic of Ireland/Ireland, 2% said they were born in Poland and there was a 1% representation from each of the following countries: Brazil, England, Hungary, India, Scotland, Syria, Thailand and Wales. A further 3% of the children recorded 'I don't know' when asked which country they were born in.
- 50% of the children said they had lessons outdoors before, 25% said they had not and 25% responded 'don't know'. This is a marked increase in positive responses in comparison to the 2016-17 cohort of children (Kerr, 2017), as 41% of them indicated they had experienced lessons outside before. With regard to those who indicated that they had lessons in the outdoors before, a total of 33% indicated that they had learnt about nature or took part in gardening/planting. A further 24% said they did PE outdoors, 22% listed other school activities (such as maths, history) and 2% of respondents said they went camping. With regard to the location of these outdoor activities, 25% reported that they took place in the school grounds, 27% said they were with family/in their garden/on the street, 21% said they were in parks (please note this includes activities outside school), 3% said they were on school trips, 2% said it was through a summer scheme and 2% (1 child) said "in the wild with my Dad".
- 60% of the children said they did not know anyone who took part in the ParkLife Education Programme before, 26% responded 'don't know'. 14% said they did know someone with 7% saying this person/these people were 'a friend', 5% saying it was a family member, 1% saying 'don't know'. These findings would suggest that the majority of children who took part in the evaluation were not aware of the ParkLife Education Programme before they took part.

1.4 Data analyses and statistical reliability

For this evaluation, two types of data were collected – firstly, *quantitative data* in the form of closed questions on the online questionnaire. The closed questions had a specific set of options for the children to select as their response. Secondly, *qualitative data* in the form of open response questions (where children could type in their own answers) on the online questionnaire and focus group discussions. The quantitative and qualitative data were analysed in different ways and a summary of the process of analyses for both sets of data are outlined in sections 1.4.1 and 1.4.2.

1.4.1 Analyses of the quantitative data

The questionnaire data were collected using Survey Monkey and extracted from this in the format of a Statistical Package for Social Scientists (SPSS) file. All of the quantitative data analyses were conducted using SPSS, to include:

- The creation of new variables to represent total score on relevant scales (groups of questions)
- Statistical reliability of the relevant scales (groups of questions) – the Cronbach's alpha coefficient was used to calculate the statistical reliability of relevant scales. This considers whether or not similar questions within a scale resulted in similar scores (and were therefore understood as intended). Cohen, Manion and Morrison, (2011) stated that, in general, a Cronbach's alpha coefficient of 0.60 to 0.69 is marginally/minimally reliable, 0.70 to 0.79 is reliable, 0.80 to 0.90 is highly reliable and >0.90 is very highly reliable. The Cronbach's alpha coefficients (pre programme questionnaire) and their interpretations for the scales presented in this report are:
 - The Connection to Nature scale: $\alpha=0.83$. This is highly reliable
 - The Connection to Nature subscales
 - Enjoyment of nature subscale ($\alpha=0.76$). This is reliable
 - Empathy for creatures subscale ($\alpha=0.67$). This is marginally/minimally reliable
 - Sense of Oneness subscale ($\alpha=0.60$). This is marginally/minimally reliable.
 - Sense of responsibility subscale ($\alpha=0.37$). This is not reliable
 - Attitudes to learning outside: $\alpha=0.54$. This is borderline reliable
 - KIDSCREEN 10: $\alpha=0.70$. This is reliable
 - Sustainability scale: $\alpha=0.20$. This is not reliable

These results mean that the Connection to Nature scale, three of its subscales and the KIDSCREEN 10 scale are considered to have acceptable reliability and can be presented as scales. The attitudes to learning outside scale shows borderline reliability and the reader should keep this in mind when interpreting the results from this scale. The Sense of responsibility subscale on the Connection to Nature scale will not be presented as a scale in this report as it falls well below the accepted value. The sustainability scale will also not be presented as a scale in this report as it falls below the recommended value for reliability.

- Percentage of responses to questions – in other words the overall percentage for each of the response options for each question was calculated.
- Mean scores (averages) of relevant individual questions and scales (groups of questions). It will be made clear throughout the report if a mean score is presented for relevant scales.
- The calculation of statistical significance between pre and post items – where relevant, t-tests were used for this evaluation. These were used to test if there was a statistically significant difference in the children's responses to questions after they took part in the ParkLife Education Programme, compared with their responses, before they took part.

1.4.2 Analyses of the qualitative data

Two methods were used to collect qualitative data: open questions on the online questionnaires and focus groups. The open questions on the online questionnaire gave the children an opportunity to write their own answers in a blank box. These questions are identified in Appendix 1 with the phrase ‘*open response*’ next to them (in the ‘Response options/response groups’ column of the table). The focus groups’ discussions were audio recorded (with full ethical clearance for this to include consent from schools, parents/guardians and the children themselves). The focus groups’ discussions were transcribed and anonymised – that is, children’s names and/or any other identifying features (such as school name) were not mentioned. For example, children were referred to as “Child 1, Child 2...” and so on.

Data from the open questions and the focus groups were then themed and coded into similar ‘groups’ of responses from the children. This process was similar to Chi’s (1997) qualitative analysis procedure. This means that the children’s comments/responses were categorised according to similarity.

Primary outcomes

3.1 Spend more time engaging with nature in their local parks

The children’s engagement with nature in their local parks was evaluated in two ways – through questions on the online questionnaire (comparing pre and post) and several questions during the focus groups (whether or not they enjoyed the Programme and why/why not, if they like visiting their local parks and why/why not as well as their favourite thing to do there and why/why not). With regard to the online questionnaire, the following questions were used to investigate whether or not the Programme had an impact on the children’s level of engagement with their local park:

- How often do you go to your park? (*One response could be chosen from: Never, About once a year, About once every six months, About once a month, A few times a week, Every day*)
- When you go to your park, who do you go there with? (*Multiple responses could be chosen from: On my own, With my family, With my friends, With school [my teacher], With a club, Other*)
- What activities do you do in your park? (*Multiple responses could be chosen from: Play, Go for a walk, Ride a bike, Enjoy nature, Meet friends, Play sports, Take a shortcut, Attend events, Walk the dog, Attend clubs, I don't know, Other*)
- What is your favourite activity outside school? (*Open response, children were free to write whatever they wanted in a blank box*)

Figure 1 presents the **percentage of responses** from the pre and post questionnaire for “How often do you go to your park”?

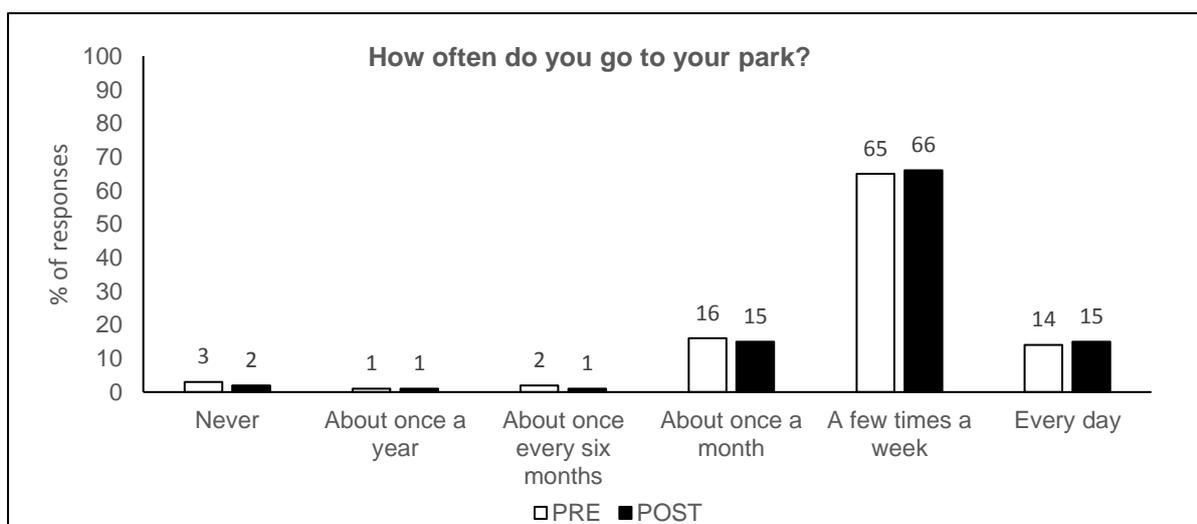


Figure 1: A bar graph to show the percentage of responses for frequency of park visits (pre and post). n=177 (pre), 169 (post)

Figure 2 shows the children’s responses before (pre) and after (post) the Programme for the question “When you go to your park, who do you go there with?”.

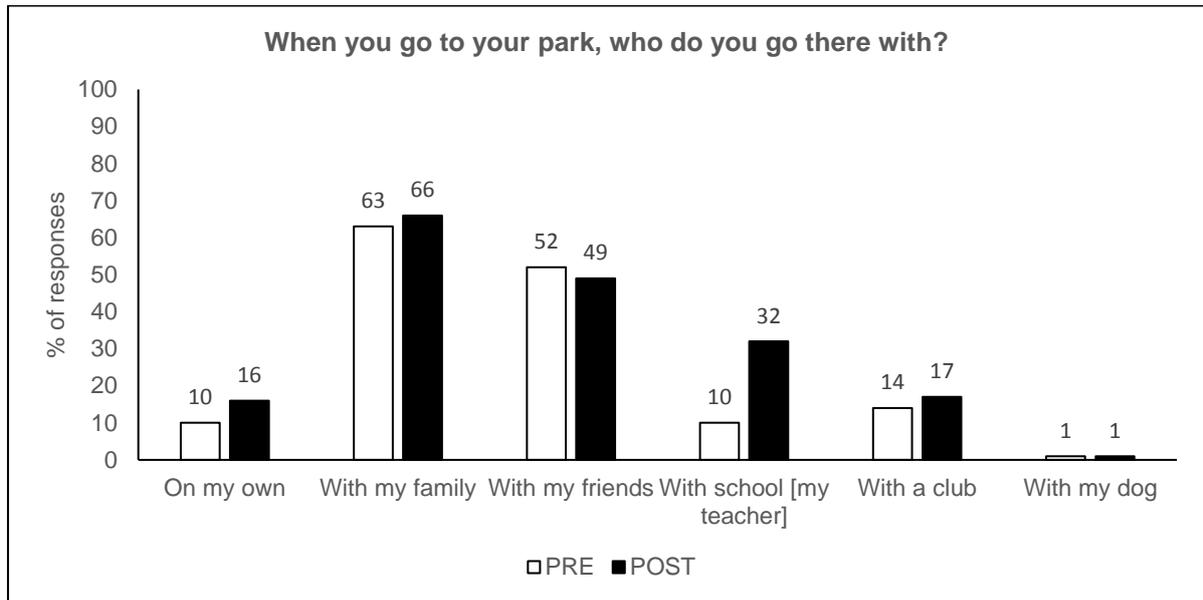


Figure 2: A bar graph to show the percentage of responses for who the children go to the park with (pre and post). n=177 (pre), 169 (post)

The children were also asked to select the activities they do in their park (pre and post) – there was no limit on the number of options to select and they could also add their own activities. The responses to this question are presented in Figure 3.



Figure 3: A bar graph to show the percentage of responses for activities in the park (pre and post). n=177 (pre), 169 (post)

Table 2 presents the children's responses to the open question 'What is your favourite activity outside school?', comparing pre and post responses.

Activity	PRE		POST	
	Frequency of response	% of responses	Frequency of response	% of responses
Other sports/sporting games	48	28.9	54	29.2
Football	43	27.7	41	22.2
Playing/spending time with friends/family	20	12.0	8	4.3
Screen time (computers and TV)	13	7.8	12	6.5
'Playground' games	9	5.4	16	8.6
Playing (generally, with pets)	9	5.4	15	8.1
Going to/playing/eating in the park	5	3.0	5	2.7
Outdoor/nature activities	3	1.8	9	4.9
Martial arts/boxing	3	1.8	4	2.2
Reading/writing/maths	3	1.8	2	1.1
Art/crafts/baking	2	1.2	7	3.8
Cycling/bike activities	2	1.2	6	3.2
Homework	2	1.2	1	0.5
Musical instruments	2	1.2	1	0.5
Other social activities (holidays, parties)	1	0.6	2	1.1
Don't know/ nothing/everything/lots	1	0.6	2	1.1
TOTAL	166		185	

Table 2: A summary of the children's responses to 'What is your favourite activity outside school?' (pre and post)

Whilst there was only a slight increase in the number of children recording a more frequent response for visits to the park after the Programme, more children reported going to the park on their own, with their family and with their teacher in the post-programme questionnaire. A higher percentage of children reported going to the park for seven out of ten of the activities listed, with the remaining three staying the same. It is interesting to note that, in the post questionnaire, there was an increase in the number of children who selected going to the park to 'go for a walk' (pre = 31%, post = 44%) to 'ride a bike' (pre = 38%, post = 46%), 'play sports' (pre = 45%, post = 54%) and 'walk the dog' (pre = 32%, post = 41%). For the question related to their favourite activities outside school it is important to note that there were more responses (pre n = 166, post n = 185), spread across a more diverse range of activities in the post programme questionnaire. The findings presented for engagement with local parks for this cohort of children (2018-19) are more or less in line with the findings for the previous cohort (2016-17, cited in Kerr, 2017) with only a slightly less positive picture in regard to frequency of visits. However, all responses for the 2018-19 cohort reported here, evidence a positive change between the pre-questionnaire and post questionnaire.

The children involved in the focus groups were asked if they liked visiting their local park and why. Most of the children talked positively about their local park and went there regularly. The activities they talked about most were playing sports and playing on the equipment in the park. They also talked about using the park to have fun, get healthy/fresh air/get outside, play/walk/meet friends and one child talked about being in and exploring nature. A few indicative quotes from the focus groups have been included below. Indicative quotes related to the most common discussion points in each section will be included throughout the report in this format.

"I really enjoy going to my park because I also like doing a lot of sports, and my favourite sport is tennis, and up the hill and then where all the exercise equipment is, if you just go up the path there's a big tennis court."

"Play football and run around with my brothers."

"Why I like it [visiting the park], because there's things that are fun to do, but I also like to do exercise at the same time."

There were a few negative comments about the park. However, this was during one, quite lengthy discussion with one of the focus groups which focused on the dangers and environmental impact of the up and coming 'bonfires' in July. The majority of the children in that focus group were concerned about the bonfires and the damage they would do:

Some parks are actually bad, because some parks actually have bonfires beside them, but, like, smoke. And, like, smoke into the environment

Part of the discussion also focused on the dangers of 'toddlers' going to/playing in the park unsupervised, which concerned one child in particular.

During the focus groups, the children were also asked if they visit their local park more, after their involvement in the ParkLife Education Programme. The majority said they did and talked more about the activities they do there, with a few children talking about how the Programme has inspired them, made them realise you can learn in the park and encouraged them to explore nature.

In summary, the children in this cohort spend more time in their local parks (particularly on their own or with family) and take part in a more diverse range of activities, after their involvement in the ParkLife Education Programme. This was evidenced through their responses on the online questionnaire and during the focus groups.

3.2 Learned more about their local park

In order to test their knowledge of the topics/information covered during the ParkLife Education Programme, the children were asked a series of 19 multiple choice questions on the online questionnaire. They were asked to select one correct answer from a list of possible answers – one correct answer was mixed up with a few incorrect answers for each question and the children also had the option of selecting 'I don't know' (see Appendix 1 for a complete list of the questions and the response options given). During the focus groups, the children involved

were also asked if they thought they learned anything from taking part in the Programme and they outlined what they had learnt.

On the online questionnaire, the post programme responses evidenced an increase in correct responses for all but one of the 19 questions. The percentage of correct answers before (pre) and after (post) the Programme are shown in Figure 4.

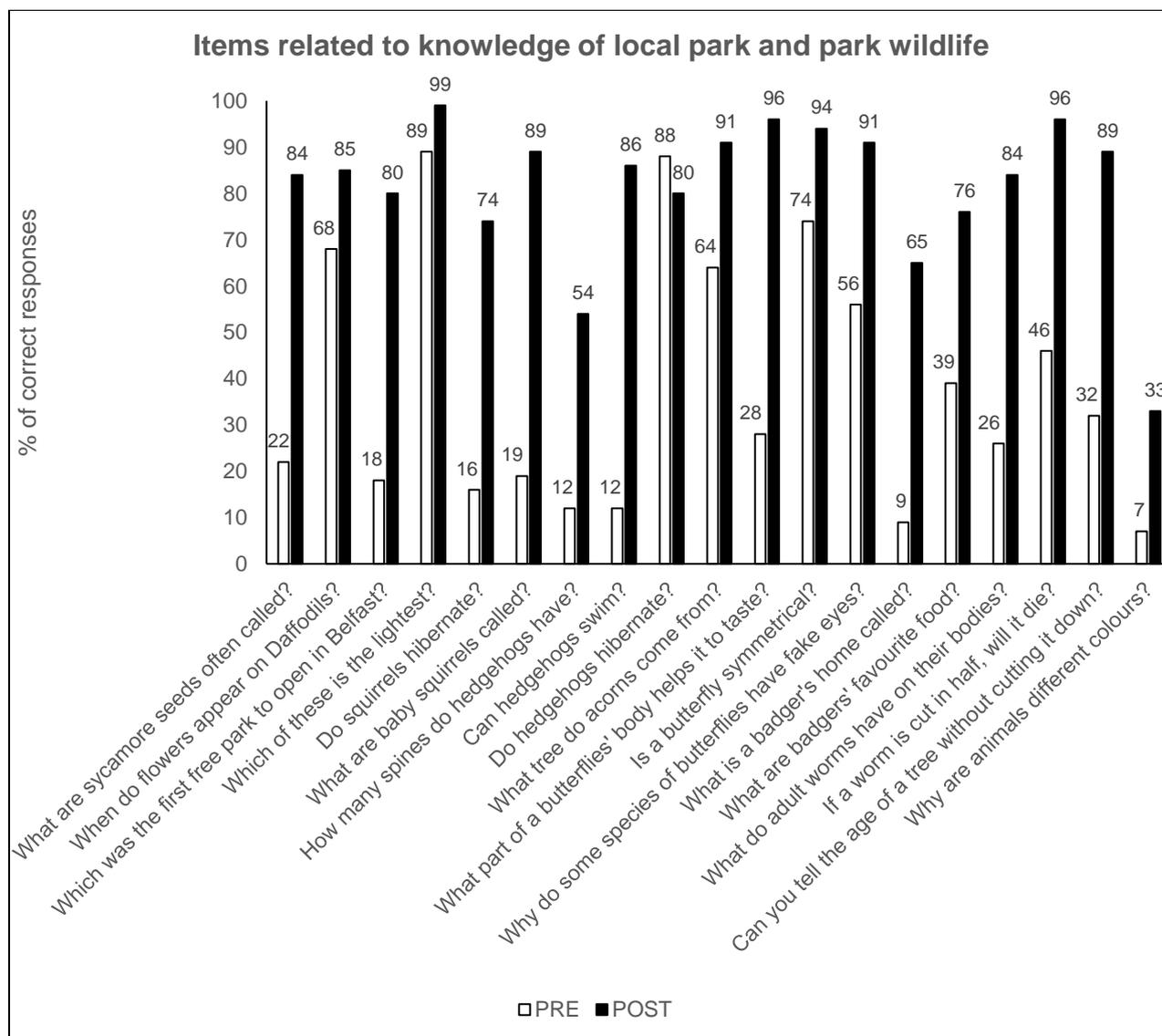


Figure 4: A bar graph to show the percentage of correct responses for knowledge-based questions (pre and post). n=175 (pre), 166 (post)

Figure 4 shows a sizeable increase in the percentage of correct responses for several of the knowledge-based questions. Of particular note is the increase in responses to the following questions: 'Can hedgehogs swim?' (pre = 12%, post = 86% correct), 'What are baby squirrels called?' (pre = 19%, post = 89% correct), 'What part of a butterflies' body helps it to taste?' (pre = 28%, post = 96% correct), 'What are sycamore seeds often called?' (pre = 22%, post = 84% correct), 'Which was the first free park to open in Belfast?' (pre = 18%, post = 80% correct). It is also important to note that the knowledge-based questions in the post questionnaire were much more accurate for this cohort of children (2018-19), than the previous cohort in 2016-17 (Kerr, 2017). Although more knowledge-based questions were added for

the current cohort (2018-19), three of the questions were similar and all of these evidenced a substantial increase in correct responses on the post questionnaire.

During the focus groups, the children were asked if they thought they had learned anything through the ParkLife Education Programme. The discussions around this question were very detailed with many children recalling very specific facts (in order from most to least frequent) such as lighting a fire, that squirrels do not hibernate, that they learned 'a lot', they learned about plants, animals and trees and which ones are dangerous, what to do outside when you're older, that butterflies taste with their feet and that squirrels hide acorns. For example:

I learnt how to light a fire

but the thing we learnt is when you put Vaseline on wood and then you light it, it makes a bigger fire.

That trees...there's different trees in the world, which I did not know.

Yeah, I learned that squirrels hide acorns under...they dig up holes in the ground to put their acorns under, so nobody gets them.

All of the discussions about learning during the Programme were positive. The data from this cohort of children shows substantial improvement in their knowledge of their local parks and nature within them. This was of particular note in the responses to the knowledge-based questions on the online questionnaire but also obvious in their detailed discussions of what they had learnt, during the focus groups. It is also important to highlight that this increase in knowledge was not as substantial for the previous cohort of children in 2016-17 (Kerr, 2017).

3.3 Connection to nature

The children's connection to nature was measured using the Cheng and Monroe's (2010) Connection to Nature scale on the online questionnaire (pre and post). The 12 children involved in the focus groups were also asked how they feel about learning outside now that the ParkLife Education Programme is over, how being outside makes them feel and what they thought about being in nature before and after the Programme.

Their overall scores on the Connection to Nature (CNI) was calculated on a scale from -2 to 2, together with their scores on each of the three suitably reliable subscales (Empathy for creatures, Sense of oneness, Enjoyment of nature). The fourth potential subscale, Sense of responsibility, cannot be reported as a scale for this sample of children as it was not deemed statistical reliable to be presented as such – please see section 1.4.1 for further details on the reliability calculations for scales (groups) of questions.

For the children in this cohort (2018-19), the mean Connection to Nature scores was **1.14** (n=147, SD=0.56) at pre-programme and **1.22** (n=148, SD=0.51) at post-programme. The mean scores on the reliable subscales, in order of highest to lowest, for the children in this study are as follows:

- Empathy for creatures subscale: mean score=**1.40** (n=164, SD=0.64) at pre-programme and **1.53** (n=162, SD=0.61) at post-programme

- Sense of oneness subscale: mean score=**1.33** (n=167, SD=0.69) at pre-programme and **1.45** (n=166, SD=0.57) at post-programme
- Enjoyment of nature subscale: mean score= **0.97** (n=158, SD=0.71) at pre-programme and **0.96** (n=162, SD=0.69) at post-programme

Figure 5 presents the **mean scores** for the overall CNI scale and each of the three reliable subscales for the children who took part in this evaluation:

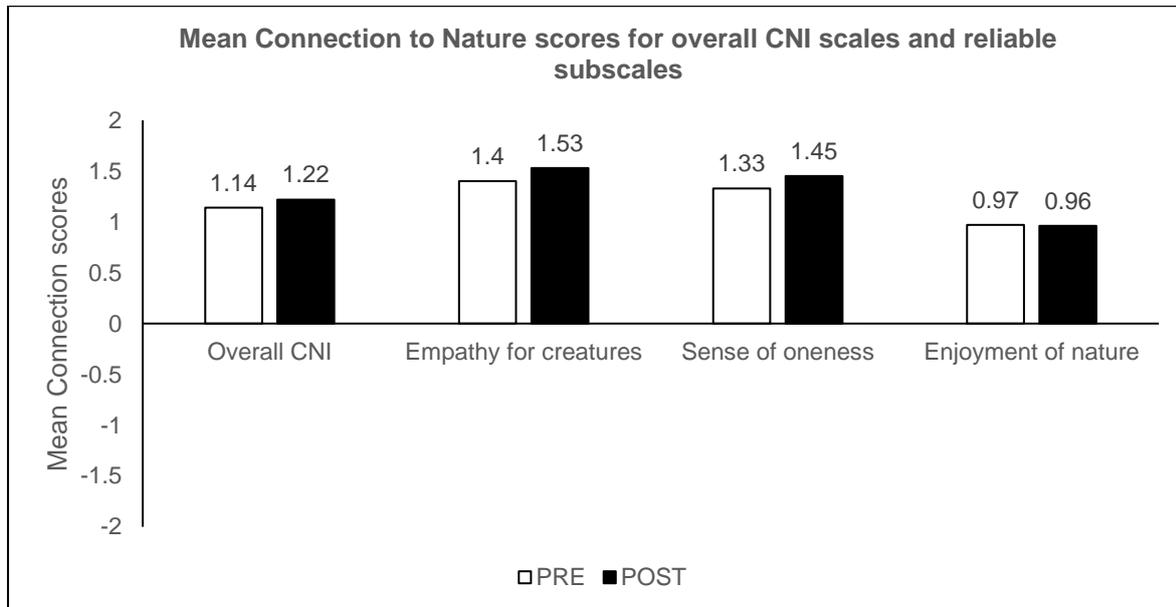


Figure 5: A bar graph to show the mean scores for the overall CNI scale and each of the three reliable subscales.

Whilst the three items on the potential ‘Sense of responsibility’ subscale (*My actions will make the natural world different; Picking up trash on the ground can help the environment; People do not have the right to change the natural environment*) were not reliable to be calculated as a scale, all three individual items evidenced an increase in positive responses on the post questionnaire, when compared to the pre questionnaire. In fact, two out of three of the potential Sense of responsibility items evidenced a statistically significant change in positive responses on the post questionnaire. Given that these questions could not be presented as a scale, the mean scores for each question from the potential Sense of responsibility scale are presented item by item in Figure 6.



Figure 6: A bar graph to show the mean scores for the each of three potential Sense of responsibility items (n = 139; 143; 141 responded both at pre and post) * represents a significant difference at p<0.05. * represents a highly significant difference at p<0.001**

Throughout the focus groups there were several discussions about the importance of being “in nature” and “learning about nature”, for example:

Because if they're not outside they won't really learn much about nature, and other things, and then they grow up with no clue what they're doing.

There's a bonus when you're learning outside. You can acknowledge all the nature in life...

These findings show that the children who took part in the 2018-19 ParkLife Education Programme rated their overall connection to nature as higher at the end of the Programme. They were also more positive about their Empathy for creatures and their Sense of oneness with nature. There was a slight decrease in their overall Enjoyment of nature subscale, but this was minimal. Overall, on each item in the proposed Sense of responsibility scale, the children in this sample were more positive and this difference was significant for two questions: My actions will make the natural world different (at p<0.05) and Picking up trash on the ground can help the environment (at p<0.001). It is interesting to note that the children in this sample had lower scores at baseline, when compared to the 2016-17 cohort, in relation to their overall Connection to nature and their Empathy for creatures. However, their post questionnaire responses were higher for Empathy for creatures in the post questionnaire, compared with the 2016-17 cohort. This would suggest that they gained a lot from the ParkLife Education Programme with regard to empathising with other living things. They also gained a lot from the Programme in relation to their views of their own responsibility, particularly around the idea that their own actions and picking up trash will help the environment. It is important to note that the pattern of scores across the different subscales for both cohorts, from highest (Empathy for creatures) to lowest (Enjoyment of nature), is the same as the pattern found in the larger baseline study, also carried out in Northern Ireland (Kerr, 2015).

Secondary outcomes

4.1 Attitudes towards and awareness of environmental sustainability

A child friendly adaptation of Manoli, Johnson and Dunlap's (2007) New Ecological Paradigm scale was used to investigate the secondary outcome relating to attitudes towards and awareness of environmental sustainability. A total of 11 questions were included in the pre and post questionnaires (a full outline of the questions and response options is given in Appendix 1). For the purposes of comparison, Figure 7 presents the percentage of positive responses for each of the items at pre-programme and post-programme.

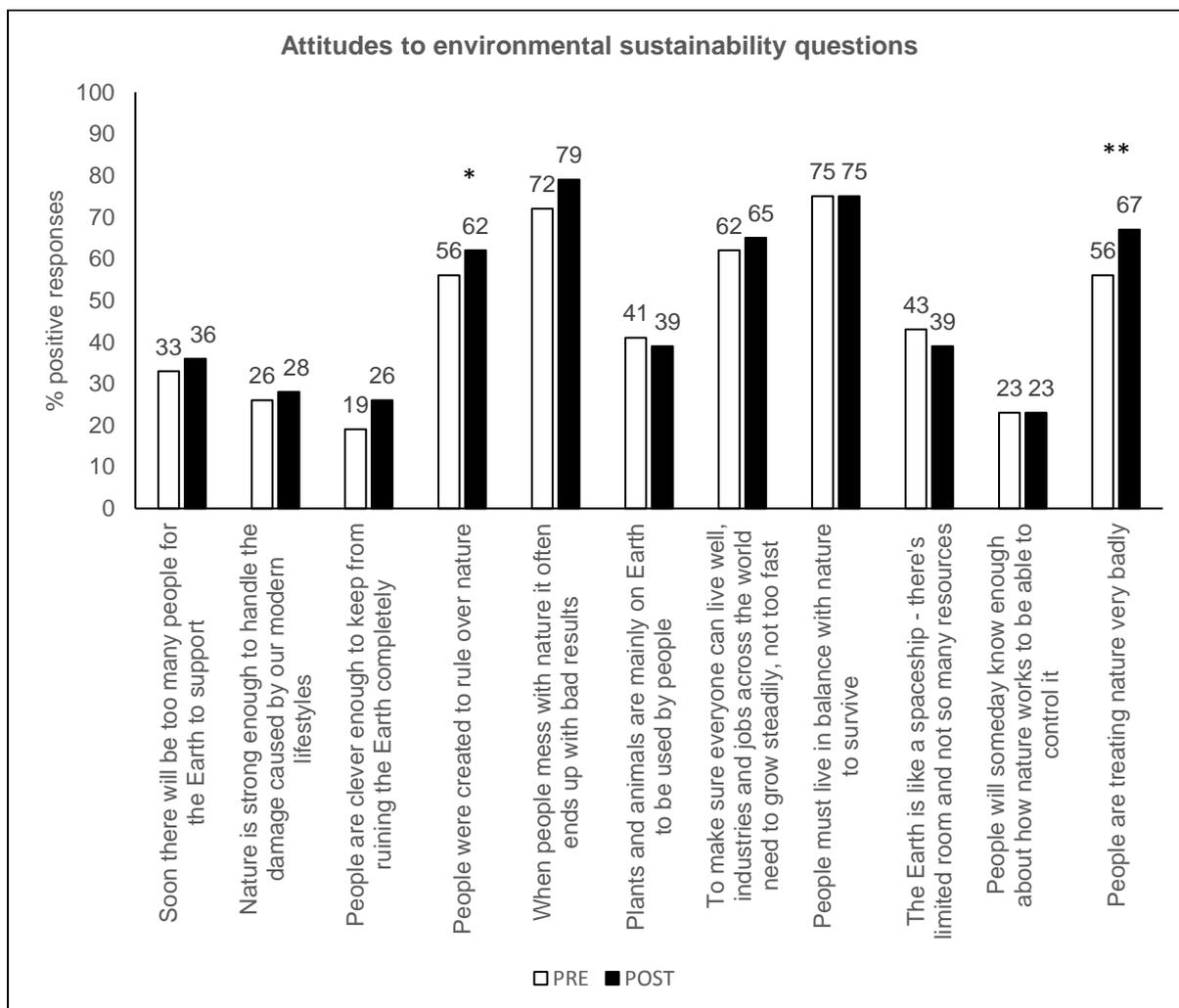


Figure 7: A bar graph to show the percentage of positive responses for the questions related to attitudes to environmental sustainability (pre and post), n=167 (pre), 165 (post). * represents a significant difference at $p < 0.05$. ** represents a significant difference at $p < 0.01$.

Figure 7 shows that, post-programme, the children in this cohort were more positive for seven out of the eleven items related to attitudes to environmental sustainability. Their attitudes remained stable for two items and they were slightly less positive for two items. In order to compare the mean scores for each item at pre and post-programme, a paired samples t-test was conducted for each of the items. This tells us if the difference in the responses is statistically significantly different. Two items showed a significant difference, and these were both in a positive direction. In other words, the children's responses were significantly more positive at the end of the Programme for these statements:

- '*People were created to rule over nature*' (p=0.049). In other words, children were significantly *less likely* to think that people were created to rule over nature, on the post-programme questionnaire.
- '*People are treating nature very badly*' (p=0.002). In other words, children were significantly *more likely* to think that people are treating nature very badly on the post-programme questionnaire.

As a general rule, a p-value of < 0.05 indicates a statistically significant difference, a p-value of <0.01 indicates a highly significant difference and a p-value of <0.001 indicates a very high significant difference.

It is interesting to note that these findings are more or less in line with the results from the previous cohort – they are slightly more positive in that nine questions were either more positive or neutral, with only two less positive for the 2018-19 cohort but three items were less positive at post-programme for the 2016-17 cohort (Kerr, 2017). It is also important to note that the question '*People are treating nature very badly*' evidenced a statistically significant difference in responses, in a positive direction for both cohorts.

In order to investigate their attitudes towards and view of environmental sustainability, the children were also asked to 'write down a problem that's happening in the environment at the moment' both in the pre and post questionnaire. The results are presented in Table 3.

Problem	PRE		POST	
	Frequency of response	% of responses	Frequency of response	% of responses
Littering/rubbish/dirt/trash	47	39.8	56	36.4
Animal cruelty/dying	15	12.7	12	7.8
Animals and rubbish (inc. in the sea)	12	10.2	17	11.0
Trees cut down/burned	12	10.2	10	6.5
Specific mention of plastics	5	4.2	19	12.3
Animals having no food or homes	3	2.5	1	0.6
Treating nature badly/don't care/not good/hurting/wrecking nature	3	2.5	2	1.3
Global warming	3	2.5	3	1.9
Adverse weather	3	2.5	0	0
Pollution (including general/air/sea)	3	2.5	6	3.9
Personal/social issues	3	2.5	4	2.6
Climate change	2	1.7	5	3.2
Plants being harmed	1	0.8	2	1.3
Animals – endangered/not enough of them/extinction	0	0	4	2.6
Bugs being harmed	0	0	3	1.9
Brexit/leaving the EU	0	0	4	2.6
Don't know/nothing/not sure	6	5.1	6	3.9
TOTAL	118		154	

Table 3: A summary of the children's responses to 'Write down a problem that's happening in the environment at the moment' (pre and post)

Whilst there remained a focus on littering/rubbish/dirt/trash in their post-programme responses, some children talked about a wider range of issues to include animals being endangered/at risk of extinction and bugs being harmed. Of particular note is the increase in the number of children who specifically mentioned plastics as pollutants and 'Brexit'. Perhaps this reflects an awareness of current issues in the media, given the timing of the post-questionnaire (May/June 2019) as opposed to the pre-questionnaire (September 2018). It also demonstrates that some children are aware of current affairs!

4.2 Attitudes to learning outdoors

The children's attitudes to learning outdoors was investigated in two ways – first of all using a set of questions (scale) on the online questionnaires and, second of all, through the focus groups. The questionnaire items were adapted from another evaluation study which considered children's participation in outdoor learning (Kerr, 2014) and looked at whether or not the children think learning outdoors is (was) easier than learning indoors, whether they think (thought) that they do not have to learn as much outdoors, whether they like (liked) learning outdoors, think it is (was difficult) and if learning outdoors is (was) better than learning indoors. The past tense wording was used for the post-programme questionnaire. On the online questionnaires, the children were also asked '*What word best describes how you feel about learning outdoors?*' – this was an open question so they could write their own response.

A full list of the questions used, and their response options, is outlined in Appendix 1. During the focus groups, the 12 children involved were asked how they felt about learning outdoors before and after the Programme and what they enjoyed the most/least about learning outdoors during the Programme.

The mean score for the attitudes to learning outdoors scale (Kerr, 2014) for this cohort of children was **3.67** (on a scale from 1 to 5) in the pre-questionnaire and **3.98** in the post-questionnaire. Therefore, children were more positive about learning outdoors after taking part in the ParkLife Education Programme.

Figure 8 shows the percentage of positive responses for each of the closed questions related to 'Attitudes to learning outdoors' (adapted from Kerr, 2014).

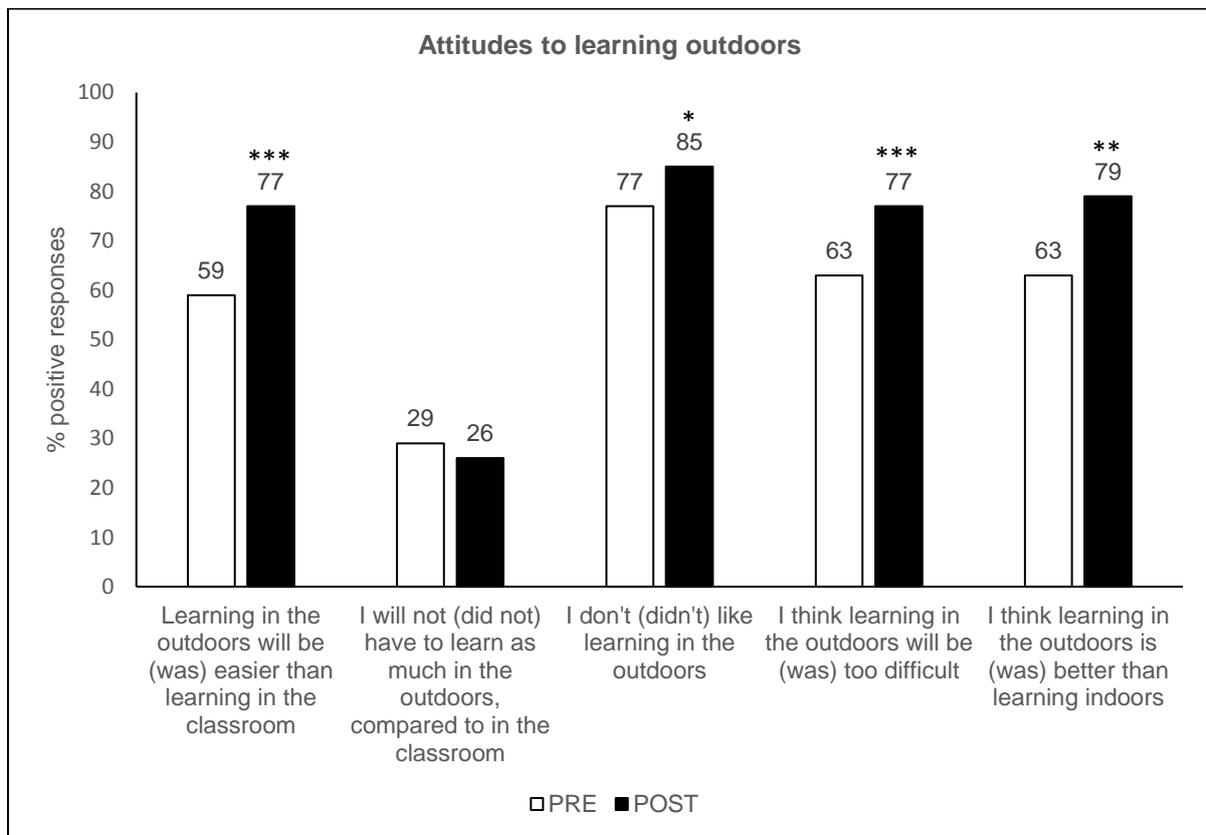


Figure 8: A bar graph to show the percentage of positive responses for the questions related to attitudes to learning outdoors (pre and post), n=167 (pre), 165 (post). * represents significance at $p < 0.05$, ** represents significance at $p < 0.01$, * represents significance at $p < 0.001$.**

In order to compare the mean scores for each item before and after the Programme, a paired samples t-test was conducted for all of the items related to attitudes to learning outdoors. This considered whether or not there was a statistically significant difference in the responses on the post-programme questionnaire. Four out of five of the items evidenced a statistically significant difference, in a positive direction, on the post-questionnaire:

- 'Learning in the outdoors will be (was) easier than learning in the classroom' ($p=0.00002$). In other words, children were significantly *more likely* to report that learning outdoors was easier, after the Programme.
- I don't (didn't) like learning in the outdoors ($p=0.027$). In other words, children were significantly more likely to say they like learning outdoors, after the Programme.

- *'I think learning in the outdoors will be (was) too difficult'* ($p=0.0003$). In other words, children were significantly less likely to report that learning outside was too difficult, after the Programme.
- *'I think learning in the outdoors is (was) better than learning indoors'* ($p=0.002$). In other words, children were significantly more likely to report that learning outdoors was better than learning indoors, after the Programme.

As a reminder, a p-value of < 0.05 indicates a statistically significant difference, a p-value of <0.01 indicates a highly significant difference and a p-value of <0.001 indicates a very high significant difference. It is important to note that whilst one item was less positive at post-programme (*'I will not (did not) have to learn as much in the outdoors, compared to in the classroom'*), the responses to the questions on this scale were much more positive for this cohort, when compared to the 2016-17 cohort when only two items evidenced a statistically significant difference on the post-programme questionnaire (Kerr, 2017). Also, 'learning less' was not the perception reported by the children involved in the focus groups – they talked at length about the details of what they learned during the ParkLife Education Programme. The results from the knowledge-based questions also demonstrate the substantial learning gained from their involvement in the Programme (see section 3.2).

The open question *'What word best describes how you feel about learning outdoors?'* was also included in the pre and post-programme questionnaire – the results in Table 4 show a summary of their responses in both the pre and post-programme questionnaires.

Response type	PRE		POST	
	Frequency of response	% of responses	Frequency of response	% of responses
Positive words	138	86.8	172	96.1
Neutral words	7	4.4	2	1.1
Negative words	14	8.8	5	2.8
TOTAL	159		179	

Table 4: A summary of the children's responses to 'What word best describes how you feel about learning outdoors' (pre and post)

This shows an increase in the number of positive responses at post-programme (96.1%), compared to before the Programme (86.8%). A full list of the words used by the children in response to this open question is given in Appendix 3. For example, almost 60% of responses in the post-programme questionnaire were about feeling 'happy', 'good' or that it was 'fun', 'amazing/amazed' or that they 'love/like it' (learning outdoors).

When asked how learning outside makes them feel, the most frequently mentioned responses were in relation to the health benefits, how it reduces screen time and how being outside is better than being inside:

So, when you're doing exercise outside, there's actually two reasons: you get fresh air and your health becomes better and you can burn off the fat by exercise

...you'll get healthy and fit.

I've been going [to the park] with my friends because then you get to express yourself and not be stuck indoors all the time.

[Makes me feel]...relaxed. Instead of playing your PlayStation, or Xbox, you could go outdoors.

Also, if you're stuck inside all day, you wouldn't really have real friends, because you'd know everyone on the internet, but you'd never really meet anyone in real life.

Because if it wasn't for that trip [ParkLife], me, child 6 and child 2 would, like, probably be really fat and lazy and be on our X-Boxes all day.

Several comments also related to how ParkLife made them feel better about being outside, it's "not boring/fun", they learned, felt "free", could move around as well as several other positive adjectives (for example: amazing, happy, smart, stronger, excited).

The children in this cohort were significantly more positive about learning outdoors, after the ParkLife Education Programme as evidenced through the closed questions on the online questionnaire. They were also much more positive in their open responses on the questionnaire and the children involved in the focus groups talked very positively about how they feel when learning outdoors. It is important to note that this cohort of children evidenced a more positive shift in attitudes to learning outdoors, compared with the 2016-17 cohort (Kerr, 2017).

4.3 Health and well-being

A comparison of the children's perception of their health and well-being, before and after their participation in the ParkLife Education Programme, was also conducted as part of this evaluation. This was carried out in two ways – first of all through the use of a well-cited measure of children's ratings of their health and well-being, the KIDSCREEN 10 measure (Ravens-Sieberer et al., 2010). Appendix 1 presents an outline of all the questions used on this measure. Secondly, the children involved in the focus groups were asked about how learning outside makes them feel.

The percentage of positive responses, both at pre and post-programme, for each of the KIDSCREEN 10 health and well-being questions is presented in the bar graph in Figure 9.

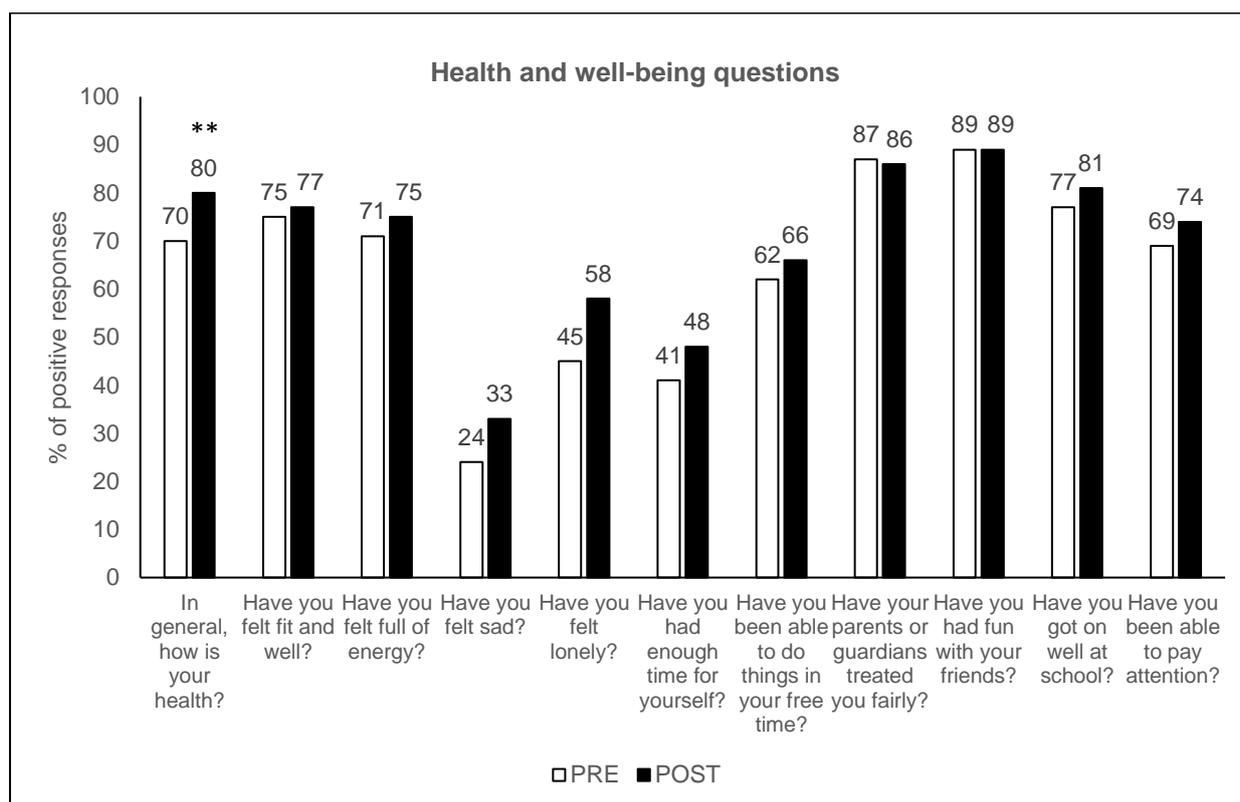


Figure 9: A bar graph to show the percentage of positive responses for the KIDSCREEN 10 health and well-being questions (pre and post), n=170 (pre), 163 (post). ** represents significance at $p < 0.01$.

As with the other measures presented in this evaluation, the statistical difference in the responses before and after the Programme was investigated using a paired samples t-test for each of the questions on the KIDSCREEN 10 measure. This was the case for one question: '*In general, how is your health?*' ($p=0.002$). In other words, the children in this sample were significantly more likely to report that their general health was good, in the post-programme questionnaire.

Figure 9 shows that the children in this cohort were more positive in their responses to nine out of eleven items related to their perception of their health and well-being. Their responses remained the same for one item and they responded slightly less positively, post-programme, for one item ('*Have your parents or guardians treated you fairly?*'). It is interesting to note that these results are more or less in line with the results for the 2016-17 cohort of children, with the exception of fewer items which evidence a statistically significant difference, post-programme - four items showed a statistically significant difference, in a positive direction, for the 2016-17 cohort (Kerr, 2017). However, it is important to note that the baseline (pre-programme) percentage of positive responses for the current (2018-19) cohort were noticeably less positive for the majority of the health and well-being questions.

As discussed in section 4.2, the children in the focus groups talked at length about the health benefits of learning outside, both in relation to their physical health (for example, more exercise and less weight gain) to their mental health – for example, they described learning outside as relaxing, calming, free/can express yourself, happy and the importance of getting “fresh air”.

The children's evaluation

The children were asked several questions on the post-programme questionnaire designed to encourage them to reflect on and evaluate their experience of the ParkLife Education Programme. The first was a closed question which asked if they enjoyed 'learning outdoors during the ParkLife Education Programme?'. This was followed by several open questions which they could respond to in their own words: 'After the ParkLife Education Programme, what are your two best memories of learning outdoors?', 'During the ParkLife Education Programme, were there any problems when you were learning outdoors? If so, what were they and how were they put right?', 'Now that the ParkLife Education Programme is over, what worries do you still have about learning outdoors?' and, finally, 'If you were running the ParkLife Education Programme, how would you teach in the outdoors?.'

The children involved in the focus groups were also encouraged to reflect on and evaluate their experiences of the Programme through various open questions. In particular, this section will include data from the following questions: 'Would you like to be involved in any other programmes like this in the future? Why? Why not?' and 'If you were a teacher planning a programme like this or if you had a job with Ulster Wildlife to teach this Programme, what might you do differently? Why?'

Figure 10 shows that 93% of the children responded 'yes' to the question 'Did you enjoy learning outdoors during the ParkLife Education Programme?' on the post-programme questionnaire. It is interesting to note that this is exactly the same response pattern as that of the 2016-17 cohort of children (Kerr, 2017).

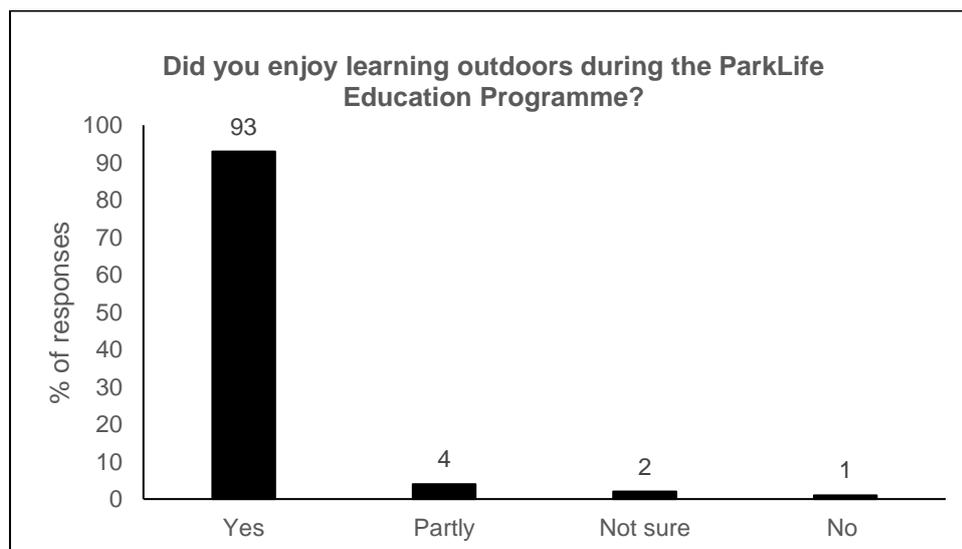


Figure 10: A bar graph to show the percentage of responses for the 'Did you enjoy learning outdoors during the ParkLife Education Programme?', n=169.

On the post-programme questionnaire, the children were then asked why they enjoyed/did not enjoy the Programme. This was an open response question and the children could type in their own answer. In total, 94.4% of their responses were positive, 1.0% was neutral and only 4.5% of the comments were negative. Further detail on their responses to this open question is presented in Table 5. The majority of comments were about how fun the Programme was and how much they learned/enjoyed specific activities and/or learning about/being in nature/outdoors. There were very few negative comments and two of these were about how the children didn't like the worms or felt 'sorry for them'.

Positive phrases/comments	Frequency of response	% of responses
	187	94.4%
Fun	53	26.8
Learning (new things/about nature)	40	20.2
Liked/enjoyed specific activities	23	11.6
See things/enjoy nature/do things for real	19	9.6
Love/like (learning) outdoors	15	7.6
Better than inside/inside activities	10	5.1
Fresh air/not in a warm room	5	2.5
Health benefits/calming	5	2.5
Like/love animals	5	2.5
Liked/loved it all/everything	4	2.0
Being with friends	3	1.5
Take care of nature/learn how to	3	1.5
Get dirty (as a positive experience)	1	0.5
Thank you ParkLife	1	0.5
Neutral phrases/comments	2	1.0%
Don't know/not sure/undecided	2	1.0
Negative phrases/comments	9	4.5%
Didn't like programme/people/activities	7	3.5
Didn't like being outside	2	1.0
TOTAL	198	

Table 5: A summary of the children's responses in relation to why they did (or did not) like learning in the outdoors during the ParkLife Education Programme.

In total, 97.9% of the comments were positive in response to the open question "After the ParkLife Education Programme, what are your two best memories of learning outdoors?". Only one child wrote a negative comment ("Failing to find worms and nothing else"). Further details on what the children said (in themes) is outlined in Table 6. As shown in Table 6, the children were very positive about specific activities, namely digging for worms, making/building a fire, toasting marshmallows, learning about/experiencing living things and nature and the activity related to butterflies. These comments are particularly useful as they were given in response to an open question.

Positive phrases/comments	Frequency of response	% of responses
	276	97.9%
Digging/for worms	78	27.7
Making/building a fire	57	20.2
Toasting/making marshmallows	34	12.1
Learning (animals/bugs/nature)	27	9.6
Making pictures/learning about butterflies	19	6.7
Feeling/seeing/experiencing things in nature	18	6.4
Acorn/scavenger hunt	13	4.6
Measuring/looking at trees	12	4.3
Everything	6	2.1
Being with friends	4	1.4
Fun/fascinating	4	1.4
Going to the park	4	1.4
Neutral phrases/comments	5	1.8%
Don't know/not sure	5	1.8
Negative phrases/comments	1	0.4%
Nothing	1	0.5
TOTAL	282	

Table 6: A summary of the children’s responses in relation to their two best memories of learning outdoors during the ParkLife Education Programme.

As part of their reflection and evaluation of the ParkLife Education Programme, it was important to encourage the children to think about/identify any issues, particularly to ensure a constructive response given that all of the questions thus far were positively worded. Figure 11 presents the results from the question ‘*During the ParkLife Education Programme, were there any problems when you were learning outdoors?*’ In total, 81% selected ‘no’, 2% selected ‘partly’, 7% responded ‘not sure’ and 10% selected ‘yes’.

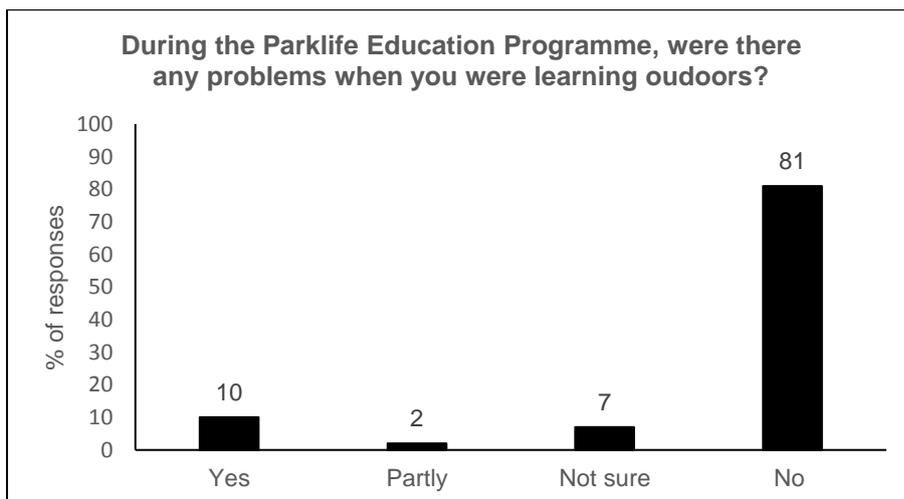


Figure 11: A bar graph to show the percentage of responses for the ‘*During the ParkLife Education Programme, were there any problems when you were learning outdoors?*’, n=169.

In a bid to investigate these responses a bit further, the children were then asked, “*If so, what were they and how were they put right?*” using an open response box.

In an open question, the children were then asked that, if there were problems, what were they and how were they put right. There were only 39 comments offered in response to this question – 12 of these comments included references to the fact that there were no problems or they were put right, 4 comments referred to how great the staff were and 17 of the comments were “*don't know/not sure*”. Therefore, only 10 of the comments were negative and most of these are not within the control of the Programme delivery team (*the fire not lighting = 4; touching worms = 2; weather related issues = 2; getting dirty = 1; Classmates talking when you're trying to listen = 1*).

In the focus groups, children were asked what they enjoyed most/least about their involvement with the ParkLife Education Programme and why. In terms of what they enjoyed most, their responses mirrored those outlined in Table 6 – for example, digging for worms, building a fire and toasting marshmallows were the activities most frequently mentioned in the focus groups. When asked about the things they enjoyed least, the children in the focus groups outlined the same issues as those reported on the questionnaire (in response to what the problems were and how they were put right) – namely, not finding/touching worms, the fire not lighting. Interestingly, some of their responses in relation to what they enjoyed least, were positive – for example, having to go home, having to go inside.

In the interests of a balanced evaluation, the children were also asked ‘*Now that the ParkLife Education Programme is over, what worries do you still have about learning outdoors?*’. The majority of responses to this question were positive (67.2% - 86 out of 128 comments) or neutral (3.9% - 5 comments). However, 37 comments (28.9%) were negative and are summarised below:

- Getting stung/a bite – 9 (7.0%)
- Spiders/bugs – 7 (5.5%)
- Getting hurt/something bad (generally) – 6 (4.7%)
- Animals/frightened of them – 5 (3.9%)
- Animals/plants/environment getting harmed– 4 (3.1%)
- The weather – 2 (1.6%)
- Falling – 1 (0.8%)
- Getting dirty – 1 (0.8%)
- Seeing dead animals – 1 (0.8%)
- The dark -1 (0.8%)

However, it is important to note that the children were asked ‘*What worries do you have about learning outdoors?*’ on the pre-programme questionnaire. There were a similar number of comments (122) at the start of the Programme but only 59 (48.4%) were positive, as opposed to 86 (67.2%) on the post-programme questionnaire and 59 (48.4%) were negative, as opposed to 37 (28.9%) on the post-questionnaire. It is also noteworthy that there was a greater diversity of issues reported in the pre-questionnaire:

- Getting stung/a bite – 16 (13.1%)
- Animals/plants/environment getting harmed– 11 (9.0%)
- Falling – 6 (4.9%)
- Getting hurt/something bad (generally) – 5 (4.1%)
- Stepping in poo/bird poo – 5 (4.1%)

- The weather – 3 (2.5%)
- Being scared/nervous – 2(1.6%)
- Getting ill – 2 (1.6%)
- Seeing dead animals – 2 (1.6%)
- Foxes – 1 (0.8%)
- Getting dirty – 1 (0.8%)
- Kidnapping – 1 (0.8%)
- Not understand – 1 (0.8%)
- Police scare me – 1 (0.8%)
- Problem solving – 1 (0.8%)
- Not much space – 1 (0.8%)

This would suggest that, for lots of children, they were less worried about fewer issues by the time they had finished the ParkLife Education Programme. This data also offers some suggestions of issues which may need to be dealt with more directly (getting stung/hurt/fear of animals and fear of animals being harmed) as they tend to persist for a minority of children, even after an outdoor learning intervention.

The final question on the online questionnaire was ‘*If you were running the ParkLife Education Programme, how would you teach in the outdoors?*’ Most of the children (148) responded with a total of 184 comments – only one of these comments was negative. A further 25 comments (13.6%) responded with ‘don’t know’. The remaining 122 comments included a variety of suggestions with the most common suggestion that the learning/approaches/content from the ParkLife Education Programme should continue and a further 26 comments (14.1%) indicated that the teacher or the Programme should be kept ‘the same’. A summary of the children’s suggestions is outlined below:

- Teach/learn content/approaches from ParkLife Education Programme = 35 comments (27.0%)
- Nature/animal preservation/care/importance = 28 (15.2%)
- Same as the ParkLife Education Programme /ParkLife Education Programme teacher = 26 (14.1%)
- In a fun/happy/interesting way = 15 (8.2%)
- Walk/run/eat/find stuff/be outside = 11 (6.0%)
- Good/well/clearly/nicely = 8 (4.3%)
- Games/sports = 5 (2.7%)
- Wilderness/survival skills = 5 (2.7%)
- Fairly = 4 (2.2%)
- Safely/carefully = 4 (2.2%)

These responses are more or less in line with the responses given by the children in the 2016-17 cohort. However, more children in the current cohort (2018-19) said that it should be the same as the ParkLife Education Programme/ParkLife Education Programme teacher (14.1%), compared with the children in the previous (2016-17) cohort (6.9%) (Kerr, 2017).

The children in the focus groups were also asked “*If you were a teacher planning a programme like this or if you had a job with Ulster Wildlife to teach this Programme, what might you do differently? Why?*” The most common responses were: learn/explore nature, have time in the

play park after the learning, learn how to look after/protect nature, explore beyond the park and visit the park more as well as keeping ParkLife's activities the same. There were several other suggestions (each mentioned once): a finale event for all ParkLife schools to get together in a park, bird watching, bring food, build a pool in the park, build dens, do it next year as well, learn how to climb a tree, look at animals, make it more fun, be outside with a "screen ban". A few exemplar quotes from the focus groups are outlined below:

So that they are learning a lot more about nature. But they could also learn about nature while they're playing in the park.

How to save nature and the environment and that, because of all the pollution and climate change.

Collect all schools, like, one big day and put them in separate groups, like, but it's still all the same group and what group, like, whatever group collects the most litter would keep a litter-picker, thing, gets a prize or something.

They should keep doing it, try and bring it back to the school next year.

The findings from the children's evaluation show that the children in this cohort were very positive in their reflections on the ParkLife Education Programme. Most noticeably, 93% of the children who completed the post-programme questionnaire said they enjoyed the Programme and 94.4% of responses to the open question related to why they enjoyed/did not enjoy the Programme, were also positive. In addition, 97.9% of the comments were positive in response to the open question "After the ParkLife Education Programme, what are your two best memories of learning outdoors?" The children were very specific about the activities they enjoyed the most and these were similar on the questionnaire and in the focus groups. Namely digging for worms, making/building a fire, toasting marshmallows, learning about/experiencing living things and nature and the activity related to butterflies. This data offers great insight for the Council who will continue to develop the ParkLife activities.

In total, 81% of children said there were no issues during ParkLife - of those who said there were issues, the majority of responses were 'don't know/not sure' or related to issues beyond the control of the ParkLife facilitators. For lots of children, they were less worried about fewer issues by the time they had finished with the ParkLife Education Programme. This data also offers some suggestions of issues which may need to be dealt with more directly (getting stung/hurt/fear of animals and fear of animals being harmed) as they tend to persist for a minority of children, even after an outdoor learning intervention. The children were also very positive about how ParkLife is being taught and made some interesting and useful suggestions for the future of ParkLife. The most frequently mentioned suggestions were: learn/explore nature, have time in the play park after the learning, learn how to look after/protect nature, explore beyond the park and visit the park more as well as keeping ParkLife activities the same.

Key findings, Conclusions and Recommendations

6.1 Key findings

This report presents findings from an evaluation of the Belfast City Council's (BCC) ParkLife Education Programme which ran between September 2018 and June 2019. This is the second evaluation of the Programme – a report on the evaluation of the 2016-17 cohort of children involved can be found [here](#)³ (Kerr, 2017). To ensure comparability, many of the measures used in the 2018-19 evaluation are the same as those used in the 2016-17 evaluation. A total of 171 children in eight schools in the Belfast area took part in the current evaluation for the Programme. A range of primary and secondary outcomes were measured using a range of questions on an online pre-programme and post-programme questionnaire. In addition, two groups (12 children in total) from two schools took part in focus groups and spoke in greater detail about their thoughts on the Programme. A summary of the key findings is outlined below, in line with the primary and secondary outcomes.

Primary outcomes

- *Spend more time engaging with nature in their local parks.*
 - The children in this cohort spend more time in their local parks (particularly on their own or with family) and take part in a more diverse range of activities, after their involvement in the ParkLife Education Programme. This was evidenced through their responses on the online questionnaire and during the focus groups.
 - The findings presented for engagement with local parks for this cohort of children (2018-19) are more or less in line with the findings for the previous cohort (2016-17, cited in Kerr, 2017) with only a slightly less positive picture in regard to frequency of visits. However, all responses for the 2018-19 cohort reported here, evidence a positive change between the pre-questionnaire and post questionnaire.
- *Have learned more about their local park.*
 - This cohort of children showed substantial improvement in their knowledge of their local parks and nature within them, after taking part in the ParkLife Education Programme. This was of particular note in the responses to the knowledge-based questions on the online questionnaire but also obvious in their detailed discussions of what they had learned, during the focus groups.
 - It is also important to highlight that this increase in knowledge was not as substantial for the previous cohort of children in 2016-17 (Kerr, 2017).

- *Be more connected to nature.*
 - These findings show that the children who took part in the 2018-19 ParkLife Education Programme rated their overall Connection to nature as higher at the end of the Programme.
 - They were more positive about their Empathy for creatures and their Sense of oneness with nature.
 - The children in this sample had lower scores at baseline, when compared to the 2016-17 cohort, in relation to their overall Connection to nature and their Empathy for creatures. However, their post questionnaire responses were higher for Empathy for creatures in the post questionnaire, compared with the 2016-17 cohort. This would suggest that they gained a lot from the ParkLife Education Programme with regard to empathising with other living things.
 - The pattern of scores across the different subscales for both cohorts, from highest (Empathy for creatures) to lowest (Enjoyment of nature), is the same as the pattern found in the larger baseline study, also carried out in Northern Ireland (Kerr, 2015).

Secondary outcomes

- *Have more positive attitudes towards and awareness of environmental sustainability.*
After the ParkLife Education Programme:
 - The children in this cohort were more positive for seven out of the 11 items related to attitudes to environmental sustainability. Their attitudes remained stable for two items and they were slightly less positive for two items.
 - Two items showed a positive significant difference: '*People were created to rule over nature*' (p=0.049); '*People are treating nature very badly*' (p=0.002). In other words, fewer children agreed/strongly agreed that people were created to rule over nature and more children agreed/strongly agreed that people are treating nature very badly.
 - These findings are more or less in line with the results from the previous cohort – they are slightly more positive in that nine questions were either more positive or neutral, with only two less positive for the 2018-19 cohort but three items were less positive at post-programme for the 2016-17 cohort (Kerr, 2017).
 - It is also important to note that the question '*People are treating nature very badly*' evidenced a statistically significant difference in responses, in a positive direction for both cohorts.
 - When asked to name an issue going on in the environment right now, there remained a focus on littering/rubbish/dirt/trash in their post-programme responses. However, some children talked about a wider range of issues to include animals being endangered/at risk of extinction and bugs being harmed. Of particular note is the increase in the number of children who specifically mentioned plastics as pollutants and 'Brexit'.
- *Have more positive attitudes to learning outdoors.* After the ParkLife Education Programme:
 - The children in this cohort were significantly more positive about learning outdoors, evidenced through the closed questions on the online questionnaire.
 - The mean score for the attitudes to learning outdoors scale (Kerr, 2014) for this cohort of children was **3.67** (on a scale from 1 to 5) in the pre-questionnaire and **3.98** in the post-questionnaire.

- Four out of five of the items evidenced a statistically significant difference, in a positive direction, on the post-questionnaire: '*Learning in the outdoors will be (was) easier than learning in the classroom*' (p=0.00002); '*I don't (didn't) like learning in the outdoors*' (p=0.027); '*I think learning in the outdoors will be (was) too difficult*' (p=0.0003); '*I think learning in the outdoors is (was) better than learning indoors*' (p=0.002).
- This showed an increase in the number of positive responses at post-programme (96.1%), compared to before the Programme (86.8%) when the children were asked to record a word which best describes how they feel about learning outdoors. When the children in the focus groups were asked the same question, they were very positive about the benefits of learning outdoors and talked most frequently about the health benefits, how it reduces screen time and how being outside is better than being inside.
- It is important to note that this cohort of children evidenced a more positive shift in attitudes to learning outdoors, compared with the 2016-17 cohort (Kerr, 2017).
- *Rate their health and well-being as higher.* After the ParkLife Education Programme:
 - The children in this cohort were more positive in their responses to nine out of eleven items related to their perception of their health and well-being. Their responses remained the same for one item. There was a (positive) statistically significant difference in the pre and post responses to one item: '*In general, how is your health?*' (p=0.002).
 - These results are more or less in line with the results for the 2016-17 cohort of children, with the exception of fewer items which evidence a statistically significant difference, post-programme - four items showed a statistically significant difference, in a positive direction, for the 2016-17 cohort (Kerr, 2017). However, it is important to note that the baseline (pre-programme) percentage of positive responses for the current (2018-19) cohort were noticeably less positive for the majority of the health and well-being questions.
 - The children in the focus groups talked at length about the health benefits of learning outside, both in relation to their physical health (for example, more exercise and less weight gain) to their mental health – for example, they described learning outside as relaxing, calming, free/can express yourself, happy and the importance of getting “fresh air”.

When asked several questions aimed at encouraging the children to reflect on and evaluate the ParkLife Education Programme, the children were very positive. Most noticeably, 93% of the children who completed the post-programme questionnaire said they enjoyed the Programme. In response to open questions, the children in this cohort were very positive about why they enjoyed/did not enjoy the Programme (94.4% positive) and when asked to recall their two best memories (97.9% of the comments were positive). In both the online questionnaire and the focus groups, the children gave specific examples of the activities they enjoyed the most - namely digging for worms, making/building a fire, toasting marshmallows, learning about/experiencing living things and nature and the activity related to butterflies. This data offers great insight for the Council, who will continue to develop the ParkLife activities.

In total, 81% of children said there were no issues during the ParkLife Education Programme and for lots of children, they were less worried about fewer issues by the time they had finished the ParkLife Education Programme. The children were also very positive about how ParkLife is being taught and made some interesting and useful suggestions for the future of ParkLife. The most frequently mentioned suggestions were: learn/explore nature, have time in the play park after the learning, learn how to look after/protect nature, explore beyond the park and visit the park more as well as keeping ParkLife activities the same.

6.2 Conclusions and Recommendations

This evaluation presents strong evidence that the ParkLife Education Programme benefits children across all its primary and secondary outcomes. Children who take part spend more time engaging with nature in their local parks, learn more about their local park and are more connected to nature after the ParkLife Education Programme. Overall, they also have more positive attitudes towards and awareness of environmental sustainability and have more positive attitudes to learning outdoors. They also rate their health and well-being as higher.

This evidence is strengthened further by the fact that this is the second evaluation of the Programme – an evaluation of the 2016-17 cohort of children also evidenced similar, very positive results (Kerr, 2017). Also, the positive quantitative evidence (online questionnaire) is further supported by some positive qualitative evidence (the focus groups for the 2018-19 evaluation). Given that both evaluations are so positive, the following recommendations for the ParkLife Education Programme should be considered:

- That the Programme continues to be delivered in its current model to as many schools as possible, so many more children can benefit.
- The two evaluations demonstrate a very strong proof of concept for the benefits of learning outdoors, in local parks, using this structured programme. Given the impact across many areas, Belfast City Council should consider sharing this best practice with other organisations.
- The evidence is so positive that it is recommended the sharing of best practice be throughout Northern Ireland and perhaps the rest of the UK. The ParkLife Education Programme already exists as a neat package of lessons using an effective model of delivery.
- Therefore, the ideal would be a ‘scaling up’ of the Programme throughout the Council areas.
- The Programme can also be presented as best practice to an international audience.

The following recommendations for future research should also be considered:

- It is also recommended that the Programme is replicated and evaluated in other areas throughout Northern Ireland and beyond (UK, internationally) for the purposes of comparison beyond a city-based sample of children.
- Given that the Programme already exists as a well-defined learning package, it would be ideal for further in-depth evaluation, such as a trial (with a control group) and a process evaluation. Ideally, this would go hand in hand with a ‘scaling up’ of the Programme.

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Appendix 1

An overview of the analysed questions/scales from the pre and post-programme questionnaires

Questions/Scale (if applicable)	Response options/response groups
Background factors	
Are you a boy or a girl?	Boy Girl
How old are you?	8 9 10 11 12 Other (if other, please write your age in the box below)
What is the name of your school?	<i>Open response</i>
In which country were you born?	Northern Ireland England Wales Scotland Republic of Ireland I don't know Somewhere else (please say where in the box below)
Have you had lessons in the outdoors before?	Yes No Don't know
If yes: Where was it and what did you do?	<i>Open response</i>
You are about to take part in the ParkLife Education Programme with your class. Do you know anybody who has taken part in the Programme before?	Yes No Don't know
In the last question you said you know someone who has taken part in the ParkLife Education Programme before. Who are they?	A friend A family member My class Another class in school Another person (please write who they are and how you know them in the box below)
Engaging with nature in local parks	
How often do you go to your park?	Every day A few times a week About once a month About once every six months About once a year Never

When you go to your park, who do you go there with?	On my own With my family With my friends With school [my teacher] With a club Other people (please write who they are and how you know them in the box below)
What activities do you do in your park?	Play Go for a walk Ride a bike Enjoy nature Meet friends Play sports Take a shortcut Attend events Walk the dog Attend clubs I don't know Other activities (please write the other activities in the box below)
What is your favourite activity outside school?	<i>Open response</i>
Learned more about local park and wildlife	
What are sycamore seeds often called?	Cars Helicopters Trucks I don't know
When do flowers appear on Daffodils?	Spring Summer Autumn Winter I don't know
Which was the first free park to open in Belfast?	Botanic Gardens Ormeau Park Waterworks I don't know
Which of these is the lightest?	A leaf A stone A branch I don't know
Do squirrels hibernate?	Yes No I don't know
What are baby squirrels called?	Kittens Puppies Tadpoles I don't know
How many spines do hedgehogs have?	50-70 500-700 5000-7000 I don't know

Can hedgehogs swim?	Yes No I don't know
Do hedgehogs hibernate?	Yes No I don't know
What tree do acorns come from?	Ash Oak Beech I don't know
What part of a butterflies' body helps it to taste?	Its mouth Its feet Its wings I don't know
Is a butterfly symmetrical?	Yes No I don't know
Why do some species of butterflies have fake eyes?	To look pretty To scare away predators I don't know
What is a badger's home called?	A den A sett A burrow I don't know
What are badgers' favourite food?	Slugs Earthworms Berries I don't know
What do adult worms have on their bodies?	A Saddle A Harness A Helmet I don't know
If a worm is cut in half, will it die?	Yes No I don't know
Can you tell the age of a tree without cutting it down?	Yes No I don't know
Why are animals different colours?	To attract other animals To scare other animals To blend into their environment (sometimes called camouflage) All of the above I don't know
Connection to Nature	
Enjoyment of Nature subscale	
I like to hear different sounds in nature	Strongly disagree
I like to see wild flowers in nature	Disagree
When I feel sad, I like to go outside and enjoy nature	Neither agree nor disagree
Being in the natural environment makes me feel peaceful	Agree
I like to garden	Strongly agree
Collecting rocks and shells is fun	
Being outdoors makes me happy*	

Empathy for Creatures subscale	
I feel sad when wild animals are hurt	
I like to see wild animals living in a clean environment	
I enjoy touching animals and plants	
Taking care of animals is important to me	
Sense of Oneness subscale	
Humans are part of the natural world	
People cannot live without plants and animals	
Being outdoors makes me happy*	
Sense of Responsibility items (NB not reported as a scale in this report as not deemed suitably reliable – see section 1.4.1 for further details)	
My actions will make the natural world different	
Picking up trash on the ground can help the environment	
People do not have the right to change the natural environment	
Attitudes towards and awareness of environmental sustainability	
Soon there will be too many people for the Earth to support	Strongly agree Agree a little
Nature is strong enough to handle the damage caused by our modern lifestyles	Not sure Disagree a little
People are clever enough to keep from ruining the Earth completely	Disagree
People were created to rule over nature	
When people mess with nature it often ends up with bad results	
Plants and animals are mainly on Earth to be used by people	
To make sure everyone can live well, industries and jobs across the world need to grow steadily, not too fast	
People must live in balance with nature to survive	
The Earth is like a spaceship - there's limited room and not so many resources	
People will someday know enough about how nature works to be able to control it	
People are treating nature very badly	
If you can, please write down a problem that's happening in the environment at the moment	<i>Open response</i>
Attitudes to learning outdoors	
Learning in the outdoors will be (was) easier than learning in the classroom	Strongly agree Agree a little
I will (did not) not have to learn as much in the outdoors, compared to in the classroom	Not sure Disagree a little
I don't (didn't) like learning in the outdoors	Strongly disagree
I think learning in the outdoors will be (was) too difficult	
I think learning in the outdoors is (was) better than learning indoors	
What word best describes how you feel about learning outdoors? (pre)	<i>Open response</i>
Now that the ParkLife Education Programme is over, what word best describes how you now feel about learning outdoors? (post)	

Health and well-being: The KIDSCREEN-10 measure	
Have you felt fit and well?	Never Slightly Moderately Very Extremely
Have you felt full of energy?	Never Seldom Quite often Very often Always
Have you felt sad?	Always Often Sometimes Seldom Never
Have you felt lonely?	Always Often Sometimes Seldom Never
Have you had enough time for yourself?	Never Seldom Quite often Very often Always
Have you been able to do things in your free time?	Never Seldom Quite often Very often Always
Have your parents or guardians treated you fairly?	Never Seldom Quite often Very often Always
Have you had fun with your friends?	Never Seldom Quite often Very often Always
Have you got on well at school?	Not at all Slightly Moderately Very Extremely
Have you been able to pay attention?	Never Seldom Quite often Very often Always

The children's evaluation	
Did you enjoy learning outdoors during the ParkLife Education Programme?	Yes No Partly Not sure
Why or why not?	<i>Open response</i>
After the ParkLife Education Programme, what are your two best memories of learning outdoors?	<i>Open response</i>
During the ParkLife Education Programme, were there any problems when you were learning outdoors?	Yes No Partly Not sure
If so, what were they and how were they put right?	<i>Open response</i>
Now that the ParkLife Education Programme is over, what worries do you still have about learning outdoors?	<i>Open response</i>
If you were running the ParkLife Education Programme, how would you teach in the outdoors?	<i>Open response</i>

*Although this question appears in two subscales, it is only asked once on the questionnaire

Appendix 2

An outline of the focus group questions.

GENERAL QUESTIONS/OPENER:

- 1) What is your favourite thing to do in school? Why?

OUTDOOR LEARNING:

- 2) What did you enjoy the most/least about your involvement in the ParkLife Education Programme? Why?
- 3) Do you think you learned anything from your involvement in the ParkLife Education Programme? Why? Why not?
- 4) How did you feel about learning outside before the ParkLife Education Programme? Why?

LOCAL PARK:

- 5) Do you like visiting your local park? Why/why not?
- 6) What is your favourite thing to do there? Why?

WELL-BEING/CONNECTION TO NATURE:

- 7) How do you feel about learning outside now that the ParkLife Education Programme is finished? Why?
- 8) How does being outside make you feel? Why?
- 9) What did you think about being in nature before you took part in the ParkLife Education Programme? Why?
- 10) What did you think about being in nature now that the ParkLife Education Programme is over? Why?

SUSTAINABILITY:

- 11) Would you like to be involved in any other programmes like this in the future? Why? Why not?

IMPROVEMENTS:

- 12) If you were a teacher planning a programme like this or if you had a job with Ulster Wildlife to teach this Programme, what might you do differently? Why?

SUMMING UP:

- 13) Is there anything else you want to say?
- 14) Do you have any questions for me before you go back to class?

Appendix 3

A complete list of the children's responses to 'What word best describes how you feel about learning outdoors?' in the pre and post-programme questionnaires.

PRE-PROGRAMME QUESTIONNAIRE

Positive words	Frequency	% of responses
	138	86.8
Happy	37	23.3
Amazing	17	10.7
Excited/exciting	15	9.4
Fun	13	8.2
Good	10	6.3
Calm	5	3.1
OK	5	3.1
Great	4	2.5
Love/like it	4	2.5
Peaceful	4	2.5
Adventures/adventurous	2	1.3
Agree/strongly agree	2	1.3
Brilliant	2	1.3
Interesting/interested	2	1.3
Relaxed/relaxing	2	1.3
Active	1	0.6
Air	1	0.6
Art	1	0.6
Easy	1	0.6
Extraordinary	1	0.6
Fantastic	1	0.6
Grateful	1	0.6
Like the summer	1	0.6
Lucky	1	0.6
Maths	1	0.6
Perfect	1	0.6
Play	1	0.6
Smart	1	0.6
Wonderful	1	0.6
Neutral words	7	4.4
Don't know	5	3.1
Not sure/'meh'	2	1.3
Negative words	14	8.8
Bad/no/not good	3	1.9
Cold	3	1.9
Dislike/don't like it	2	1.3
Hard/difficult	2	1.3
Disgusting	1	0.6
Frustrated	1	0.6
Nervous	1	0.6
Terrible	1	0.6
TOTAL	159	

POST-PROGRAMME QUESTIONNAIRE

Positive words	Frequency	% of responses
	172	96.1
Happy	34	19.0
Good	21	11.7
Fun	20	11.2
Amazing/amazed	16	8.9
Love/like it	10	5.6
Positive about knowledge gained	9	5.0
Sad it's over	8	4.5
Exciting/excited	7	3.9
Fantastic	6	3.4
Great	6	3.4
Awesome	4	2.2
Brilliant	3	1.7
Care about the environment	2	1.1
Cool/crazy	2	1.1
Delighted	2	1.1
Excellent	2	1.1
Incredible	2	1.1
Nice	2	1.1
Yes/yay	2	1.1
Best	1	0.6
Comfortable	1	0.6
Enjoyed/enjoyment	1	0.6
Fascinating	1	0.6
Heathy	1	0.6
Interesting	1	0.6
Incredible	1	0.6
Inspired	1	0.6
Magnificent	1	0.6
OK	1	0.6
Overcame a fear	1	0.6
Peaceful	1	0.6
Relaxed	1	0.6
Want to do it again	1	0.6
Neutral words	2	1.1
Not sure	1	0.6
Like a bit	1	0.6
Negative words	5	2.8
Boring	1	0.6
Didn't like the worms	1	0.6
Dirty	1	0.6
Nervous	1	0.6
Not like	1	0.6
TOTAL	179	

Contact

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