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Evaluating the impact of the Leeds Story Buses on children's reading experiences

Data and recommendations



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July 2022



Contents

Executive Summary	3
Introduction	5
<i>Research questions</i>	6
Methodology	7
<i>Participants and design</i>	7
<i>Materials</i>	10
<i>Procedure</i>	10
<i>Data analysis</i>	11
Results	15
RQ1: What motivates caregivers to come to the bus?	15
RQ2: What do children and caregivers like / dislike about their visits?	18
RQ3: How did children engage with reading practices on the buses?	21
RQ4: Which aspects of the story bus positively promote reading skills within the bus, at home, and in childcare settings?	22
RQ5: Have visits to the story buses changed reading habits or attitudes in children, caregivers, and early years staff?	23
RQ6: What is the meaning and significance of the story bus for children, caregivers, and early years staff?	26
Summary and Discussion	27
Conclusion	29
Recommendations for the story bus service	30
Recommendations for future evaluations	30
References	31
<i>Appendix A: Question list for each stakeholder group</i>	32
<i>Appendix B: Research Information sheet</i>	34
<i>Appendix C: Consent Form</i>	36
<i>Appendix D: Closed Stop Observation Sheet</i>	37
<i>Appendix E: Open Stop Observation Sheet</i>	38

Executive Summary

Differences in early years development are strongly related to the socioeconomic gap in Leeds. There is a low take-up of early years services among some groups, and the percentage of children attaining a good level of development at the end of their first year at school is lower than the national average (66% vs. 72%, Leeds Observatory [source: DfE 2019]). A powerful way of tackling these challenges is to support children's language and communication. Several local services including Leeds Libraries, share this vision. The Story Buses, which bring libraries to families who don't typically use them, are a creative strategy in enabling the growth of a city of readers.

Starting its regular routes in autumn 2021, the story bus service is now one year into operation. Assessing the impact of the story buses at this point will ensure that they provide the most effective service for achieving their aim of helping more children and families enjoy reading, and to develop an understanding of the fundamental and lasting benefits of reading.

This evaluation of the story buses will help library teams optimise the service. The evaluation, run by an independent expert team, analyses new quantitative and qualitative data on the use and perceptions of the story buses. It presents data from interviews and observations of almost 500 stakeholders, including caregivers, young children, librarians and other library staff, and early years practitioners. The report:

1. Assesses progress towards the aims of the story bus service (stated on p. 5), ensuring its place within the wider offer from Leeds Libraries.
2. Represents the views of the communities who use the buses.
3. Highlights opportunities for the future of the service through recommendations based on the results of the evaluation.
4. Promotes best practice in children's mobile libraries, both for the Leeds service and for other local authorities who may be considering implementing a similar service (see list of wider stakeholders on p. 31).

This report provides the background to the story bus service: its rationale, operation, and aims (p. 5-6). It presents primary data including patterns of engagement, strengths and weaknesses of the current service, and early impacts on reading practices (p. 15-26). It then integrates the findings into a focused summary (p. 27-28) before making recommendations for the future of the service (p. 30).

Key findings

- Support for the buses was overwhelmingly positive across all stakeholders.
- Caregivers mainly visited the story bus to support their children's reading development. Fewer families used the bus for borrowing books.
- Reading was the most enjoyable aspect of the bus, along with singing, and the physical characteristics and novelty of the buses.
- Children were highly engaged in language and literacy activities on the bus, and demonstrated a range of early literacy skills.
- Modelling reading to families increased caregivers' and practitioners' confidence.

- Unusually, the data contained no negative comments about the service. Participants suggested that the only ways to improve it are to widen and promote the provision.
- Most caregivers did not previously know about the service. Effective advertising is required.

Taken together, our data shows that one year into its operation, current story bus practice effectively addresses several of its original aims:

- To foster a love of books and reading in the early years.
- To encourage families to share books and reading activities together.
- To support the development of language, communication and literacy.

Recommendations

1. Implement more effective advertising of the service, including hard copy schedules so families can plan future visits.
2. Ensure that members of the community know that the service is free and what they can do on the bus e.g., read with their child, borrow books.
3. Facilitate regular / follow-up visits in the target areas, e.g. encourage families to come to the open stops by providing information to children during closed stop visits.
4. Collaborate with community leaders and trusted practitioners to maximise engagement.
5. Invest in more library staff to mobilise the second bus to meet growing demand.
6. Feature characters from books to increase visitors at regular visits and special events.

Acknowledgments

We would like to thank all of the children, caregivers, nursery staff, librarians and customer service assistants who provided data for this evaluation report. Special thanks to Sally Hughes (Storybus Librarian) and Rachel Ingle-Teare (Senior Librarian: Children and Young People), both from Leeds Libraries for their support and guidance throughout the project. The project was funded by a Libraries Connected grant awarded to Rachel Ingle-Teare, and was facilitated by the University of Leeds Careers Centre and AHC Employability and Placements. Thank you to Dr Cecilia Zuniga-Montanez for proofreading the final draft.

Author contributions

Catherine Davies. Conceptualisation, project administration, supervision, analysis and interpretation, writing - original draft, writing - review & editing.

Emma Twine. Data collection, data curation, analysis and interpretation, writing - original draft, writing - review & editing.

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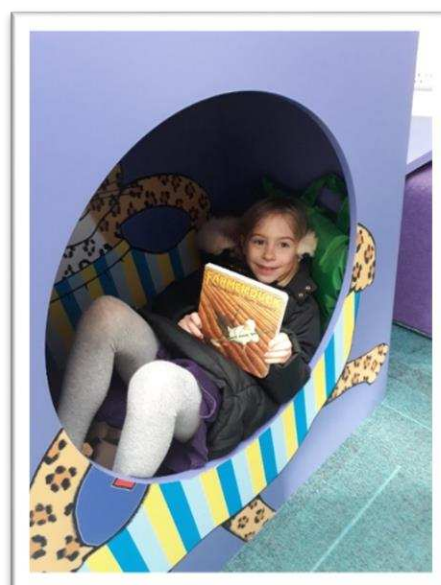
Introduction

Leeds Library Service has a vision to enable positive early reading experiences. This will help close the achievement gap at school and contribute to the longer-term economic development of the city. Its Story Buses are an innovative way of achieving this. The buses bring the library to communities who may be wary of council support for their children's education, or may not see libraries as a source of support. In disadvantaged areas of the city, families might not prioritise visiting a library alongside more pressing demands on their time, and caregivers may be less confident readers themselves. The story buses provide a creative, nurturing, non-threatening environment with books and story-related activities. Children and their caregivers are welcomed into the space by the staff team who have a rich understanding of early children's literature. The team recommend books and model best practice in sharing books and activities to increase caregivers' confidence in reading with their children¹.

In January 2020 at an event at Hunslet Community Hub, two new Story Buses were launched as part of the core service development for children aged 0-5 and their families. The story bus service is a priority identified in Leeds Libraries' five-year strategic plan, which maps against key city agendas, helping to reduce low literacy as one of the causes of poverty. The aims of the story bus service are:

- a. To foster a love of books and reading in early years.
- b. To encourage families to share books and reading activities together.
- c. To promote regular library use in the target areas.
- d. To support the development of language, communication and literacy.
- e. To provide access to an early years cultural programme of theatre, authors, storytellers, and illustrators.

The buses (named Sam and Nelly via a scheme involving almost 500 children in Leeds) have colourful exteriors designed by illustrator Nick Sharratt. The interiors encourage children and families to explore the space, with comfortable reading nooks and a large selection of board and picture books at low level to allow children to choose for themselves.



¹ For further background information on the story buses, see the case study published by the Local Government Association at <https://www.local.gov.uk/case-studies/story-bus-leeds-library-service>.

Routes

After a hiatus caused by the COVID-19 pandemic, a regular route for the story buses started in autumn 2021. At the time of writing, four full routes have been completed, reaching communities across Leeds, including visits to refugee and Traveller communities. A pilot route was planned for the buses to visit Leeds City Council's Little Owls nurseries three days a week. Gaps in the schedule were filled by other nurseries, children's centres, and playgroups. These visits are known as closed stops. Any nursery across Leeds can request a visit from the story buses and the team will attempt to fit them into the schedule. Although socioeconomically disadvantaged areas are prioritised, other requests are accommodated including more rural communities that may not be close to a physical library.

Open stops such as parks, playgrounds, school fairs, community venues or estates are also incorporated into the schedule to allow children and families to access the service outside of educational settings. Open stops prioritise disadvantaged areas of the city, those far from physical libraries, and areas with a low take-up of early years services. Regular open stops include Gipton Fire Station (community venue), Hawksworth estate, Rivers MEET café in Methley, and parks around the city (e.g. Holbeck).

Evaluation

As part of the implementation of the story buses, it is vital to embed evidence-based practice to develop a high-quality service for Leeds communities. This evaluation documents users' engagement with the story buses and measures short-term impacts on children's reading experiences during early summer 2022.

The evaluation project was run as a partnership between the [Child Development Unit](#) at the University of Leeds and Leeds Libraries. The team offers multidisciplinary expertise on reading and its influence on family wellbeing, helping to develop an understanding of social and attitudinal incentives to using shared reading to its full potential for maximising children's life chances.

Research questions

In this evaluation project we addressed the following questions:

1. What motivates caregivers to come to the bus?
2. What do children and caregivers like / dislike about their visits?
3. How did children engage with reading practices on the buses?
4. Which aspects of the story bus positively promote reading skills within the bus, at home, and in childcare settings?
5. Have visits to the story buses changed reading habits or attitudes in children, caregivers, and early years staff?
6. What is the meaning and significance of the story bus for children, caregivers, and early years staff?

Methodology

Participants and design

Participants represent a range of stakeholder groups including caregivers, young children, early years practitioners, librarians, and customer services assistants (CSAs, i.e., staff who drive the bus and assist visitors and librarians). Caregivers and children were recruited via opportunity and volunteer sampling at the story bus stops. Adult participants were approached and fully briefed on the purpose of the study, and gave their informed consent. Children gave their active assent. Ethical approval was provided by the Arts, Humanities and Cultures Research Ethics Committee at the University of Leeds (26/4/2022, reference FAHC 21-066).

The lead researcher joined the story bus at 17 separate locations in Leeds and its surrounding areas over a period of four weeks June - July 2022 (see Table 2). Closed stops were prearranged visits to children’s centres, involving groups of around 6-12 children coming aboard the story bus with their key workers to sing songs and listen to stories for 15 minutes at a time. Open stops were visits to prearranged public areas such as parks and community centres for periods of between 60 and 90 minutes. Some open stops took place at community festivals and lasted up to 5 hours.

At closed stops, two early years practitioners and 57 children were interviewed, and around 236 children were observed. At open stops, three librarians, three CSAs, seven children, and 13 caregivers (who visited the Story Bus with 19 additional children) were interviewed. Fifteen caregivers were first-time visitors and four were repeat visitors. An additional 131 caregivers and children were observed at the open stops. Broad demographic data was collected from caregivers to help characterise the sample; this included children’s age, ethnicity, language background, and home postcode as a proxy measure of socioeconomic status (see Table 1).

Table 1. Sample characteristics for children visiting the open stops.

Child age	Range: 8 months - 9 years Mean: 4 years 10 months; SD: 2 years 4 months	
Child ethnicity	White: 10 Asian: 4	Black: 2 Other: 1 (plus Turkish: 2)
Home languages	English: 13 Urdu: 3	Turkish: 2 Tigrinya: 1
Socioeconomic status (IDACI decile ²)	Range: 1 to 8 Mean average: 2.85; SD: 2.54	
Nursery attendance	Yes: 16 Range: 2.5 days - 5 days Mean average attendance: 4.1 days No: 3	

² As a measure of socioeconomic status (SES), we used English Indices of Deprivation Affecting Children Index (IDACI) scores, based on the postcode of the family home (Ministry of Housing, Communities and Local Government, 2019). IDACI measures the proportion of children aged 0 – 15 that live in income deprived households for each of the 32,844 neighbourhoods in England. Deciles are calculated by ranking the neighbourhoods in England from most deprived to least deprived and dividing them into 10 equal groups (1 = most deprived 10% of neighbourhoods nationally, 10 = least deprived 10% of neighbourhoods nationally).

Table 2. Stops visited during the evaluation project, with participant numbers.

Stop	Stop type	Number of researcher visits	Data collection method	Total number of participants				
				Nursery Staff (closed stops)	Children (closed stops)	Parent/Caregivers and Children (open stops)	Librarians	Customer Services Assistants
Little Owls Armley	Closed	2	Interview	1				
			Interview and Observation		12			
Castleton Children’s Centre, New Wortley	Closed	2	Interview and Observation		35			
Birchfield Park Primary, Gildersome	Closed	2	Interview and Observation		29			
Holbeck Moor Park	Open	2	Interview				2	
			Interview and Observation			3-5		
NHS Mosaic Nursery, Chapeltown	Closed	1	Interview and Observation		16			
Gipton Fire Station	Open	1	Interview					1
			Interview and Observation			2-5		
Cross Flats Park, Beeston	Open	2	Interview					1
			Interview and Observation			≈80		
Rivers Meet Café, Methley	Open	1	Interview and observation			4		1
Farsley Calverley Children’s Centre	Closed	1	Observation		21			

Grove Community Centre, Horsforth	Closed	1	Observation		17			
Rodley Village Day Nursery, Calverley	Closed	1	Observation		19			
Burmantofts Community Nursery	Closed	1	Observation		15			
Headingley Preschool	Closed	1	Observation		12			
			Interview	1				
Rosewood NHS Nursery, Harehills	Closed	1	Observation		34			
Victoria Garden	Open	1	Interview and observation			30-40		
Middleton Park	Open	1	Interview and Observation			11-15		
St Vincent's community centre	Open	1	Observation			1-5		
	Closed (Visit from All Saints School)				26			
Online			Interview				1	
Total number of participants				2	236	≈130	3	3

Materials

To answer the research questions, we collected qualitative and quantitative data using anonymous observational field notes, semi-structured interviews, and informal questioning in small groups. This approach was partly informed by a methodology for investigating mobile libraries, developed by Bamkin (2011).

Interviews explored opinions on the story buses and their impacts on reading attitudes and behaviours. Questions differed between each stakeholder group (see Table 3 and Appendix A) and interviews ranged from one minute (for children) to 20 minutes (prearranged for librarians), with an average of 10 minutes for caregivers visiting the story buses. Interviews with caregivers at open stops, librarians, and customer services assistants were semi-structured and based on a predetermined question framework (see Table 3). Open-ended questions generated in-depth qualitative data to address the research questions, which were exploratory in nature. Questions were adapted depending on whether the participant had visited the buses before, and how much time they had available.

Observations took the form of anonymised field notes at both open and closed stops. At open stops, they documented the activities that the caregiver and child engaged in, the number of visitors at the stop, approximate visitor duration, and other contextual information such as day of the week, time, weather, and location characteristics. The proportion of children engaging in early literacy skills was noted. These included holding a book, turning pages, joint attention (where an adult and a child both looked at the same part of a book), pointing to text or pictures, making guesses about what would come next, and asking questions about the story.

At closed stops, observations included child engagement during story and singing sessions. During story times, levels of child engagement and disengagement was documented (adapted from Baroody & Diamond, 2014). Engagement was defined as listening and watching the story. Off-task behaviour involved the child doing something unrelated, including unoccupied or disruptive behaviour, unfocussed attention, and wandering aimlessly. During story times, the proportion of children engaging in both prompted responses (e.g., answering questions, making noises when prompted, gestures in response to a prompt) and spontaneous responses (e.g., commenting on the story, gestures such as pointing, waving, clapping and positive facial expressions) was noted. During singing, child engagement was documented (e.g., proportions of children singing and engaging in the song actions). The proportion of children engaging in off task behaviour was noted, as well as anything else that stood out.

We also collected basic descriptive quantitative data to capture footfall at the stops, visitor numbers by age, etc. See Appendix A for the full list of questions. The lead researcher took notes using pen and paper during the interviews and observations. See Appendices D and E for template forms.

Procedure

At the Children's Centre closed stops, children and early years practitioners were invited to participate in interviews. Interviews with the practitioners took place if there was free time after a story time/singing session or if they could spare some time outside the bus during a session. Children were invited to answer some simple questions as a group towards the end of story time/singing session.

At the open stops, librarians and CSAs were invited to participate in interviews which were conducted on the bus. One librarian interview took place online via Microsoft Teams. Brief informal questioning was conducted with children; this could be easily inserted into the story telling/singing session and only took a few minutes. This allowed the children to feel comfortable as they were in a group with their peers and early years practitioners and had already been interacting with activities on the story bus.

Observational data was collected at closed and open stops. At closed stops this involved sitting with or very near the group and participating in the routine so all the children's behaviours could be observed, and they would feel at ease answering questions later. At open stops this involved sitting on the story bus and noting observations.

Data analysis

Demographic data regarding interview participants was collated, e.g. the language backgrounds and ethnicity of the children. The range, mean average, and standard deviations were calculated for child age, socioeconomic status, and nursery attendance (see Table 1). The number of children who were first time and repeat visitors was also noted. Qualitative interview data was collated and coded into themes using principles of thematic analysis (Braun & Clarke, 2006), then simple visualisations were created.

Observational data was collated for both open and closed stops. Averages for the proportion of children engaging in different activities during story times (e.g., watching/listening to the story, prompted responses) across all closed stops were calculated. The proportion of children engaging in different early reading behaviours was averaged across all open stops. Simple visuals of this data were created.

Each question or measure from interviews and observations map against our six overarching research questions, as shown in Table 3.

Table 3. Research framework mapping research question against interview and observation items.

Research Question	Interview Questions for Parents / Carers	Interview Questions for Children	Interview Questions for Story Bus Staff	Interview Questions for Nursery Staff	Observations
1. What motivates caregivers to come to the bus?	<p>What brings you on/to the story bus today?</p> <p>Did you know about this story bus stop before you came? If so, how?</p> <p>How do you think more people could be encouraged to visit the story bus?</p>		<p>Why do parents/caregivers come to the story bus?</p> <p>What impacts the number of visitors at open stops?</p> <p>How do you think visitor numbers can be increased at open stops?</p>		<p>Approximate visitor numbers on different days of the week.</p> <p>Approximate visitor numbers at different locations.</p>
2. What do children and caregivers like / dislike about their visits?	<p>Which aspects of your visit did you and your child(ren) enjoy?</p> <p>What do you think could be improved?</p>	<p>What is the best thing about the story bus? Is it singing or stories or anything else?</p> <p>What could make the story bus even better?</p>	<p>What do visitors seem to enjoy about visiting the story bus?</p>	<p>How is the story bus received by the children?</p> <p>Would you like the story Bus to visit again?</p> <p>Would you recommend the story bus to another nursery and why?</p>	<p>Approximate percentage of caregivers engaging in different activities at open stops.</p> <p>Approximate percentage of children engaging in</p>

	Would you visit the story bus again?			What do you think could be improved about the story bus service?	different activities at open stops.
3. How did children engage with reading practices on the story buses?					Proportion of children engaging in story times and how. Proportion of children at open stops engaging in early literacy behaviour.
4. Which aspects of the story Bus positively promote reading skills within the bus, at home, and in childcare settings?			How can the story bus promote children's early reading skills? How can the story bus promote children's early reading skills at home?	Has the story bus impacted how you engage in reading with the children? How can the story bus can promote early reading skills?	

<p>5. Have visits to the story buses changed reading habits or attitudes in children, caregivers, and early years staff?</p>	<p>Could the story bus change children's reading attitudes and behaviour?</p>	<p>Can I see a thumbs up if you like reading or a thumbs down if you don't like reading?</p> <p>What's your favourite story? Who reads it to you?</p>	<p>What impact can the story bus have on children's reading behaviour and attitudes?</p> <p>What impact can the story bus have on a parent/caregiver's reading behaviour and attitudes?</p> <p>Do you think the story Bus can impact how nursery staff read with the children?</p> <p>Do you think the story bus can impact nursery staff's / managers' attitudes towards reading?</p>	<p>Could the story bus impact children's reading behaviour and attitudes?</p> <p>Has the story bus impacted your attitude towards reading?</p> <p>Have you noticed any improvements in children's early reading since having the story bus visit? (Not relevant as both nurseries only had Bus once before)</p>	
<p>6. What is the meaning and significance of the story bus for children, caregivers, and early years staff?</p>	<p>What does the story bus mean to you?</p>			<p>What does the story bus mean to you?</p>	

Results

We present the descriptive data below, organised by research question. Data points sometimes exceed the number of participants due to multiple themes being mentioned in single responses. Representative qualitative quotes are used to illustrate the trends in the quantitative data. N in the bar charts refers to the number of contributions within each category. The anonymised raw data is available at <https://osf.io/qjbuh/>. The summary (p. 27-28) brings together findings for each question.

RQ1: What motivates caregivers to come to the bus?

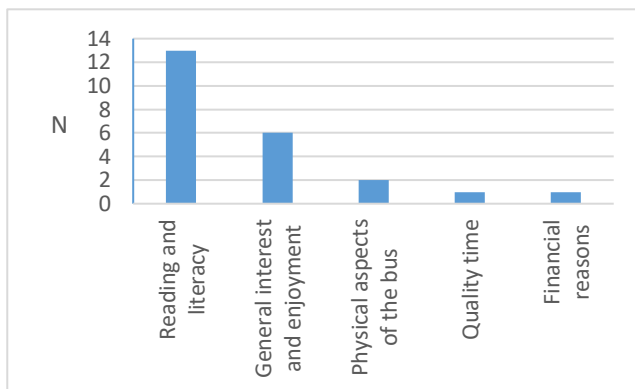


Figure 1. Q7 Caregivers: **What brings you to the story bus today?**

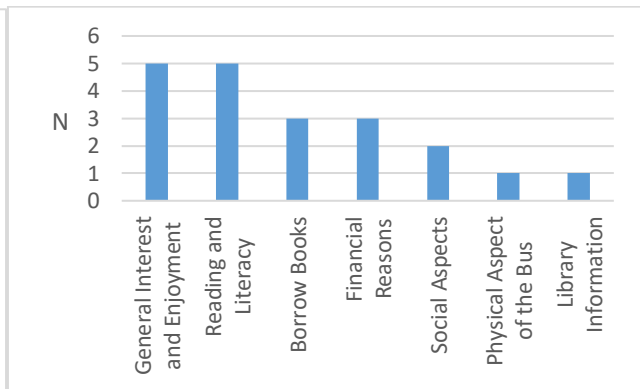


Figure 2. Q5 Story bus staff: **Why do parents/caregivers come to the story bus?**

Within the 'reading and literacy' responses, 12 caregivers expressed that it was their child's love of reading that motivated them to get on the bus, only one response conveyed an adult-centred response, i.e., that they were a big advocate of reading for their children.

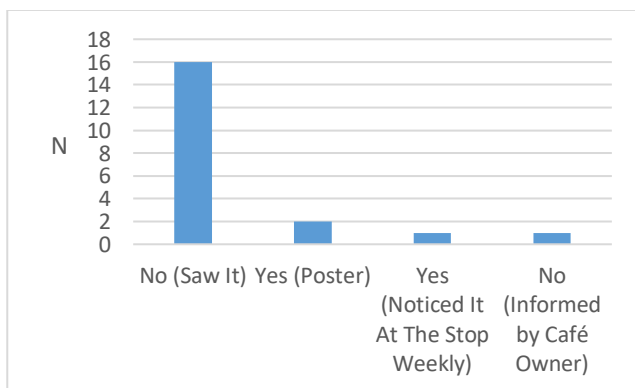


Figure 3. Q8 Caregivers: **Did you know about this story bus stop before you came? If so, how?**

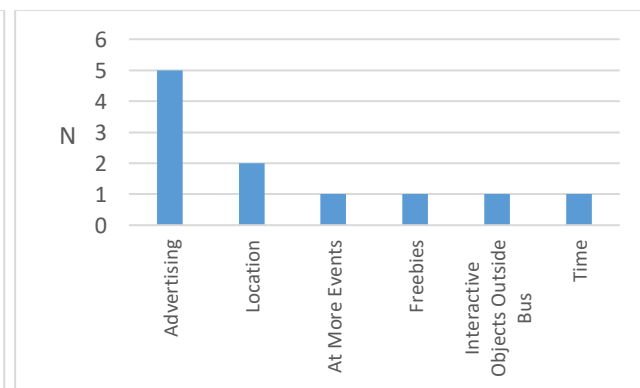


Figure 4. Q16 Caregivers: **How do you think more people could be encouraged to visit the story bus?**

Many caregivers highlighted the importance of advertising via local schools and nurseries e.g., by distributing flyers. Other key locations suggested were local parks and playgroups.

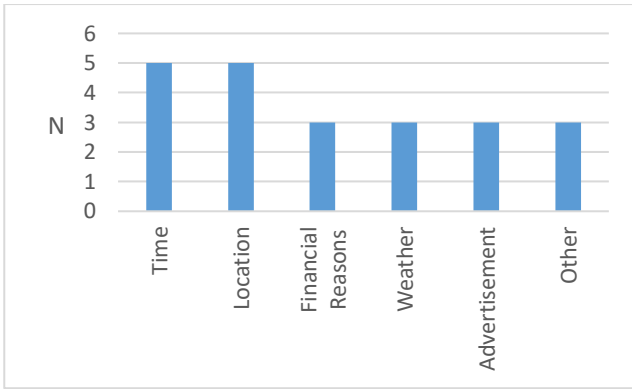


Figure 5. Q6 Story bus staff: **What impacts the number of visitors at open stops?**

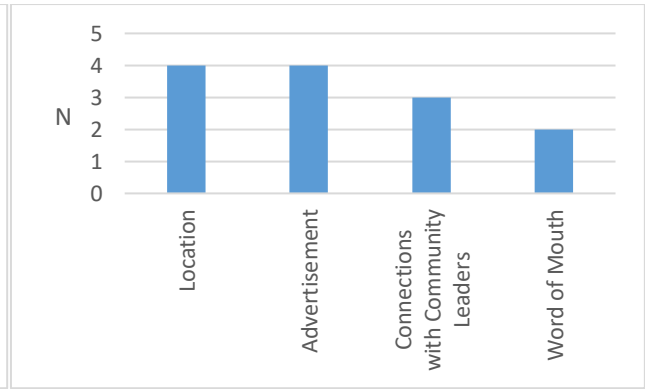


Figure 6. Q7 Story bus staff: **How do you think visitor numbers can be increased at open stops?**

Story bus staff said that many caregivers believed that there was a financial cost attached to using the buses. Example quotes from caregivers:

- *Do you have a donation box?* (after the librarian had read a story to their child).
- *We can't go on. We don't have any money* (when children were invited to explore the bus after a story time outside).

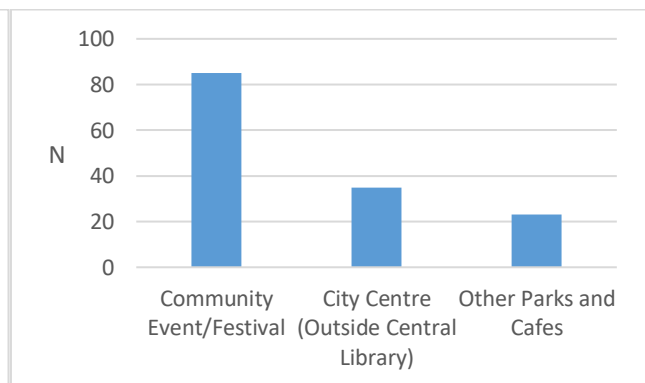
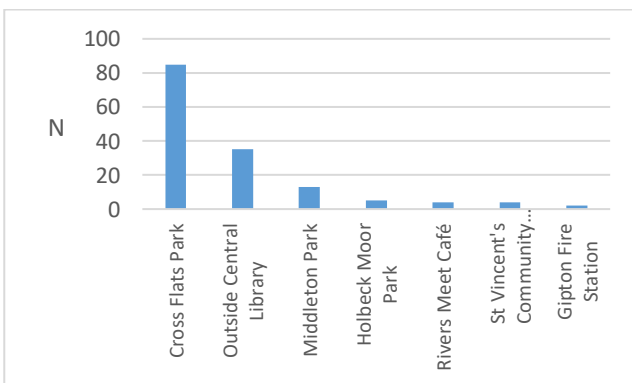
Staff also told us that caregivers worried about their child breaking something, and that they often felt intimidated by libraries.

Staff explained that it is harder to engage communities from disadvantaged areas:

- *Some communities don't work as a one-off visit, instead long-term visibility of the story bus is needed. This can build people's trust so they will visit, and we can make an impact.*

Story bus staff members emphasised the importance of collaborating with community leaders and trusted practitioners. They emphasised the need for leaders and organisations to not only reach out to secure the story bus in their area, but also to collaborate on an ongoing basis to maximise engagement.

Three of the responses relating to advertisement highlighted the power of social media, e.g., via community Facebook pages. Many caregivers approached staff to enquire about the story bus schedule so they could visit again, and asked for flyers with this information. They were referred to the website.



Figures 7 and 8. Observational Data: **Approx. visitor numbers at different locations.** See Table 2 for full data.

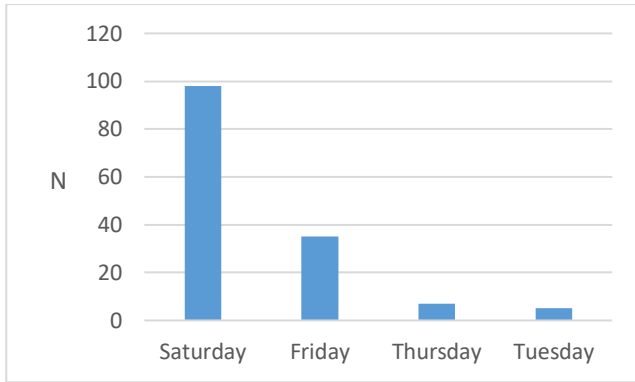


Figure 9. Observational Data: **Approximate visitor numbers on different days of the week.**

Approximately half (49%) of visitors on Saturday came to the story bus because there was a staff member from a theatre company reading stories outside the bus. As they were walking past, many children and caregivers stopped to watch and listen to the stories.

RQ2: What do children and caregivers like / dislike about their visits?

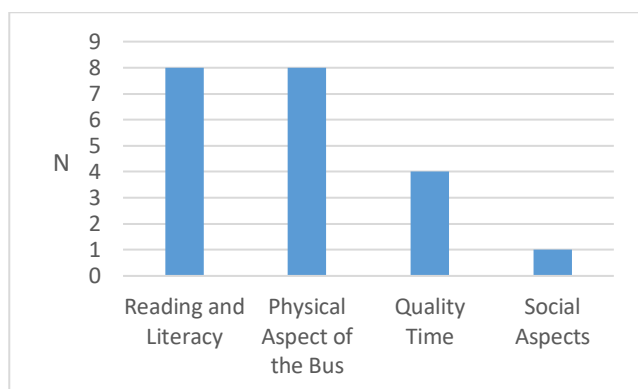


Figure 10. Q9 Caregivers: **Which aspects of your visit did you and your child(ren) enjoy?**

The most frequent positive aspects were a) reading and b) the physical aspects of the bus; each featuring in around 40% of caregiver responses. Quality time was also cited as a benefit of the bus:

- *I don't have much time with my studying to sit and read with my children. It is important quality time.*

It was one child's favourite thing at the festival. He didn't want to go on anything else.

A carer for an adult visitor explained:

- *She really enjoyed meeting the staff; socialising is her favourite. It's hard to find chances in the day where she can stop and chat to people. She is deteriorating with dementia and watches TV all day at the day centre, so the story bus is very important to her as it's brightly coloured and has a fun atmosphere.*

The story buses carry a multilingual selection of books. One caregiver who borrowed a book in Urdu and English said:

- *I couldn't find any books that are in my language in any libraries, but I have done here.*

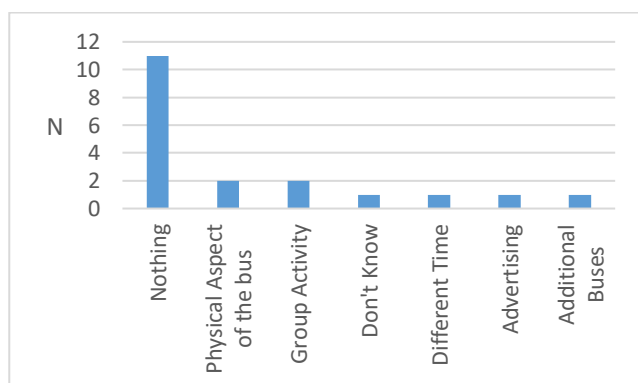


Figure 11. Q15 Caregivers: **What do you think could be improved?**

- *It is perfect. My kids need to be encouraged to read more books because they watch too much television, so it is hard to encourage them.*
- *I love it. It's so cute and quirky*
- *More advertising. They need a board inside the café rather than just a poster because we didn't see it.*

Q17 Caregivers: Would you visit the story bus again?

All 13 caregivers asked would visit the story bus again.

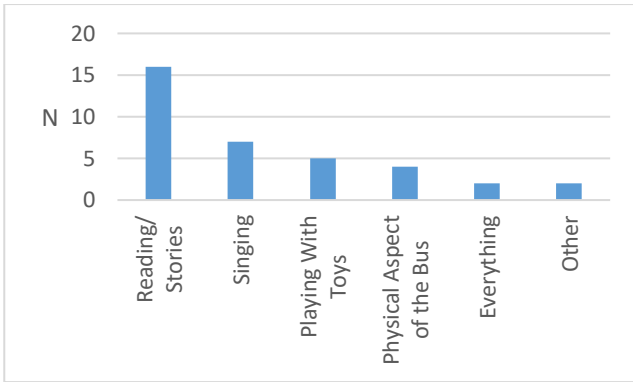


Figure 12. Q1 Children: **What is the best thing about the story bus? Is it reading, singing or anything else?**

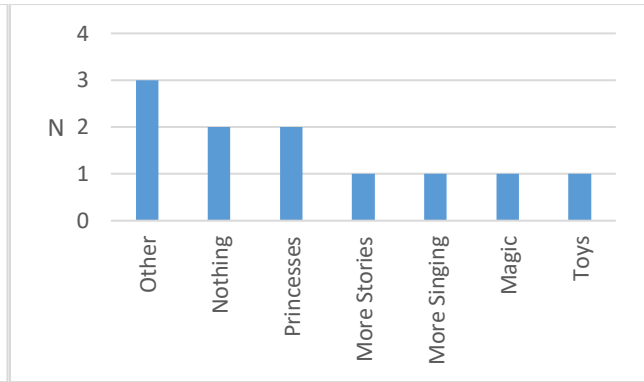


Figure 13. Q5 Children: **What could make the story bus even better?** (NB. 'Other' included responses such as 'flowers on the ground', 'look out the windows' and 'more standing up').

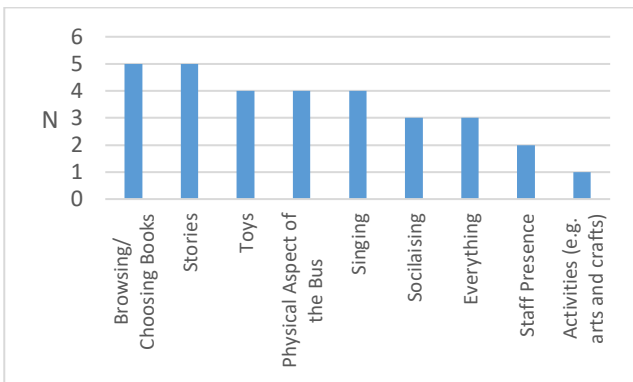


Figure 14. Q8 Story bus staff: **What do visitors seem to enjoy about visiting the story bus?**

This question yielded a wide range of answers, suggesting that the current provision is successful.

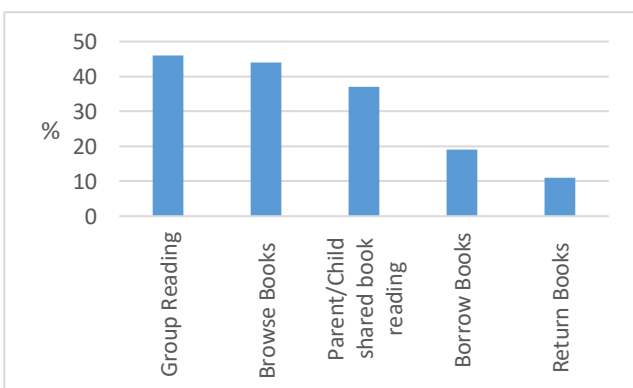


Figure 15. Observations: **Approx. percentage of caregivers involved in each activity**

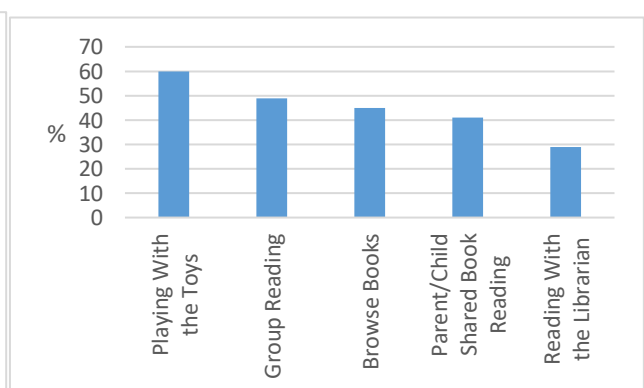


Figure 16. Observations: **Approx. percentage of children engaging in different activities at open stops**

Figures 15 and 16 evidence a high degree of engagement with the range of activities on offer.

Overall, observational data from the Children's Centre closed stops evidenced staff and children's excitement and love for the story bus. A nursery staff member who had finished work for the day, came back especially to participate in the story bus session. At multiple nurseries, as children approached the story bus, they chanted excitedly *Story bus!* Children seeing the story bus for the first time said: *This is so cool! A library bus! So many stories on here! I can see a dinosaur!* On a final visit a nursery staff member exclaimed *I'm going to miss you coming!*

Q3 Nursery Staff: **How is the story bus received by the children?**

- *Everyone was so excited (about the story bus coming)*
- *It is really popular, and the children really enjoy it*

Q10 Nursery Staff: **Would you like the story bus to visit again?**

- *Definitely, I wish it came every week, it's so lovely. I want to get it again next year so the new children can experience it, but it gets booked up so fast*

Q11 Nursery Staff: **Would you recommend the story bus to another Nursery?**

Both nursery staff agreed they would.

Q12 Nursery Staff: **What could be improved about the service?**

Both staff said nothing could be improved. One staff member said they did not want to borrow books from the story bus because they wouldn't want to ruin them.

Q13 Nursery Staff: **Is there anything you would like to add?**

- *We're really grateful. [LIBRARIAN] is really nice. It's really good for the children and it's really welcoming. We're really impressed. I want that bus!*

RQ3: How did children engage with reading practices on the buses?

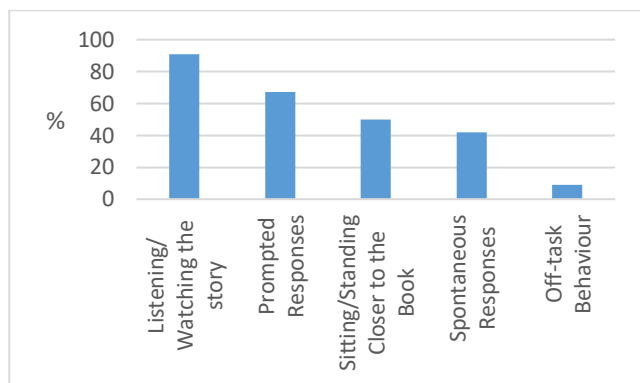


Figure 16. Observations: **Approximate percentages of children engaging in different behaviours during story times (closed stops)**

Observations at the closed stops revealed that there was something for every child on the story bus. On the whole, children who were not engaged in the stories were engaged in the songs.

At the start of every session, the librarian led a song that individually welcomed each child by name to the story bus. Many children smiled when it was their turn. Before the children left the bus at the end, the librarians would lead 'Head, Shoulders, Knees, and Toes', speeding up the pace as the song progressed. Children loved this and left the bus with huge smiles on their faces. One story bus librarian used simple sign language during singing, and many children copied the signs.

During the story time, prompted responses from the children included making noises for different animals in the story, joining in with repetitive phrases in the books, and answering questions about the story. The children loved the selection of books read aloud by the story bus librarians. The books were powerful in building up children's anticipation and excitement e.g. prompted responses such as *Knock, Knock! / Who's there? / Can I come in? / No!*

Children's spontaneous responses to the stories included gasping, giggling and screaming. Many children would try and guess what would be on the next page, relate to aspects of the story and share information about their books/reading practices at home, e.g. *Oh no! / I have a bike too! / I've got fish / I read books at potty time / It's daddy!*

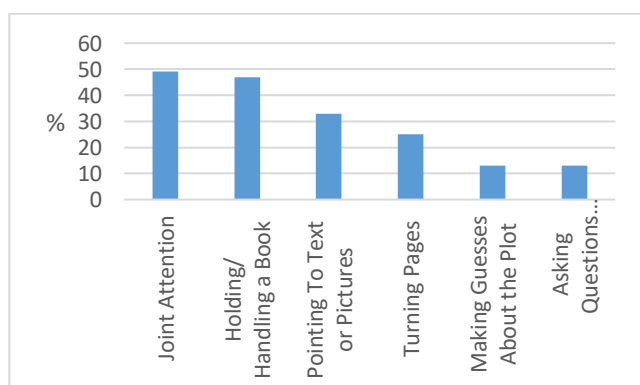


Figure 17. Observations: **Percentage of children engaging in early reading skills at open stops**

A rich selection of valuable early literacy behaviours are facilitated by time on the bus.

The story bus is inclusive. At one closed stop, a nursery staff member asked story bus staff; *He is autistic so may not be able to sit still, is that ok?* The story bus staff replied *of course, that doesn't matter; everyone is welcome.* This child smiled during the songs and enjoyed watching the guitar being played. A couple of children who found it hard to engage with singing or stories instead watched the guitar playing or played with toys with a member of nursery staff.

RQ4: Which aspects of the story bus positively promote reading skills within the bus, at home, and in childcare settings?

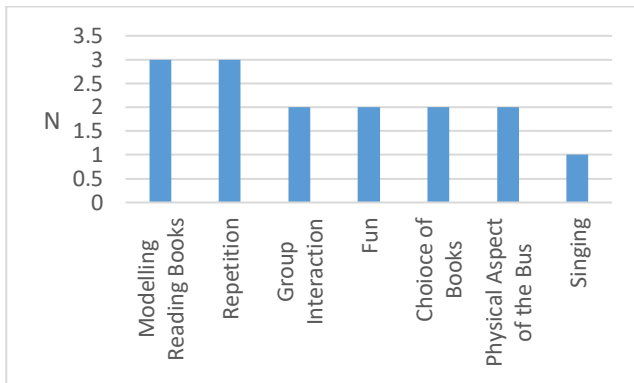


Figure 18. Q3 Story bus staff: **How can the story bus promote children’s early reading skills?**

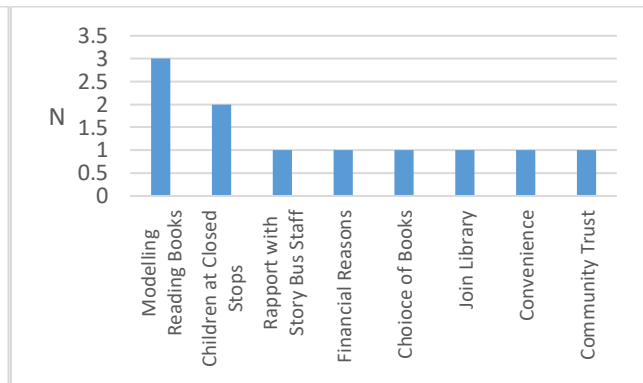
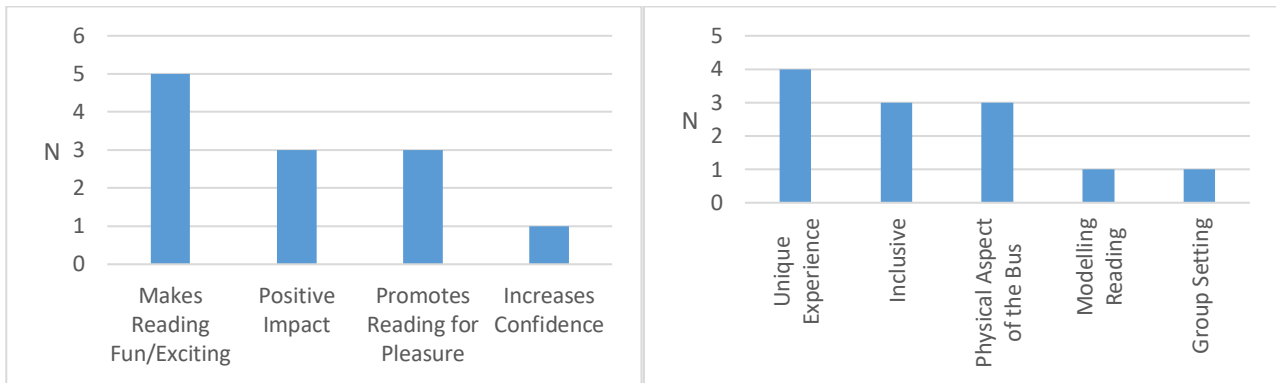


Figure 19. Q4 Story bus staff: **How can the story bus promote children’s early reading skills at home?** (NB. the ‘children at closed stops’ category refers to children going home and informing their family, so they visit again).

Story bus staff most frequently cited modelling reading and repetition as factors that promote children’s early reading skills on the bus. By repeatedly watching adults reading/handling books, children would learn to do this themselves. Modelling can also promote reading at home, by demonstrating children’s enjoyment, and increasing caregiver confidence. The second most frequent response to this question was through children at closed stops telling their caregivers and family about the service, encouraging the family to take them to open stops. This might be a key strategy in fostering repeat visits.

RQ5: Have visits to the story buses changed reading habits or attitudes in children, caregivers, and early years staff?



Figures 20 & 21. Q1 Story bus staff: **What impact can the story bus have on children’s reading behaviour and attitudes? How?**

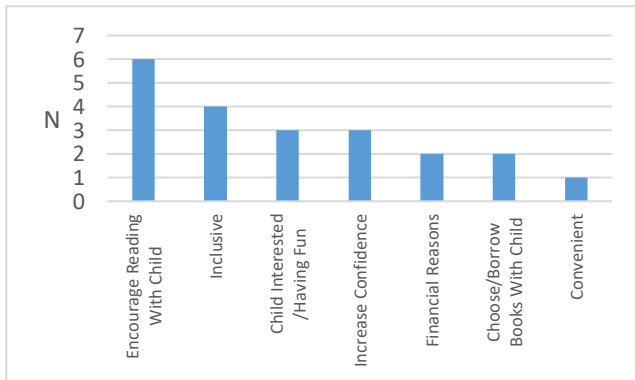


Figure 22. Q2 Story bus staff: **What impact can the story bus have on a parent/caregiver's reading behaviour and attitudes? How?**

Story bus staff explained that sometimes caregivers can feel self-conscious reading, and experiences on the bus can show them:

- *It's ok just to read the book, it doesn't matter if they get bits wrong or feel silly*
- *They can do silly voices and make mistakes with the story and that's okay.*
- *Seeing that the librarians aren't perfect at reading can help inspire them to try it at home. The story bus is very real and not over the top, like TV. It shows them that it is not exclusive, anyone can read to their child. It gives parents the opportunity to choose books with their children that they're both interested in.*

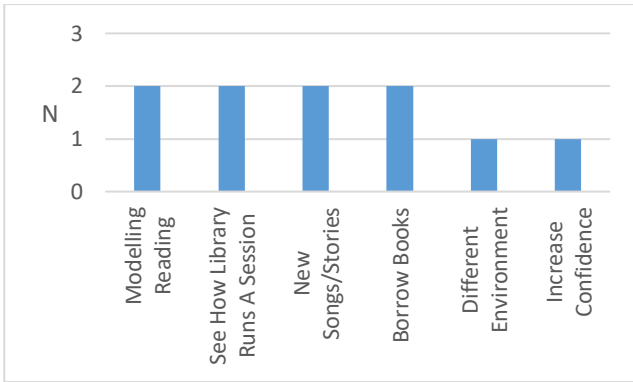


Figure 23. Q9 Story bus staff: **How can the story bus impact how nursery staff read with the children?**

- At least two or three nursery staff say they love the welcome song. They have listened out for and use it. It is very powerful because it includes every child's name.

Another highlighted that *signing during singing offers something different.*

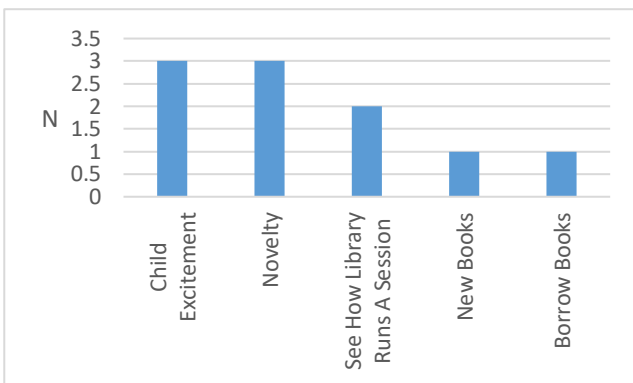


Figure 24. Q10 Story bus staff: **How do you think the story bus can impact nursery staff's attitudes towards reading?**

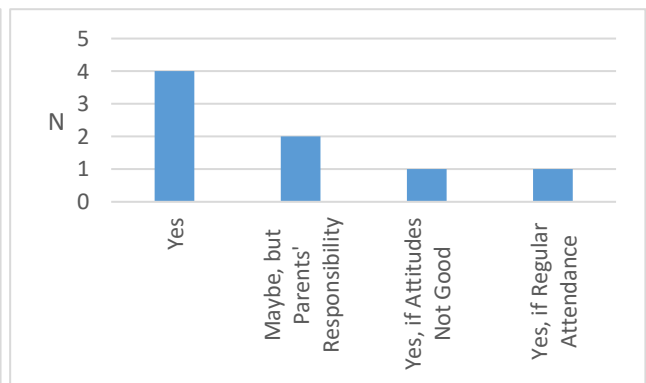


Figure 25. Q10b Caregivers: **Could the story bus change children's reading attitudes and behaviour?**

- One thing the story bus does is put reading for pleasure at the heart of any setting it visits. Once they see how excited children are to come on the story bus, it would be hard to not think differently about it.

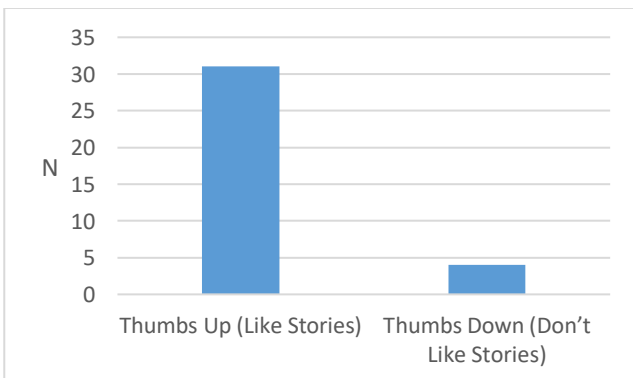
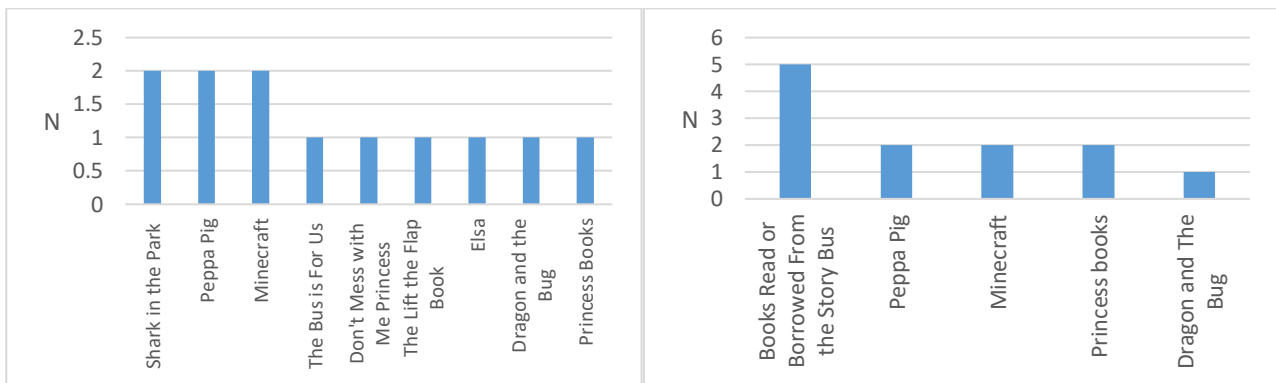


Figure 26. Q2 Children: **Can I see a thumbs up if you like stories, or a thumbs down if you don't like stories?**



Figures 27 and 28. Q3a Children: **What is your favourite book?**

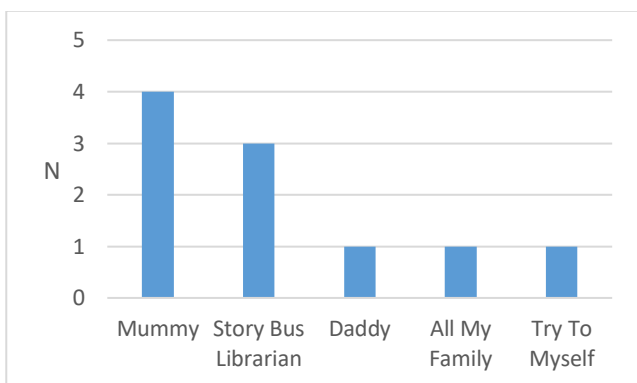


Figure 29. Q4 Children: **Who reads it to you?**

Q6 Nursery Staff: Has the story bus impacted how you engage in reading with the children?

Both nursery staff said the story bus did not impact how they engage in reading with the children because one was *already enthusiastic when reading with the kids* and another said *they are quite literature heavy anyway and have a big mix of genres at the nursery.*

Q7 Nursery Staff: How can the story bus can promote early reading skills?

One staff member noticed the children *concentrate more because it's a new setting*. Another said, *It makes reading exciting* and it is especially impactful for children who *might not have access to a library, if their family do not have time to read with them, and those who may not have books at home*. They remarked that *it is so well stocked and the guitar playing is very enjoyable.*

Q4 Nursery Staff: Could the story bus impact children's reading behaviour and attitudes?

Both nursery staff agreed that the story bus could impact children's reading behaviour and attitudes. One staff member said, because of the physical aspects of the story bus, it is so inviting and exciting for the children although the inside has a calming atmosphere: *They were all like "Wow!" when the doors opened*. She explained; *the books are in really good condition and of good quality and the children love looking at them.*

Q5 Nursery Staff: Has the story bus impacted your attitude towards reading?

One staff member said it had not impacted her attitude towards reading as she already reads with the children. She said *If I was less confident it could help.*

RQ6: What is the meaning and significance of the story bus for children, caregivers, and early years staff?

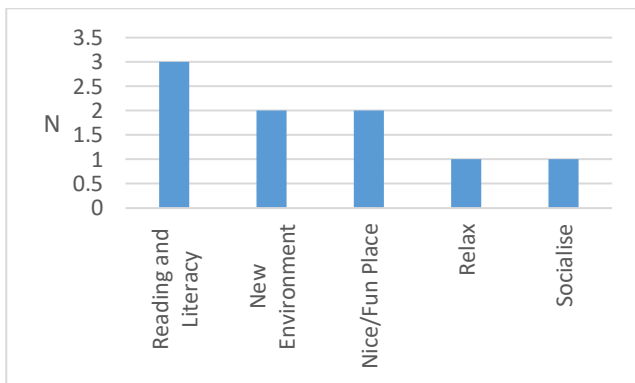


Figure 30. Q14 Caregivers: **What does the story bus mean to you?**

Q9 Nursery Staff: What does the story bus mean to you?

- *It's important for developing children's vocabulary.*
- *It's good for children's listening skills.*

The most common response to this question was reading and literacy. Other responses included the novel / fun environment, and the ability to relax and socialise. Nursery staff are aware of the role of the bus in developing crucial early literacy skills.

Summary and Discussion

1. What motivates caregivers to come to the bus?

Over half (57%) of caregivers' main reasons for visiting the bus related to **reading and literacy**. This clearly supports the aims of the story buses to foster a love of books and reading in the early years, to encourage families to share reading activities together, and to support the development of language, communication and literacy.

However, 80% of visitors did not previously know about the story buses, and had only seen them in passing. This highlights the need for **more targeted advertising** of the service, including promoting the fact that it is a **free service** (financial reasons featured often in this part of our data). **Printed flyers with timetables** would also be useful in helping caregivers plan their next visit. **Ongoing collaboration with community leaders and organisations** will be a crucial factor in maximising engagement, which along with repeat visits to the same locations, will support a deeper engagement, understanding, and trust with target communities.

Strategic planning of the **time of day** and **location** will also have a positive impact on visitor numbers. For example, community events/festivals accounted for 59% of all visitors participating in this research; 66% of all visitors were on a Saturday, and 92% of all visitors were on a Friday or Saturday.

2. What do children and caregivers like / dislike about their visits?

Overall, quantitative, qualitative, and observational data revealed an **overwhelmingly positive view** of the buses by all stakeholders. The most frequent positive aspects were **reading** and the **physical aspects of the bus**; each featuring in around 40% of caregiver responses. **Quality time** between children and caregivers was mentioned in around 20% of responses. Almost half of children (44%) said that their favourite thing about the story bus was **reading/stories/books**, followed by **singing** (19%), then **playing with toys** (14%). The same pattern was apparent in the staff responses; they remarked that the most popular visitor behaviour was **browsing/choosing books**. This echoed the observational data which showed that the most frequent caregiver activities were **group reading, browsing books and caregiver/child shared book reading**. Just 19% of visitors **borrowed** and 11% **returned books**.

The data did not reveal any aspects that were disliked. On how the service could be improved, 58% of caregivers (and all nursery staff) said **nothing could be improved**. Other responses to this question included the **physical aspect of the bus, group activities, additional buses, and more advertising**. Most of the children's responses to this question indicated that they would like more of the same provision. 100% of caregivers said they would visit the story bus again. Overall, the nursery staff were overwhelmingly positive about the bus and wanted more access.

3. How did children engage with reading practices on the buses?

Children were immersed in the language and literacy activities throughout their time on the bus, and were highly engaged.

At open stops, of approximately 80 children:

- 49% were engaged in group reading
- 45% browsed books
- 41% engaged in caregiver/child shared book reading
- 29% read with a librarian.

At closed stops, of 236 children:

- 91% were engaged in listening/watching the story (cf. 9% engaged in off-task behaviour)
- 67% gave prompted responses to the stories
- 42% gave spontaneous responses
- 50% actively moved closer to the book as the librarian was reading it.

At open stops, of approximately 80 children, a range of early reading skills were noted:

- 49% engaged in joint attention
- 47% held / handled a book
- 33% pointed to text or pictures.

4. Which aspects of the story bus positively promote reading skills within the bus, at home, and in childcare settings?

Story bus staff most frequently cited **modelling reading** and **repetition** as factors that promote children's early reading skills on the bus. By repeatedly watching adults reading/handling books, children would learn to do this themselves.

Staff also frequently cited **modelling reading** as a factor promoting early reading skills **at home**. Interestingly, the second most frequent response to this question was through **children at closed stops telling their caregivers and family about the service**, encouraging the family to take them to open stops.

Although data addressing this question can only be impressionistic given the one-shot nature of our methods, it shows that one of the aims of the service has been achieved: to encourage families to share books and reading activities together.

5. Have visits to the story buses changed reading habits or attitudes in children, caregivers, and early years staff?

We had initially anticipated working with more participants who had previously visited the bus and who could therefore comment on changes in reading. However, the majority of the visitors during data collection were first timers, meaning that this research question can only be answered tentatively at this stage. No caregivers had visited more than twice, so not enough to see a change in habits or attitudes, although three-quarters of the 13 asked said that the story bus could **change children's reading**.

At closed stops, 87% of the 35 children gave a thumbs-up to indicate that they **enjoy reading/stories**. 42% of children's favourite stories were ones read on the bus by the librarian or borrowed from the bus.

Most story bus staff said that reading attitudes and behaviour are affected by making reading **fun/exciting**, which the **novel experience** of the story bus easily provides. All of them said the story bus **encourages caregivers to read with their child** through its **inclusivity**, by watching their child **having fun with the books**, and increasing **caregivers' confidence**. Overall, a common theme was that the bus shows caregivers they don't need to be perfect at reading to their child and that it's ok to make mistakes. Observational data revealed that 37% of caregivers and 41% of children engaged in **shared book reading** on the bus.

The story bus staff also said the bus can impact nursery staff by introducing **new stories/songs**, showing them how the library would run a session, **modelling how they read to the children**, through **borrowing books**, and by seeing how **excited** the children are.

One early years practitioner said that the bus had not impacted her attitude towards reading as she already reads to the children. She suggested **it could help if she wasn't so confident**.

We recommend revisiting this question in future evaluations as the service accrues regular groups of visitors. Closed stops (which consist of a series of three visits) are likely to be the best location for doing this. For the same reason, they have good potential for advertising to caregivers which in turn may impact reading habits and attitudes; story bus staff frequently said that children encouraging their caregivers to visit the story bus is an important way of promoting early reading skills at home.

6. What is the meaning and significance of the story bus for children, caregivers, and early years staff?

In line with our results for RQs 1 and 2 above, the most common response to this question was **reading and literacy**. Other responses included the **novel / fun environment**, and the ability to **relax** and **socialise**. The children were always very **excited** to see the story bus, and said their favourite thing about it was **reading**.

Early years practitioners are aware of the role of the bus in developing crucial early literacy skills, e.g. **vocabulary** and **comprehension**.

Conclusion

Taken together, our data shows that one year into its operation, current story bus practice effectively addresses several of its original aims:

- To foster a love of books and reading in the early years
- To encourage families to share books and reading activities together
- To support the development of language, communication and literacy.

Future activity should target and monitor the other two aims:

- To promote regular library use in the target areas
- To provide access to an early years cultural programme of theatre, authors, storytellers, and illustrators.

Future evaluations should focus on longitudinal changes in reading attitudes and behaviours. To enable meaningful comparisons, our data collection tools are available in appendices A, D, E.

Recommendations for the story bus service

Our data have yielded a range of ideas for improving the service:

On information and promotion:

1. More **advertising**, e.g. distributing flyers at local schools and nurseries and via social media.
2. Provide hard copies of the bus **schedule** so visitors can plan future visits.
3. Provide **scheduled story times at open stops**. When stopped at festivals and parks, display **session timings** outside the story bus to enable families to return at less busy times.
4. **Facilitate more follow-up / regular visits** to change long-term reading habits in children and their families. For example, encourage families to come to the open stops by providing information to children during closed stop visits. This will address the aim of promoting regular library use in target areas.
5. Ensure caregivers know that the service is **free** and what they can do on the bus e.g., read with their child, borrow books.
6. Foster collaborations with community leaders and trusted practitioners to maximise engagement.

On resourcing:

7. Many nurseries want the story bus to visit, and the current provision cannot meet this demand. We recommend investing in **more library staff** to mobilise the second bus.

On adaptations:

8. Many children said they wanted to see princesses on the bus. Advertised events could include characters from books to increase visitor numbers.

Recommendations for future evaluations

1. **Consider a lighter-touch informed consent process**. The largest barrier to collecting interview data from caregivers and nursery staff was the length of these procedures, which may have disincentivised participation and reduced the time available for conversation.
2. **Favour interviews rather than written forms of data collection**. Nursery staff did not have the time to complete written data sheets but were happy to answer questions verbally.
3. **Consider data collection using cards with a QR-code linked to an online survey**. Nursery staff did not have the time to be interviewed whilst looking after the children and supervising them when getting on/off the bus.
4. Use **different questions for repeat- vs. first-time visitors**, e.g. focusing on behaviour change.
5. Work with repeat visitors at closed stops to **track changes** in reading habits and attitudes over time. This should be enhanced by **building close relationships with early years managers**.
6. To investigate reasons for **not using the buses**, carefully consider approaching nearby families to probe whether and why they don't want to engage.

We also recommend sharing this report with a wide range of stakeholders for consideration within their own strategic planning, e.g.

- Library staff of all levels.
- National library organisations via senior strategic teams at Leeds Libraries.
- Library partners (current and future), e.g. festival organisers; theatre companies.
- Funders, including [Libraries Connected](#), an organisation seeking to maintain and build on the power of libraries, and who funded this evaluation project.
- Early years managers in Leeds and beyond.
- Local Government Association.
- Local Authorities.
- The Association of Senior Children's and Education Librarians ([ASCEL](#)).
- [CILIP](#), the UK's library and information association.
- [Child Friendly Leeds](#), the vision for Leeds to be the best city in the UK for all our children and young people to grow up in.
- Academic and policy researchers, e.g. in information services, early literacy.

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Appendices

Appendix A: Question list for each stakeholder group

CHILDREN	
Q1	What is the best thing about the story bus? Is it singing or stories or anything else?
Q2	Can I see a thumbs up if you like reading or a thumbs down if you don't like reading?
Q3	What's your favourite story?
Q4	Who reads it to you?
Q5	What could make the story bus even better?
PARENTS / CAREGIVERS	
Q1	What age is the child? (y;m)
Q2	What is the child's ethnicity?
Q3	What is your postcode?
Q4	What is/are the main languages spoken at home?
Q5a	Does the child attend an early year's service such as a nursery or childminder?
Q5b	How often?
Q6a	Have you visited the story bus before?
Q6b	How many times?
Q7	What brings you to/on the story bus today?
Q8	Did you know about this story bus stop before you came? If so, how?
Q9	Which aspects of your visit did you and your child(ren) enjoy?
Q10	Could the story bus change children's reading attitudes and behaviour?
Q12	What does the story bus mean to you?
Q13	What do you think could be improved?
Q14	How do you think more people could be encouraged to visit the story bus?
Q15	Would you visit the story bus again?
STORY BUS STAFF	
Q1	What impact can the story bus have on children's reading behaviour and attitudes?
Q2	What impact can the story bus have on a parent/caregiver's reading behaviour and attitudes?
Q3	How can the story bus promote children's early reading skills?

Q4	How can the story bus promote children's early reading skills at home?
Q5	Why do parents/caregivers come to the story bus?
Q6	What impacts the number of visitors at open stops?
Q7	How do you think visitor numbers can be increased at open stops?
Q8	What do visitors seem to enjoy about visiting the story bus?
Q9	Do you think the story bus visits can impact how nursery staff read with the children?
Q10	Do you think the story bus can impact nursery staff's / managers' attitudes towards reading?
Q11	Is there anything you would like to add?
NURSERY PRACTITIONERS	
Q1	How many times have you had the story bus visit before?
Q2	How did you get story bus to come to the school?
Q3	How is the story bus received by the children?
Q4	Could the story bus impact children's reading behaviour and attitudes?
Q5	Have the story bus visits impacted your attitudes towards reading?
Q6	Has the story bus impacted how you engage in reading with the children?
Q7	How can the story bus can promote early reading skills?
Q8	Have you noticed any improvements in children's early reading since having the story bus visit?
Q9	What does the story bus mean to you?
Q10	Would you like the story bus to visit again?
Q11	Would you recommend the story bus to another nursery and why?
Q12	What do you think could be improved about the story bus service?
Q13	Is there anything you would like to add?

Evaluating the impact of the Leeds Story Buses on children's reading experiences

Dear participant,

You are being invited to take part in a research project. Before you decide whether to proceed it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information.

The study is called *Evaluating the impact of the Leeds Story Buses on children's reading experiences*. We hope that you'd be interested in taking part in this research which helps us to improve the Story Bus service. Please read this information sheet and fill in the consent form if you would like to take part. If you have any queries before or whilst completing the form then please do not hesitate to contact me (details below).

What are we trying to find out?

How the Story Buses can best help children and families use books and learn to read.

Why have I been chosen to take part?

Either because you have visited the Story Bus or your service hosts the Story Bus.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw during the study and up to seven days afterwards, without penalty and without giving a reason. To do this, please contact the lead researcher using the email address at the end of this form.

What will happen if I take part?

A researcher will have a short conversation with you (and your child, if you are visiting together) about your views and experiences with the Story Bus service. This will last no longer than 10 minutes. They will also ask you some basic information about yourself (e.g. postcode), but you won't be identifiable from this information. They will take brief notes, which are stored securely on password-protected drives using anonymised filenames.

What happens to the results of the study?

Results are kept strictly confidential. Your data will be stored electronically using a random numerical code, and the hard copies of your consent form and interview notes will be stored securely at the University of Leeds. The research team will access your data to analyse it. In rare circumstances, University staff may access your data file to audit our compliance with research ethics. Your identity can not be disclosed at any time during the research process, including on during the publication of our findings.

What are the possible disadvantages and risks of taking part?

We do not anticipate any adverse outcomes from this research. We hope that you will find participating enjoyable, interesting, and worthwhile.

What are the possible benefits of taking part?

Participants often benefit by learning something about the research topic, in this case children's reading development and the Story Bus service.

We hope that you are interested in the research and we will be happy to answer any further questions you might have about it at any time. Because the research process takes time, it may be a while before we have any results. Please feel to call or email us at any time to ask how things are going. You can also check our website www.leedscdu.org, which provides information about our studies. We also publish a newsletter each year with updates on our research findings.

Who is conducting this research?

The research project is being run by Dr Catherine Davies, an experienced researcher in child language at Leeds University. The data will be collected by Emma Twine, a student at the University of Leeds. Collaborators are Rachel Ingle-Teare (Senior Librarian: Children and Young People, Leeds Libraries) and Sally Hughes (Story Bus Librarian, Leeds Libraries). The research is funded by Libraries Connected.

Contact details:

If you would like to discuss the research, please contact me on:

Dr Catherine (Cat) Davies (lead researcher)

[Professor of Language Development](#) | [School of Languages, Cultures and Societies](#) | University of Leeds | LS2 9JT

[Leeds Child Development Unit](#) lead

Email: c.n.davies@leeds.ac.uk

<https://ahc.leeds.ac.uk/languages/staff/699/dr-catherine-davies>

Appendix C: Consent Form

Consent to take part in <i>Evaluating the impact of the Leeds Storybuses on children's reading experiences</i>	Add your initials next to the statement if you agree
I confirm that I have read and understand the information sheet dated 15/06/22 explaining the above research project and I have had the opportunity to ask questions about the project.	
<p>I understand that my participation is voluntary and that I am free to withdraw my participation during the experiment and up to seven days afterwards (after which the data will be anonymised and submitted to the research team for analysis), without giving any reason and without there being any negative consequences. In such cases, the data will be deleted/ destroyed. In addition, should I not wish to answer any particular question or questions, I am free to decline.</p> <p>The lead researcher can be contacted at: Prof Catherine Davies, c.n.davies@leeds.ac.uk School of LCS, University of Leeds, LS2 9JT These details are also on the information sheet for you to take away.</p>	
I give permission for members of the research team to have access to my anonymised data. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research. I understand that this data will be kept strictly confidential.	
I agree for the anonymised data collected from me to be stored and used in relevant future research, including on the Open Science Framework.	
I understand that relevant sections of the data collected during the study, may be looked at by individuals from the University of Leeds or from regulatory authorities where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.	
I agree to take part in the above research project and will inform the lead researcher should my contact details change.	

Participant name	
Participant's signature	
Participant code	
Date	
Name of person taking consent	
Signature	
Date	

Appendix D: Closed Stop Observation Sheet

General observations	
Day/Date	
Time	
Locations:	
Story bus staff	
Number of children in group and number of groups	
Average time for each group	1-5min 6-10min 10-20 min 20-30min Over 30 mins
Other observations/ anything else to note	
Child Engagement (behaviour during stories)	Proportion of Children / Notes
Listening, watching the story	
Prompted responses, e.g. <ul style="list-style-type: none"> • answering questions, • making animal noises when prompted, • performing actions, • gestures in response to a prompt 	
Spontaneous responses, e.g. <ul style="list-style-type: none"> • commenting on the story, • gestures such as pointing, waving clapping, raising the shoulders with the hand palms up 'where is it?', • other hand and body movements, • positive facial expressions 	
Off-task behaviour (doing something unrelated), e.g. <ul style="list-style-type: none"> • unfocussed attention (not looking at the activity / daydreaming / distracted) • wandering aimlessly • unoccupied behaviour disruptive behaviour	
Child Engagement (behaviour during singing)	Proportion of Children / Notes
Singing	
Performing song actions	
Off-task behaviour (doing something unrelated),	

Appendix E: Open Stop Observation Sheet

Date	
Day of the week	Mon Tue Wed Thu Fri Sat Sun
Time	
Location	
Weather	Sunny Hot Warm Cold Overcast Rainy Mixed Other (please state)
Location characteristics	
Story Bus staff	
Number of visitors to the stop during entire visit (approx.)	0-5 visitors 6-10 11-15 15-20 20-30 30-40 40-50 Over 50
Average visit duration (approx.)	1-5 mins 6-10 mins 10-20 mins 20-30 mins Over 30 mins
Other observations	

Visitor Behaviour on the bus	Proportion of visitors
Parent/caregiver	
Browse books	
Return books	
Borrow books	
Independent reading	
Parent/child shared book reading	
Group reading	
Other (please state)	
Child	
Browse books	
Independent reading	
Parent/child shared book reading	
Group reading	
Reading with librarian	
Singing with librarian	
Playing with toys (give details)	
Other (please state)	

Early Literacy Skills - Behaviour	Proportion of children / notes
Holding a book/known how to handle a book	
Turning pages	
Joint attention (where an adult and a child both look at the same part of the book)	
Pointing to text or pictures	
Following words on a page	
Recognising words or letters	
Making guesses about what will come next	
Asking questions about the story	