

Findings of Active Movement and Old School House Day Nursery Project

Introduction

There is growing concern, amongst parents, organisations and the media, about the health and well-being of our children. Much of this concern is based round the rise of obesity in children, and the associated lack of physical activity in their everyday lives (Gallagher, 2014, Holm, J. et al. 2011, Statham & Chase, 2010). The project between Active Movement and the Old School House Day Nursery (OSHDN) aims to identify and improve sedentary behaviours within the nursery, using the Mosaic Approach to collect evidence and support children's participation in the process. The World Health Organisation's suggests that *"The early years of life are crucial in influencing a range of health and social outcomes across the life course..... investment in early childhood is the most powerful investment a country can make, with returns over the life course many times the amount of the original investment"* (WHO, 2007). While according to an all-party parliamentary group on health patterns for healthy families *"Obesity is a family affair and it starts early.....over 90% of excess weight gained by girls and over 70% gained by boys is acquired before school age"* (APPG, 2014).

Aims and Objectives

The projects main aims and objectives were:

- To work in partnership with an early years setting to establish non-sedentary behaviour for children.
- For the children to move from recognition of the characters (initially Stan and Sid) and what they represent, to advocacy in everyday actions.
- To involve children under five, and parents and adults working with them, to improve their long term wellbeing.
- Extending and adapting the Mosaic Approach in order to educate adults and children as to the benefits of non-sedentary behaviour, and how adaptations within daily practices can support both adults and children's lifetime of wellbeing.

This pilot project was carried out over eight weeks, in November and December 2014. The Active Movement programme has been successfully used in a number of office based businesses, and aims to embed movement into every day routines to benefit individual's long term health and wellbeing. The project with the OSHDN is the first time the active movement programme has been adapted for use in an early years setting, with a similar project running simultaneously at a primary school. The programme is co-designed

by Dr. Mike Loosemore, a leading authority in Exercise Medicine, and is centred round long term behavioural change. *“Active movement has been designed to integrate simple actions and non-sedentary behaviour into everyday lives.....the focus on small steps to achieve major gains makes the programme achievable by, and therefore accessible to, everyone.”* (Loosemore & Savage, 2014).

The Old School House Day Nursery is a national award winning day nursery in East Anglia, which has achieved an outstanding in all areas rating from Ofsted. The setting offers full day care to children from 6 weeks to pre-school age, and after school and holiday care for 4-11 year olds. The project was run with the full backing of the settings management, staff and parents, and children were supported and involved using the well-established Mosaic Approach. The setting staff were following an eight week active movement programme, while the children in the setting were introduced to posters and messages on active movement alongside two characters, Sid and Stan. The characters were depicted on posters displayed round the setting, and on stickers, with Sid sitting down and Stan standing up.

The findings in this paper are from evidence collected from the children, and from the staff that were looking after the children. Evidence relating to the staff, who were simultaneously following an active movement programme, has been analysed and recorded separately, along with any feedback from parents, although there is some crossover of this data where staff observations and comments relate to the children.

Findings

The raw data collected from the setting included the 8 week schedule for the programme, thirteen child observations, and weekly reflections from the setting staff on how active movement is affecting both themselves and the children in their care. Observations and comments from the children relating to the characters of Sid and Stan were taken during a tour of the nursery and a magic carpet activity (part of the Mosaic Approach). The use of a variety of sources to gather information can help to provide triangulated evidence for a small research project such as this. The OSHDN has used the Mosaic Approach to ensure data is sourced in a variety of ways, including observations, discussions, photographs and children's work. Robert-Holmes (2005) suggests the Mosaic Approach uses multiple methods to empower children through participation. The process starts with the gathering of evidence including drawings and maps by the children, photographs the children have taken and observations and discussions conducted with the child, their parents and key workers at the setting. The Mosaic is made up of many components with the child at the centre of it. Observation is just one piece of the mosaic; field notes, narrative observations used to inform

discussions, diary studies, observation of pre-verbal children's body language, expressions and noises are all used in conjunction with other pieces of the mosaic to see the whole picture (Clark & Moss, 2001). Stage two involves collating all the information, interpreting it and reflecting on the evidence which has been gathered. This information then enables the researcher to gain insight into the child's activities and interests, and act accordingly. The Mosaic Approach appears to be inclusive and is not dependent on the child's developmental stage or verbal communication skills, this was particularly valuable in this project as the children involved were so young.

8 week programme of activities

Each week staff taking part in the programme were set weekly challenges and targets, such as going to a toilet on a different floor or using the bin furthest away from them. Some of the staff weekly challenges involved their work with the children, for example moving with a child if the child was upset or crying. The children's weekly activities were based round integrating the characters of Sid and Stan into the children's environment and every day routines, through posters, activities and discussion.

School Room environment

Initially staff identified a list of activities and areas in the school room environment, and divided these into sitting, standing or areas to do both in. The sitting areas identified included snack/meal times, playing on the computer, reading books and sit on vehicles such as trikes and cars. The standing areas included washing hands, the puppet show and light box area, putting on coats, dance, games such as football, and playing in the forest garden. Most regular activities were recognised as being suitable for both standing and sitting, for example home/role play, writing and numeracy areas, puzzles, construction and small world toys, art and messy play, musical instruments and singing, the sand pit, mud kitchen and den building, and planning/recall and news times.

Child observations

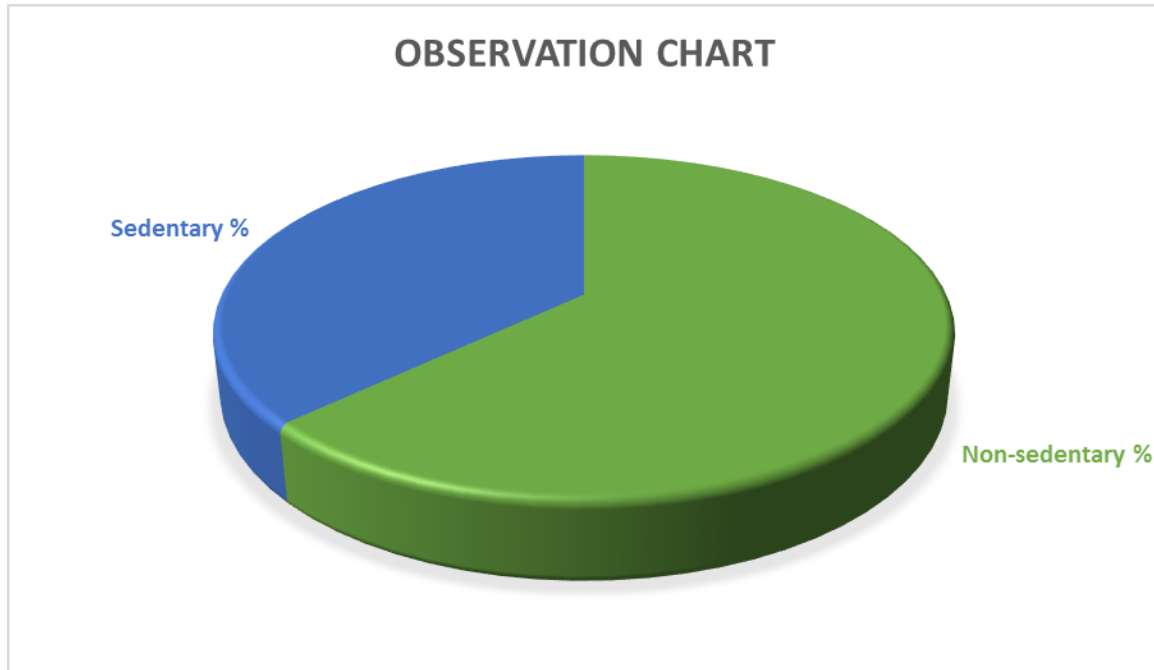
Of the 13 observations taken during the programme seven were of male children and six of female children, all were aged between 13 and 45 months at the time of the observations. These took place at different times of the setting day, during the third week of the eight week programme. All observations were conducted either inside the child's usual room or in their garden area. The observations were carried out by senior staff in the setting, and were between 30-65 minutes long. Each observation focused on one child playing within their peer group, some of the observations were of the same child.

Observation Table

<i>Ob no:</i>	<i>Gender</i>	<i>Age</i>	<i>Place</i>	<i>Time of day</i>	<i>Duration of obs</i>	<i>% non-sedentary behaviour</i>	<i>Interaction with others</i>	<i>% sedentary behaviour</i>	<i>Interaction with others</i>
Ob 1	M	45 mths	Art/play & snack area	2.30 pm	60 mins	45%	Mainly independent	55%	Mainly in small group
Ob 2	M	45 mths	Home & book area	9.20 am	55 mins	72%	In small group	28%	In small group
Ob 3	F	39 mths	Art & block area	10.10 am	60 mins	63%	Mainly in small group	37%	Mainly in small group
Ob 4	F	39 mths	Home & book area	1.40 pm	60 mins	55%	Mainly in small group	45%	Mainly pair/small group
Ob 5	M	37 mths	Block, toy & snack area	9.45 am	60 mins	57%	Mixed-small group or independent	43%	Mainly small group
Ob 6	M	37 mths	Home, book or role play area	2.10 pm	60 mins	35%	Mainly small group	65%	Small group
Ob 7	F	32 mths	Climbing frame, role play and book area	9.25 am	57 mins	82%	Not recorded	18%	Not recorded
Ob 8	F	32 mths	Garden area	2.50 pm	60 mins	93%	Not recorded	7%	Not recorded
Ob 9	M	28 mths	Art/ messy play & story time *wandering	10.25 am	65 mins	69%	Not recorded	31%	Not recorded
Ob 10	M	28 mths	Train table & climbing frame *wandering	2.30 pm	60 mins	70%	Not recorded	30%	Not recorded
Ob 11	F	25 mths	Block, book area & climbing frame *wandering	5.03 pm	30 mins	47%	Mainly independent or with adult	53%	Mainly independent or with adult
Ob 12	F	21 mths	Book, soft play & toy area	1.30 pm	36 mins	66%	Mainly independent/parallel or with adult	34%	Mainly independent/parallel or with adult
Ob 13	M	13 mths	Soft play & sensory area	2 pm	42 mins	71%	Not recorded	29%	Not recorded

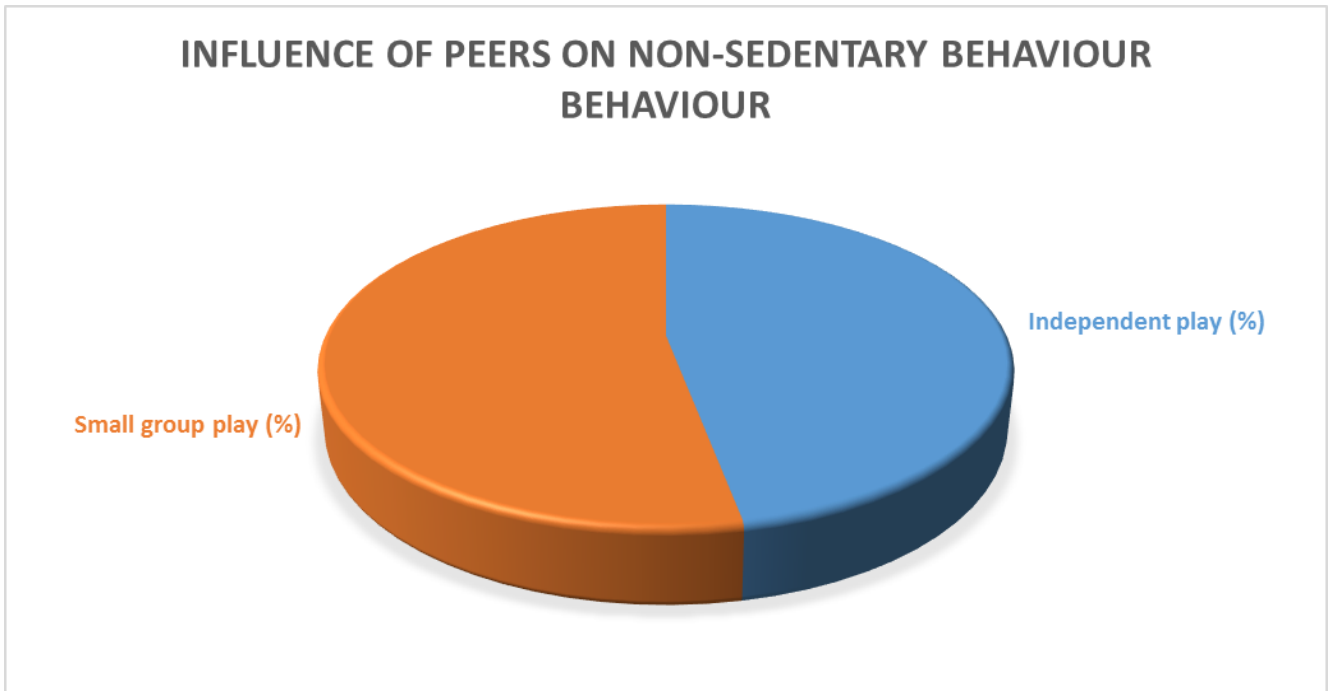
Observation table key: Ob-observation, M-male child, F-female child, mths-months (in age), mins-minutes, * wandering-some of the toddlers spent significant time wandering round the room, stopping briefly to look at or try things before moving on (this made it difficult to assign one area to that time period).

Observational chart 1-percentages of sedentary/non-sedentary behaviours



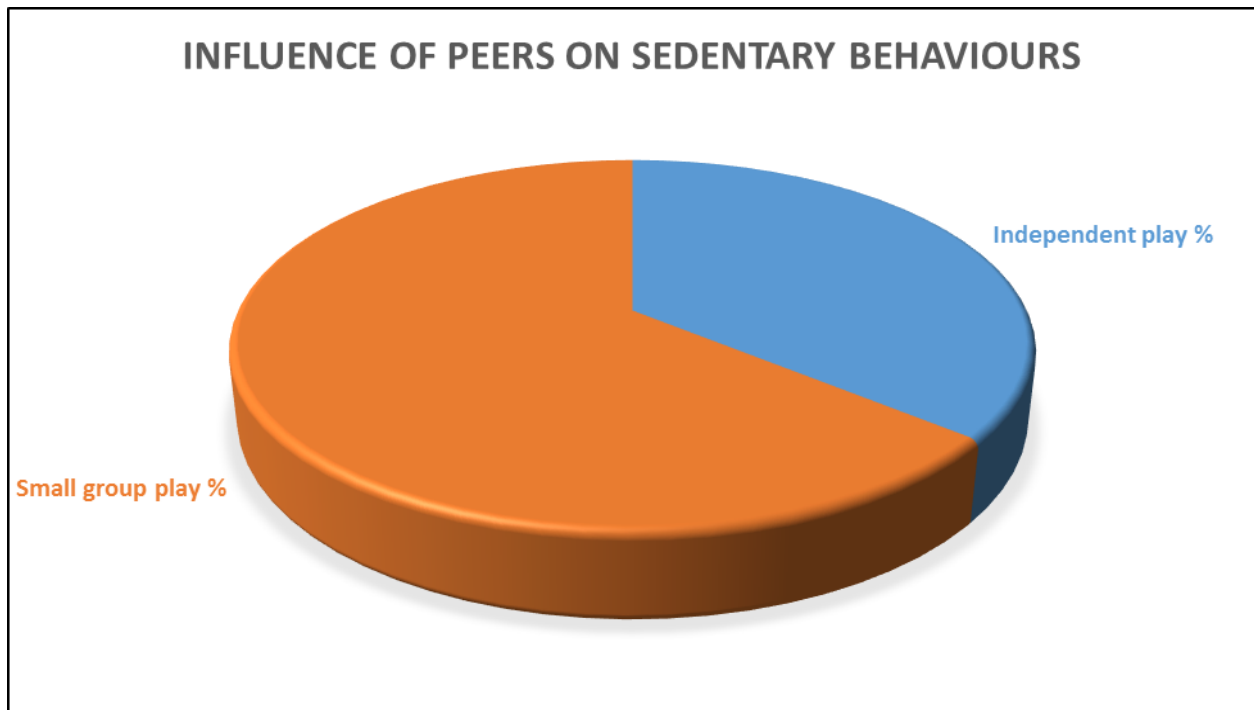
This data shows that the children were non-sedentary (moving/active) for the majority of the time during the observations. The highest levels of activity were when the children were playing in either the garden or on the climbing frame. Some of the toddlers (aged 21-28 months) spent time wandering round the room, stopping and interacting fleetingly with activities. This is developmentally typical for this age group, but made it difficult to assign one activity/behaviour to a full minute during these observations. The percentages for each observation were round up or down accordingly.

Observational Chart 2-influence of peers on non-sedentary behaviours



Percentages of small group (53%) and independent (47%) play were quite similar during non-sedentary segments of the observations. Whilst active there seemed to be little difference whether the children were playing together or alone. Small group play included the observed child playing with 1 or more children, or with everyone during a whole group activity (such as tidy up time). Independent play included the child being observed playing alone, alongside/parallel (but not interacting) to another child or near/with an adult. The percentages for each observation were round up or down accordingly.

Observational Chart 3-influence of peers on sedentary behaviours



During the observations children were more likely to be playing in a small group (64%) when they were sedentary (not active), than playing alone/independently (36%). Small group play included the observed child playing with 1 or more children, or with everyone during a whole group activity (such as tidy up time). Independent play included the child being observed playing alone, alongside/parallel (but not interacting) to another child or near/with an adult. The percentages for each observation were round up or down accordingly.

The available data indicates that children are more sedentary when they are playing with other children, and more active when playing alone. However, this does not take into account the children's ages, and the developmental tendency for very young children to play parallel/alongside other children, or alone (with/near an adult). Overall, there was a higher percentage of non-sedentary behaviour than of sedentary behaviour during the observations. There doesn't appear to be much difference in non-sedentary/sedentary behaviours between the children's age ranges, or their genders. Neither was there a significant difference in activity based round the time of day the observation took place. However, there was a possible connection to the activities the children were doing, and their levels of sedentary/non-sedentary behaviour. The two observations with the highest percentages of non-sedentary behaviour (Ob 7-82% & Ob 8-93%) took place mainly in the garden area or round the climbing frame. With one exception (Ob 6-65% sedentary behaviour), the observations where the children were often in the book, home and role play areas were still relatively high in non-sedentary behaviours. Some of the observations included snack times, when children would have been encouraged to sit down and be sedentary whilst eating.

Stan and Sid tour around nursery

A small group of children did a tour round the nursery with an adult, looking for posters of Sid and Stan. The children decided the route they took, and the adult wrote down their comments when they found the posters. The messages from the character posters about the health and wellbeing benefits of standing and moving appeared to be followed and understood by the children doing the tour (a mix of boys and girls aged from 3-4 yrs old). Comments demonstrating this included "standing makes our bodies work", "we like Stan, he is tall and has long strong arms", "we will be good like Stan and healthy because we stand", "we sit for lunch but we play and run", "if you don't move you ache", and "mummies and daddies like to stand and walk". Although some staff had concerns about the children gaining a negative view of the sitting character Sid, it is clear from the children's comments that they do not view Sid in a negative way. For example at the snack table one child said "*we can only be like Sid at the snack table*", another said "*Sid and Stan can play together in the art area*". In the forest garden one child commented "*Sid can sit with us in the log circle*", another said "*we need to be like Stan and Sid in the number area*". This is an important consideration in the early years, as young children have a developmental need for rest. There are also safety and developmental reasons for children to sit down for some activities. For example when eating and drinking very young children need to sit quietly to avoid choking, and the social and emotional benefits of sitting in a group are often best developed during meal times. Clearly very young children are not yet mobile, and some children will have a physical disability which will make standing and moving impossible. It is therefore important that the programme does not exclude or disadvantage these children, the evidence

from this project indicates that the children view Sid in an inclusive and positive manner.

Magic Carpet Activity

A member of staff took photographs of different areas of the nursery setting, alongside photographs of the children playing in these areas. These contained images of the children displaying both sedentary and non-sedentary behaviours during a variety of activities. The photographs were enlarged and used in a small group activity which identified and supported the children's recognition of, and engagement with, the characters of Sid and Stan. The photographs were spread on the carpet and used as a point of discussion, after which the children placed stickers on each picture. The children were each asked to decide whether the area and/or activity shown should have a sticker of Stan, a sticker of Sid, or a sticker of both Stan and Sid. The children were a mixed gender group of three year olds, and all the children joined in with the activity. Each child was able to identify the area and activity in the photograph, the other children in the picture, and identify and place the stickers of Sid and Stan. Their comments demonstrated their recognition and engagement with Sid and Stan, for example one child said *"he'd stand, he's Sid, he could stand up, and play... both....he could be Stan and Sid, we do both"*. At the end of the activity each child was asked what activity they would like to do next, and whether they would be a Sid or Stan whilst doing the activity. Each child was able to do this and comments from the children included; *"Sid, sitting down in the role play area"*, *"Stan, in the light box area cause I'm Stan"* and *"Sid in the snack area"*. At the end of the activity three of the seven children were going to be a 'Stan' and four were going to be 'Sid', demonstrating that the children identified equally with both characters.

Active learning reflections/observations

These were carried out by staff in the four rooms throughout the programme, for each of the eight weeks (32 in total). The four rooms included the baby room upstairs (0-1 year olds), the baby room downstairs (1-2 year olds), the nursery room (2-3 year olds), and the school room (3-5 year olds). The staff reflections provided evidence of how the characters of Sid and Stan had been integrated, and evidence of the children's recognition and engagement with the characters. For example during the first week of the programme in the baby room one of the pre-verbal babies pointed to the characters and babbled (Week 1 (W1), Baby Room (BR)), while another slightly older baby said the characters names when the adult pointed to them (W1, BR). In the nursery room one child kissed the poster of Sid and said *"I like him"*, when the adult said *"I like Stan"*, the child said *"I do too"* (W1, NR), whilst in the garden an adult asked a child looking at the posters what they were doing and the child responded *"sitting on a chair and standing, and Stan is best"* (W1, NR). By week 3 one adult in the school room reflected that *"The children continue*

to recognise Stan and Sid, regularly commenting and questioning about the characters spontaneously. The children particularly reacted well to the new poster in the room, especially the 'Sid stood up today'. The children were questioning where he had gone and celebrated that he had stood and was no longer sitting on the chair. Many children also showed the new poster to parents when being collected at the end of the day" (W3, SR). These reflections demonstrated that the characters appear to have a positive influence on children of all ages, with staff in each room observing interaction between the children and the posters of Sid and Stan. For example babies approached and stroked the posters, and offered them toys (W6, BR). They evidenced how staff adapted challenges and goal from the programme to suit the developmental needs of the children in their care, for example one of the challenges was to walk round with an upset child. This worked well for the baby room, but staff in the nursery room adapted this to holding hands and walking to another area as they don't carry the older children (see W5, NR). Examples of how messages about the benefits of the active movement programme were influencing those around the staff and children were demonstrated when one practitioner reflected on how a parent told her their child had reminded her and her husband that they could walk and talk (see W5, SR).

The reflections highlighted some of the barriers staff felt inhibited them carrying out their set programme targets, such as adult: child ratios, and the child's overriding needs (for comfort, food etc.). For example one comment was *"we don't always have time to go to the other toilet because it means leaving the room for longer than needed"* (W1, NR). However, they also emphasised adults' recognition of their own activity levels, and possible outside influences-for example parents' views on the information provided about the programme (W2, SR). The posters and quotes displayed in the setting were identified as incentives and motivators for staff (W3, BR). They suggested that staff morale and team development were benefiting from the project, for example the staff said they encourage each other with the challenges, by reminding each other to use the stairs whenever they left the room (W7, NR). There is also some evidence in the reflections that the project is improving /increasing non sedentary behaviour with some of the children. In week 7 staff commented that *"one child in the group regularly chooses to stand at times he would normally sit, eg at planning times when the rest of the group are seated. When chairs aren't provided at table top activities-my group are generally more accepting that we are standing and don't request chairs."* (W7, SR). By week 8 the staff feedback was very positive with one saying *"great fun, didn't realise how competitive we were, made us move even more-found myself going the long way round to get to places"* (W8, BR), while another commented *"all the team took part wearing the pedometer, all staff were walking and standing much more than normal. My legs are aching was commonly heard from all the extra walking. We used*

all the previous weeks activities to help us walk more and try and get the most steps possible. It was fun as all got very competitive.” (W8, NR). These reflections show increasing awareness of both the staffs own, and the children's, activity levels-indicating that raising personal and professional awareness seems to be a key benefit of the programme.

Towards the end of the eight week programme staff decided to incorporate the characters of Sid and Stan further into the planning for Christmas activities. Ideas included baking Stan gingerbread men, Stan's birthday dance party (songs and games), Stan's birthday role play (picnic using role play food, pretending to bake him a cake etc.), and practicing writing Christmas cards to Stan and Sid. These demonstrated how easily the programmes messages and aims could be adapted and incorporated into everyday planning and routines.

Adult observations/quotes

Comments from the staff demonstrated their engagement with the active movement programme, and how it had influenced their behaviour both within the setting and in their non-work lives. Comments from adults participating in the eight week programme included *“while at the concerts I was aware of the need to stand all the way through rather than sitting”, “I like the quotes, it's a gentle reminder all the time”, “when I went shopping at the weekend I was telling my friend about the benefits of standing and being a Stan-all the way round I referred to myself as Stan”* and *“I hadn't realised the impact of standing until I had seen all the facts”*. This positive engagement from staff with the messages of increasing health and wellbeing benefits from being non-sedentary should also have a positive impact on the role model they project to the children in their care.

Discussion

The projects main aims and objectives were to work in partnership with an early years setting to establish non-sedentary behaviours in children; for the children to move from recognition of the characters (initially Stan and Sid) and what they represent, to advocacy in everyday actions; to involve children under five, and parents and adults working with them, to improve their wellbeing; to extend and adapt the Mosaic Approach in order to educate adults and children to the benefits of non-sedentary behaviour; and how adaptations within daily practices can support both adults and children's lifetime of wellbeing. These objectives seem to have been largely met, within the boundaries of a relatively small scale research project. Active movement and the Old School House Day Nursery worked closely together, with key staff liaising regularly by email and phone, and scheduled face-to-face meetings taking place. The data in this report clearly demonstrates the

children's recognition of Sid and Stan, and their engagement with the characters in their everyday routines. Comments and reflections from staff and children show their understanding of the benefits of non-sedentary behaviours on their wellbeing, and the Mosaic Approach seems to have adapted well to accommodate and provide evidence for the eight week programme. Staff have adjusted daily activities and routines to support key messages about the benefits of non-sedentary behaviour, using the characters to encourage and embed these. The children's tour of the nursery and magic carpet activity clearly demonstrated their empathy with the characters of Sid and Stan, with some of their comments showing that the children viewed them as peers who could be part of their setting and join their play. This engagement with the characters of Sid and Stan appeared to support the children's understanding of the health benefits of being non-sedentary, and enthused them to stand and move more. However, as all the observations were carried out in the same week I was unable to establish whether the programme effected how active the children were over the eight weeks. It would be useful in future to follow a group of children over the course of the programme, using weekly observations to establish if movement increases or stays the same over that time. This would help measure more accurately if, when and how much impact the active movement messages have in the short to mid-term with children in their early years.

The increased awareness of their own and children's wellbeing is clear from staff reflections and comments. The short and long term benefits of this increased awareness for the setting, staff and children should not be underestimated. Role modelling is a vital part of a nursery practitioner's job, and if staff feel positive about their own wellbeing they will communicate this to the children in their care, and feel better equipped to carry out their role with energy and enthusiasm. An increased awareness of the child's wellbeing, their energy and activity levels and general emotional and physical wellbeing, could also help identify any concerns for the child earlier and lead to more targeted early support for families. Raising awareness and expectations of their own wellbeing, for staff and children, indicates benefits for health, self-esteem, peer and social engagement, and a sense of advocacy and achievement.

Some of the barriers the staff identified when attempting to carry out their weekly challenges are unique to early years settings, and these could easily be adapted to accommodate differing circumstances. For example it may not be possible for either staff or children to be standing or moving during feeding/refreshment times, as the social skills and safety considerations overrule the programme goals in this instance. However, there are many other more viable opportunities to be active during the setting day, for both

children and staff. Understanding of the issues, and appropriate planning of the days routine, would ameliorate these concerns.

Recommendations

Old School House Day Nursery

Continue to use the active movement programme, ensuring that observations are done on the same group of children on a regular basis. By looking at set criteria during each observation it should be possible to track when and where each child is most and least sedentary, and plan routines and activities for that child accordingly. Over time this should be analysed to build a comprehensive picture of the activities and setting areas which support and encourage active movement. This information can be used to support individual children and their families at both home and in the nursery, inform future planning and expenditure in the setting, and publicised to aid other early years settings. A simplified and targeted observation form could be developed to make these observations easier and less time consuming for key workers to use regularly.

To motivate and enthuse staff and children messages and challenges should be continuously updated and displayed, and activities adapted and developed to support non sedentary behaviour at the setting for both staff and children. These could be further adapted to engage with parents from the setting, with targeted posters displayed in the key areas of the setting parents frequent.

The development and use of tactile Sid and Stan characters (as dolls), and the development of other character resources such as books and puzzles, would assist this embedding of the programme further. These would also support the message of active movement into the children's homes, and other environments and settings.

Liaise closely with other local providers, schools, community groups and families to spread the message and benefits of the active movement programme, and support its adaptation and development into the next stages of the children's lives (e.g. reception/key stage 1).

Active Movement

In future programmes ensure setting staff follow a few children, through observation, across the course of the programme. This will enable them to see if and when the characters and messages influence the children's sedentary/non-sedentary behaviours.

Create an observation sheet specifically for active movement, which can be quickly and easily adapted to the age and developmental stage of the child.

The sheet should make it simple to standardise the tracking of sedentary and non-sedentary behaviours, and identify where and when these take place. Adapt the Sid and Stan characters to look more like the age group of the children in the setting, and be gender and ethnically diverse. This would help the children identify with the characters as peers, and could progress with the children as they grow and mature. Develop further resources to support the recognition of, and engagement with, the characters and their message. This could include tactile figures, puppets, books, puzzles, and a resource pack of ideas and activities for songs, games, role play areas etc.

Target publicity about the active movement programme to early years, school settings, health, government and community groups. Use relevant professional publications and media sources to advertise the benefits of establishing non-sedentary behaviours from an early age.

Report written by Juliet Porter, in conjunction with Linda Baston-Pit, Dr. Mike Loosemore and Peter Savage.

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