



## DanceFit Project Final Report & Findings January 2017- December 2017

### Overview – what is DanceFit?

The Dance Fit Project was for children and young people to take their first steps in to physical activity. Dance was used as a medium to explore healthy lifestyles, diet, activity levels and boost wellbeing. Through a weekly programme; dance artists delivered various fun dance styles, creative tasks, partner work and cardiovascular tasks all with a view to aiding weight loss and boosting self-esteem. Teachers, families, parents & carers were invited to take part, with log books issued to diary progress and their individual journeys of change. There is the added benefit of social interaction, new friendships made and a fun time had by all. We signposted outwards to numerous supporting activities/projects or initiatives - as there are multiple exit routes for children to progress to.

We trialled this project from January to December 2017 to evaluate its impact and success on the young people taking part. We initially recruited into the project by referral, by school and/or head teacher and by choosing a class with a high percentage of pupils on Free School Meals (due to the link between Obesity and Deprivation).

### Outcomes:

- Address the National Obesity agenda and work in line with North Kesteven District Council's Physical Activity Strategy, National Obesity pilot with Leeds Beckett University
- Use Movement and Dance as a physical intervention into kick-starting an exercise and fitness regime
- Log progress in an ongoing journal and expect to see changes in body weight, body measurements and wellbeing scales (such as WEMWBS) as well as physical attributes including increased strength, flexibility and coordination
- Increased sense of wellbeing by social nature of movement and dance
- Increased body awareness and knowledge about physical activity choices
- Skills based learning through nature of the activity

- Inspired participants to continue physical activity, join a club and live a healthy lifestyle

### Targeted Schools:

We picked schools against the National average Free School Meals which is 14.6%, compared to the Lincolnshire average of Free School Meals at 13.7%.

- Billingham Primary School - 17.1% <https://www.schoolguide.co.uk/schools/the-billinghay-church-of-england-primary-school-lincoln>
- Washingborough Academy – 8.1% <https://www.schoolguide.co.uk/schools/washingborough-academy-lincoln>
- Navenby – 7.1% <https://www.schoolguide.co.uk/schools/washingborough-academy-lincoln>
- Church Lane Sleaford – 24.6% <https://www.schoolguide.co.uk/schools/church-lane-primary-school-sleaford>



Pictured:  
**Church Lane Primary School** –  
Image Credit to  
Electric Egg  
(2017)  
Dance Artist:  
Rachel  
Edwardson

### Case Study – Washingborough Academy – Jason O’Rourke Headteacher

*“The programme so far has been fantastic as I have been amazed at the results which I have seen since it began. Nearly all the children's flexibility has already increased (after a term) and the children are so enthusiastic about coming to the lesson. The skills they are using have developed so much also- at the beginning of the term they couldn't hold the plank position for longer than 30 seconds and now they are able to do so at greater length. Additionally, children's timing and rhythm has significantly improved; they are much more in time with the music and can now keep in time with the movements which are taught.*

*The delivery of the lessons is particularly engaging. Emily has already built up a lovely rapport with the children and they respond to her in such a positive way. She makes the children have such fun whilst working out that they don't even realise how much exercise they are doing!*

*Overall, the children love the lesson! They love wearing the fitbits and tracking their steps and heart rate and there is always such a buzz around the room whilst the session is on.”*



*Pictured: Washingborough Academy Image Credit to Electric Egg (2017)  
Dance Artist: Emily Sutton*

## RESULTS

### **Introduction to study:**

The initial aim of the study was to use dance as a medium to explore healthy lifestyles, diet, activity levels and to boost well-being in young people. In doing this artsNK hoped to boost children's self-esteem, give them an opportunity to experience fun within exercise, gain improvements in fitness, and to support healthy weight loss in an area where obesity may be an issue. Dance leaders delivered dance classes for 1 hour per week in 4 different primary schools in Lincolnshire over two school terms. Children were provided with log books to record their intake of fruit and vegetables as part of educating them on healthy nutrition. They were also asked to rate their level of enjoyment and their level of perceived physical exertion, and to record the number of steps taken using a pedometer.

### **Methods:**

- Heart rate monitors were used but average heart rates were not recorded for the dance session. Wearing the HR monitors did give the children the chance to observe their heart rate at moments in the class to check that their heart rate had increased from their resting state. This was also a learning opportunity for the young people to learn about their heart rate during exercise.
- Sit and reach test. This test was performed at the start of the study and on occasional weeks throughout the term. The last recording was used to see if there had been an

increase in flexibility since their first attempt. Dance teachers at all schools performed the test at the end of the dance class. Although different dance teachers worked at different schools, all aimed and planned to work with a similar structure.

- Pedometers were worn by the children to count the number of steps taken in each dance class. The children recorded these at the end of each session. The average amount of steps from each child were then recorded to work out the average number of steps taken in the dance sessions for each school.
- Perceived effort levels were recorded to assess how physically demanding the young people found the sessions. This was on a scale of working 'not very hard (NVH)', 'quite hard (QH)', or 'very hard (VH)'.
- Enjoyment levels were recorded on a scale of 'didn't like it (DLI)', 'liked it (LI)' or 'loved it (LO)' to assess whether or not dance as physical activity is a method of exercise that the young people enjoyed participating in.
- Parents were also asked to complete questionnaires to provide information on how much other physical activity their child partakes in, and to gain an understanding of each family's interest into health and fitness.

### Number of Subjects:

#### JAN-JULY 2017

- Billingham – 19 children (7 boys/12 girls)
  - Washingborough – 16 children (1 boy/15 girls)
  - Navenby – 20 children (8 boys/12 girls)
  - NO RESULTS FOR CHURCH LANE
- Total data for **55** children (16 boys and 39 girls)

#### SEPT-DEC 2017

- Billingham – 31 children (13 boys/18 girls)
  - Washingborough – 17 children (0 boy/17 girls)
  - Navenby – 21 children (7 boys/14 girls)
  - Church lane – 22 children (7 boys / 15 girls)
- Total – 27 boys and 64 girls = **91** children took part in this study this term

### RESULTS AND DATA FINDINGS

Data from the heart rate monitors was not valid for analysis.

The following results were found:

#### Period 1 - JAN-JULY 2017

##### Sit and reach results:

Billingham final results for sit and reach showed average increase of 4.6cm

Washingborough final results for sit and reach showed average increase of 9.7cm

Navenby final results for sit and reach showed average increase of 4.6cm

**\*\*Average over all 3 schools – 6.3cm increase\*\***

##### Average Footsteps in a class:

Billingham – 1709

Washingborough – 1601

Navenby – 1801

**\*\*Average footsteps in the dance session were 1606\*\***

**Perceived effort levels in classes:**

Billingham – 277 responses – NVH x6 (2.2%)/ QH x55 (19.9%)/ VH x216 (78%)

Washingborough – 261 responses – NVH x8 (2.99%)/ QH x73 (27.97%) / VH x180 (69%)

Navenby – 249 responses – NVH x6 (2.4%)/ QH x15 (6%) / VH x 228 (91.5%)

**\*\*Across all 3 schools approximately 80% perceived to be working VH and 18% working QH\*\***

**Opinion of enjoyment in lessons:**

Billingham – 278 responses – DLI x6 (2.2%) / LI x48 (17.3%) /LO x224 (80.1%)

Washingborough – 278 responses – DLI x5 (1.8%)/ LI x68 (24.5%) / LO x205 (74%)

Navenby – 256 responses – DLI x5 (2%)/ LI x21 (8%)/ LO x230 (90%)

**\*\*Average results across all 3 schools DLI (2%) / LI (16.6%) / LO 81%\*\***

**Parent data:**

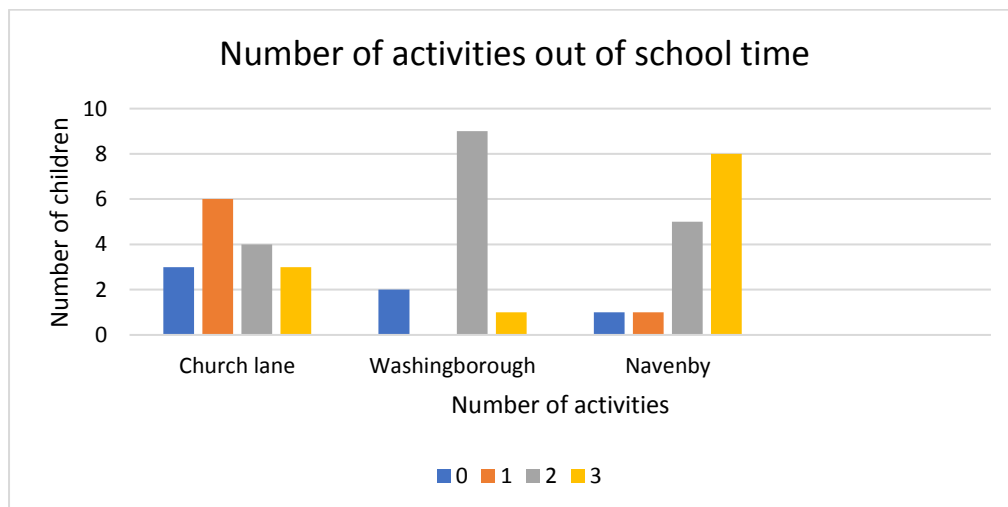
Parent Programme:

Church Lane –Yes x 8 No x 8

Washingborough –Yes x4 No x 8

Navenby –Yes x11 No x 4

**\*\*Overall 23 parents took part in the parent programme / 20 did not\*\***



Overall:

6 (14%) children did **no other** physical activity out of school time

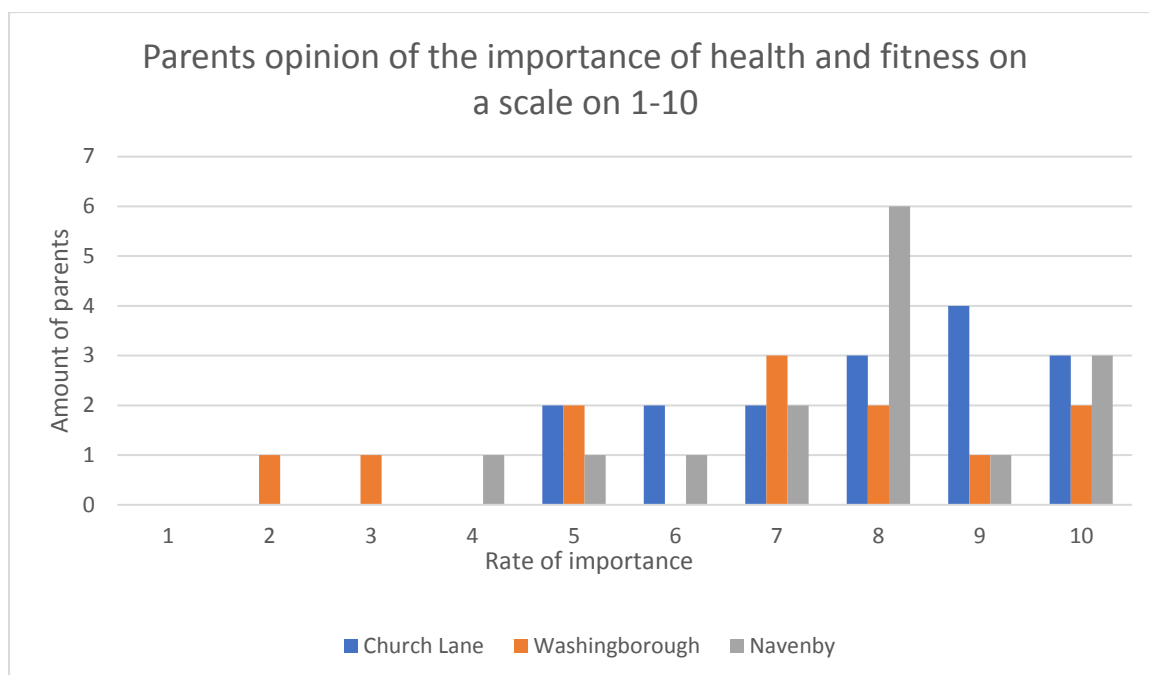
7 (16%) children did 1 other physical activity out of school time

18 (42%) children did 2 other physical activities out of school time

12 (30%) children did 3 other physical activities out of school time

**\*\*30% Did 0-1 other physical activities outside of school\*\***

**How important is your families health and fitness on a scale of 1-10?**



Overall:

3 (7%) parents rated the importance of health and fitness as less than 5 on the scale  
 15 (35%) parents rated the importance of health and fitness as between 5-7 on the scale  
 25 (58%) parents rated the importance of health and fitness as 8 or above on the scale

**PERIOD 2 - SEPTEMBER – DECEMBER 2017**

**Sit and reach results:**

Billinghay final results for sit and reach showed average increase of 2.6cm  
 Washingborough final results for sit and reach showed average increase of 8.5cm  
 Navenby final results for sit and reach showed average increase of 5.2cm  
 Church Lane final results for sit and reach showed average increase of 0.5cm (however almost all were taken at the start of term, results could have been different at the end of term)

**\*\*Average over all 4 schools – 4.2cm increase\*\***

**Average Footsteps in a class:**

Billinghay – 2971

Washingborough – 1565

Navenby – 1351

Church Lane – 2854

**\*\*Average footsteps in the dance sessions were 2185\*\***

**Perceived effort levels in classes:**

Billinghay – 214 responses NVH x7 (3.3%) / QH x35 (16.4) / VH x172 (80.4%)

Washingborough – 105 responses NVH x4 (3.8%) / QH x27 (25.7%) / VH x74 (70.5%)

Navenby – 194 responses NVH x9 (4.6%) / QH x14 (7.2%) / VH x171 (88.1%)



Church Lane – 178 responses NVH x6 (3.4%)/ QH x22 (12.4%) / VH x150 (84.2%)

**\*\*Across all 4 schools approximately NVH 2.8% QH 15.4% VH 80.8%\*\***

**\*\*96.2% reported working QH or VH in their dance sessions\*\***

### Opinion of enjoyment in lessons:

Billingham – 214 responses DLI x2 (0.9%)/ LI x44 (20.6%) / LO x168 (78.5%)

Washingborough – 106 responses DLI x3 (2.8%)/ LI x29 (27.4%) / LO x74 (70%)

Navenby – 196 responses DLI x10 (5.1%)/ LI x33 (16.8%)/ LO x 153 (78.1%)

Church Lane - 172 responses DLI x 3 (1.7%) / LI x34 (19.8%)/ LO x135 (78.5%)

**\*\*Average results across all 4 schools DLI 2.6% / LI 21.2% / LO 76.3%\*\***

**\*\*97.5% either liked or loved the dance classes\*\***

### Parent Data/Programme:

Church Lane – 1 x Yes 11x No

Washingborough – No data

Navenby – 2 X yes 3 x No

Billingham – No data

A limited number of parents took part in the study in the second term.

### Number of activities out of school time:

Church Lane -

Number of Activities	Amount of children
0	3
1	3
2	5
3	1

General play was not counted as a scheduled activity. Walking was planned as an activity.

**\*\*50% of the children with recorded data in this study at Church Lane took part in 0-1 other physical activities\*\***

42% did 2 activities and 8% did 3. Just one child had free school meals, this child did no other physical activities.

Navenby –

Number of Activities	Amount of children
0	0
1	0
2	4
3	2
4	1

Data received from 6 parents. All did 2 or more other activities.

### How important is your families health and fitness on a scale of 1-10?

Church Lane –

Perceived importance of health and fitness	Number of parents
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5	3
6	2
7	1
8	2
9	1
10	3

This time all parents rated 5 or above, with just 3 out of 12 rating a 10.

Navenby –

Perceived importance of health and fitness	Number of parents
4	1
5	0
6	0
7	1
8	1
9	2
10	1

6 parents completed the survey. 1 parent put 4 as a rating of importance for health and fitness. **83% did rate 7 or above.**



*Pictured:  
Washingborough  
Academy –sit  
and reach test  
Image Credit to  
Electric Egg  
(2017)  
Dance Artist:  
Emily Sutton*

#### Qualitative Data:

All feedback from the project was positive with the following words recorded to describe the project:

*'Amazing, exciting, fit'*

*'Imogen loves it'*

*'Fantastic, enjoyable, pleasurable'*

*'Energetic, exhausting, fantastic'*

*'Fun, exciting, healthy'*

*'Good, fab, fantastic'*

*'Fun, memorable, exciting'*



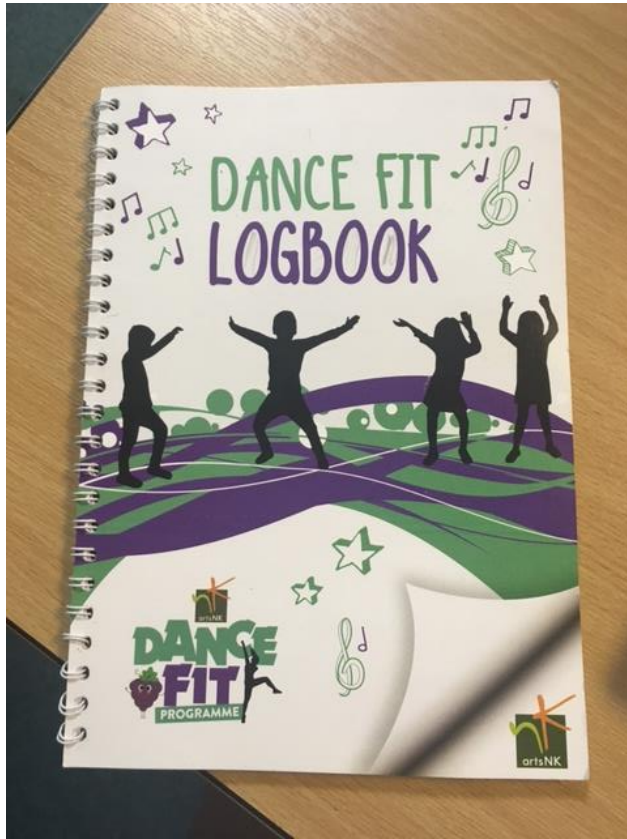
'Fun, exciting, motivating'

'Great fun, motivating'

'Lots of fun'

'Fun, active, great'

'Energetic, motivating, supportive'



Pictured: *Dance Fit Log Book* used in each session, with each child

Image Credit to artsNK Dance Team (2017)

### Discussion:

The study has recorded improvements in flexibility in the sit and reach test in both terms of the project. The second term also showed a greater average number of footsteps being taken in the dance classes than in the first term, which could potentially demonstrate that the children had progressed to doing more physical work. Research suggests that children of this age walk up to 16,000 steps a day, which can decrease to 8,000 during adolescents (Tudor-Locke et al 2011), maybe dance could help in reducing such a decrease. Over 96% of the children in both terms expressed that they did work hard during the dance sessions and that at least 97% in both terms said that they enjoyed it. This is particularly important as 30% of the children in the first term (very little data for assessing term 2) took part in just 0-1 physical activities out of school time. Therefore, the inclusion of dance could be a fun, enjoyable way to incorporate an extra physical activity in to these young children's lives and work towards meeting the NHS guidelines below.

NHS recommends:

1. All children and young people should engage in moderate to vigorous intensity physical activity for at least 60 minutes and up to several hours every day.
2. Vigorous intensity activities, including those that strengthen muscle and bone, should be incorporated at least three days a week.

3. All children and young people should minimise the amount of time spent being sedentary (sitting) for extended periods.

(<https://www.nhs.uk/Livewell/fitness/Documents/children-and-young-people-5-18-years.pdf>  
Published July 2011 - accessed 12<sup>th</sup> February 2018)

In the first term of the project 42% of the parents who completed the survey rated the importance of health and fitness as 7 or less on a scale of 1-10. Although there was less data, this did improve in the second term. There is therefore the consideration that this project did help in increasing the awareness of how important health and fitness is.

### **Other Considerations:**

Age and growth patterns could affect sit and reach results due to a decrease in flexibility during growth spurts. Sit and reach final recordings varied substantially between groups, different dance teachers were at the varying schools. It is not evidenced exactly what had been done physically before the sit and reach test although most were performed at end of session. Dance leaders aimed to have similar structure class and had been on initial training for this beforehand, although the dance styles delivered did vary. There was no control group for this study.

For further research it would be useful:

- for all dance teachers to have the same lesson plan and record their sit and reach testing and the same point within the sessions. However, in reality this is difficult due to the need to adapt and use differentiation when teaching.
- to use heart rate monitors that record an average working heart rate for the dance session for a quantitative result of energy levels.
- to assess whether or not there had been improvements made within the children's diet using the nutrition data recorded in their log books.
- to have a control group within each school for comparison of results.

This study shows that dance can be an enjoyable way for children to partake in physical activity and unlike many sports, there are no winners or losers. In dance, with the right teachers, dance can provide the opportunity for all students to achieve, as well as experience the many physical and psychological health benefits.

**Report Written and Data Analysed by: Charlotte Tomlinson MsC (Fit4Dance)**  
**With additions by: Amy Dalton-Hardy & Emily Sutton; artsNK Dance team**

### **Supporting Research:**

<http://www.ssehsactive.org.uk/resources-and-publications-item/40/475/index.html>

<https://www.communitydance.org.uk/DB/resources/physiological-benefits-for-boys-who-dance-says-new?ps=g1186JH72.LADM5d21Mh8O1VyYc2KY>

<https://www.theguardian.com/education/2009/jun/09/dramaanddance-schools>

<http://www.onedanceuk.org/wp-content/uploads/2016/04/CLS-WP-2016-Out-of-school-activities-during-primary-school-and-KS2-attainment.pdf> -

<http://www.onedanceuk.org/new-research-benefits-physical-activity-young-people/> -

<https://www.theguardian.com/education/2016/apr/20/after-school-clubs-can-improve-poorer-childrens-education>

[https://www.trinitylaban.ac.uk/media/177211/nrg\\_10%20%282%29.pdf](https://www.trinitylaban.ac.uk/media/177211/nrg_10%20%282%29.pdf)

<https://www.communitydance.org.uk/DB/animated-library/dance-science-research-a-new-perspective?ed=34663>

<http://www.ahsw.org.uk/userfiles/Research/Young People Review copy.pdf>

<http://sheu.org.uk/sites/sheu.org.uk/files/imagepicker/1/eh252lab.pdf>

<http://www.tandfonline.com/doi/abs/10.1080/17533015.2012.665810>

<https://www.nhs.uk/Livewell/fitness/Documents/children-and-young-people-5-18-years.pdf>

Tudor-Locke et al (2011) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3166269/>

<https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2016>