

Bupa Start To Move Executive Summary

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South Sport Trust

working in partnership







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Prepared by: Professor David Morley Liverpool John Moores University Email: D.M.Morley@ljmu.ac.uk

> Paul Ogilvie Professor Jim McKenna Andy Daly-Smith Dr Kevin Till Leeds Beckett University



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"It is imperative that a young person's appetite for an active lifestyle is developed as soon as possible, and the best way to influence this is by providing a high quality physical education experience in their first few years at school. We call it physical literacy; the basic movement skills of agility, balance and co-ordination. This is something that should be available to EVERY young person. The Bupa Start to Move programme is focussed on these early, important years, developing confidence and competence in teaching, to create a sustainable impact on the quality of teaching and learning in PE. Bupa, with their focus on health and wellbeing, were the obvious partner for this programme."

Baroness Sue Campbell CBE, Chair of the Youth Sport Trust



"Bupa is passionate about inspiring people to lead active, healthy lifestyles. We believe that encouraging children to be active will result in more active adults – and support from teachers during children's formative years can be crucial.

Through our involvement in the Bupa Start to Move programme we have supported the training of over 10,000 teachers, paving the way for a lifetime's participation in PE, sport and physical activity for children."

Dr Paula Franklin, Medical Director, Bupa UK

Introduction

Why we needed Bupa Start to Move. A call to action...

Physical Education (PE) lessons in schools provide the opportunity for children to become physically literate and, in doing so, create the bedrock for them to participate in lifelong physical activity and sport. Children have the right to play and move effectively with their friends in order to socialise, learn new skills and to play a meaningful part in our society.

In the UK, the mission to develop children's physical literacy seems to be falling short as a number of barriers are encountered:

- Opportunties for children to move are in decline, with the 'play radius' for children shrinking by 90% in one generation (30 years).¹
- Further evidence suggests that, despite a statutory physical education curriculum, the movement competence of 4-7 year olds, in the UK, is average or below average in relation to their peers in most other countries.²

- Recent projections suggest, if trends continue, there will be a 35% generational decline in physical activity by 2030.³
- To add further to this worrying position, teachers only receive an average of six hours in their teacher training to equip them with sufficient knowledge, skills and expertise to be able to deliver physical education lessons in primary schools.⁴

What were the aims of Bupa Start to Move?

Following extensive research and engagement with PE in the community, teachers, families and children, the Bupa Start to Move course was established in 2011. It was developed and delivered by national charity, the Youth Sport Trust and funded by the health and care company, Bupa. The training is a one-day course for teachers that has, to date, been delivered to over 7,000 primary school teachers and 4,200 trainee teachers involved in Early Years (EY) and Key Stage 1 (KS1) PE lessons. It aimed to develop a new, movement-based approach to teaching PE to nearly half a million 4-7 years olds and to help them stay active for life. This was designed to help teachers understand children's movement in three categories: Stability (turning, twisting, balancing) Object Control (throwing, catching, striking) and Locomotion (running, side-stepping, sliding).

Bupa Start to Move aimed to:

- Equip teachers with the techniques and confidence to teach core movement skills.
- Give children the movement skills, enthusiasm and confidence to begin lifelong participation in physical activity and sport.

"Physical literacy is the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life." International Physical Literacy Association "Through its design and reach, this research project has become the most comprehensive and wide-ranging evaluation of its kind ever conducted in the UK. Our joint research team from Liverpool John Moores and Leeds Beckett Universities were excited at the prospects of a research project that would monitor 4-7 year olds as they embark on their journey of movement and physical activity. Some two years on from the start of the evaluation, our findings are both illuminating and fascinating. It has been a pleasure to work with two organisations, Youth Sport Trust and Bupa, who are committed to improving children's lives through PE, sport and physical activity."



Professor David Morley, Associate Dean, Liverpool John Moores University

What we evaluated

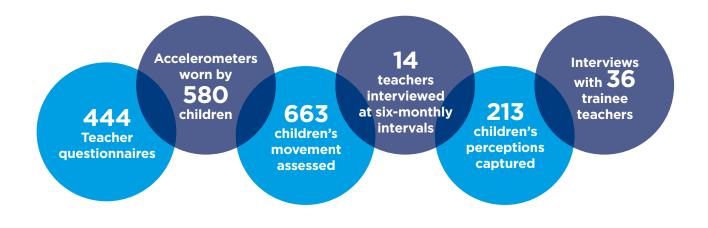
In the most comprehensive and wide-ranging evaluation of its kind ever conducted in the UK, the research team sought to establish the impact of Bupa Start to Move, as a movement-based approach, on the delivery of PE lessons in EY and KS1 (4-7 year olds) between June 2013 and October 2015.

To gain an understanding of the initial impact of the training, 444 teachers, who had attended the training, completed a survey that asked them about what they had learned and what impact this might have on their subsequent teaching of PE in EY/KS1. Following on from this, it was important to establish the impact of Bupa Start to Move over a sustained period of time, once the teachers had returned to their schools.

To do this, we spoke to 14 teachers and 213 children across 14 schools before the training and continued to speak to them, at 6-monthly intervals, for an average of 24 months. Over this time period, we were interested in any changes to teachers' confidence and competence in being able to deliver this movement-based approach within PE lessons. We measured and monitored changes to 580 children's physical activity levels and 663 children's fundamental movement skills (FMS) over this duration.

In addition, Bupa Start to Move was delivered within 20 universities that provided Initial Teacher Education (ITE) as a means of supporting trainee teachers in using movement-based approaches in their placements and subsequent teaching experiences in EY and KS1. To understand the impact within these ITE institutions, we selected 10 of them and spoke to lecturers responsible for ITE and the trainees themselves, after they had been involved in the training.

Finally, we were interested to understand how Bupa's involvement had raised teachers' awareness of their support for families to have a healthier lifestyle.



Key findings

Attending Bupa Start to Move training impacted on teachers' own practice and perceptions, whilst changing their children's performance levels and experiences. On average, children's movement competence improved by 10.1% when taught by trained teachers and, in addition, pupils who started with lower levels of movement competence improved even more (22%). This suggests that a teacher attending the training was subsequently able to reach and improve those children that had perhaps not been reached using previous approaches to delivering PE. Moreover, these children were more likely to come from an area with high levels of deprivation.

Children taught by trained teachers might be expected to become less physically active as the emphasis on FMS is introduced (i.e. balance). Yet, our evidence suggests that children increased their engagement in total physical activity by 11%, with an equivalent reduction in time spent being sedentary. Before their teacher had attended the training, all pupils suggested that being with friends was the main reason they enjoyed PE. However, after 2 years of the movementbased approach in PE lessons, 60% of children's comments about enjoyment were linked to FMS. It was reported by teachers that children enjoyed PE more as their movement quality improved, suggesting that engagement will increase as children become more competent.

For clarification, the following key has been adopted to explain the sequence of data capture in schools, in relation to Bupa Start to Move training:

Key for episodes of data capture



After the training, teachers' confidence initially decreased, but then increased beyond their pre-training levels. This may reflect teachers taking time to make sense of the new approach, then becoming confident in meeting the children's needs as they became more familiar with it. After attending Bupa Start to Move, teachers increased their commitment to joining a community teaching network for peer-to-peer support.

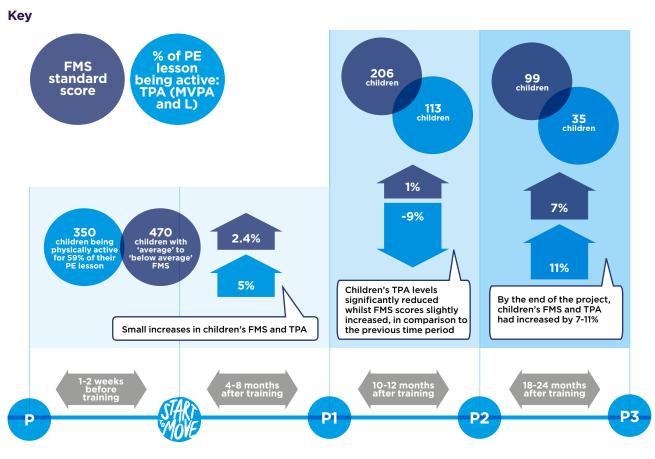
Trainee teachers' confidence in teaching children in EY and KS1 increased after the training although the opportunity to implement this new approach was only offered to some during their school placements.

Acronyms

BOT-2:	Bruininks-oseretsky test of motor proficiency
EY:	Early years
FMS:	Fundamental movement skills
FMBA:	Fundamental-movement-based activities
GTP:	Graduate teacher programme
IMD:	Indices of multiple deprivation
ITE:	Initial teacher education
INSET:	In-service training
KS1:	Key stage 1
L:	Light physical activity

MVPA:	Moderate-to-vigorous physical activity		
PE:	Physical education		
P:	Pre-intervention		
P1:	Post-intervention 1	See diagram	
P2:	Post-intervention 2	on page 6	
P3:	Post-intervention 3		
Sed:	Sedentary		
SES:	Socio-economic status		
SOL:	Stability, object control, locomotion		
TPA:	Total physical activity		

Summary of the impact of Bupa Start to Move on children's TPA and FMS



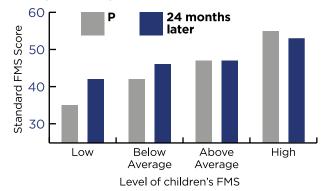


1. On average, children's FMS improved when taught by Bupa Start to Move trained teachers; pupils who started with lower levels of movement competence improved even more.

Assessing children's movement

FMS were measured in 470 children using the Bruininks-Oseretsky Test of Motor Proficiency (BOT-2). BOT-2 measures 12 movements, such as press-ups, bouncing a ball and walking on a line. To track changes to FMS levels, only those children who completed each stage during the study could be included; 470 children completed P-P1, 206 completed P-P2 and 99 completed the assessment at every stage (P-P3).

Change in children's FMS demonstrating a marked improvement by low performers over a 24 month period (Low n=24, Below Average n=35, Above Average n = 33, High n=43)



Evidence

Children being taught by a trained teacher improved their FMS by 10.1% over 2 years. Furthermore, children with the lowest levels of movement proficiency at the start of the evaluation increased their score most (22% increase over 10-16 months). Those children with the highest starting FMS levels declined by 3.8%.

Implication

Trained teachers engaged children who have previously lacked the experience that helped them to become competent movers. Having a teacher who was trained resulted in more children developing the movement competence required to meaningfully engage in PE and wider physical activity.

Where pupils have high FMS scores, teachers should stretch and challenge these more able children by differentiating activities, ensuring that competent movers are also challenged to make progress.

Pupils with a low FMS baseline score improved their FMS more than the high performers did

Recommendation: All teachers of 4-7 year olds, particularly where children have low starting levels, should adopt a Bupa Start to Move approach to improve their children's FMS.

2. Children from schools in socioeconomically deprived areas had lower levels of movement competence than their more affluent peers, before Bupa Start to Move.

Using schools from a variety of backgrounds

Children's FMS levels were measured in a variety of schools, ranging from low socio-economic status (SES) (Indices of Multiple Deprivation (IMD) – 114) to high SES (IMD – 25,332).

Evidence

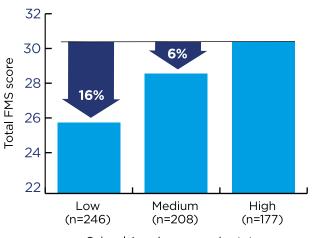
The graph opposite shows that, before any intervention, children from schools in socioeconomically deprived areas had FMS levels 16% lower than their more affluent peers. Whilst pupils from 'medium' SES school were 6% lower than the most affluent.

Implication

Pupils in schools with higher levels of deprivation (below IMD score of 8,000) often have a low

movement competence starting point. Therefore, there should be greater emphasis on training teachers from these types of schools.

Total FMS score by socio-economic status (P)



Schools' socio economic status

Recommendation: A Bupa Start to Move approach should be particularly encouraged within schools in deprived areas.

"I see them (the pupils) laughing and smiling and every child is actually doing something all the time... they're learning about themselves, they're learning skills, it's had a massive impact"

Year 1 Teacher/ PE Co-ordinator, School 3, P1

"...because they enjoy it more I have a lot less behaviour issues, therefore they are learning more and they're enjoying it more and I enjoy it more, so everybody wins"

Year 1 Teacher, School 12, P2



3. By delivering Physical Education using a Bupa Start to Move approach, children engaged in 11% more Total Physical Activity (TPA), with an equivalent reduction in time spent being sedentary.

Measuring physical activity

Pupils wore accelerometers to measure their physical activity levels during Physical Education lessons. The results are presented in percentages of their Physical Education lessons, expressed in four categories: Sedentary (Sed), Light, (L), Moderate-to-Vigorous Physical Activity (MVPA), TPA (MVPA & L).

Evidence

Between P and P2, the TPA of 113 children's PE lessons reduced by 9% (see graph opposite). However, in a smaller sample of 35 children, TPA increased by 11% (P-P3), 24 months after their teacher attended Bupa Start to Move training.

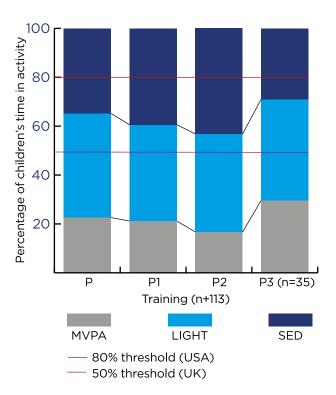
Recommendation: A Bupa Start to Move approach can increase children's physical activity levels within EY and KS1 Physical Education and begin to address childhood inactivity.

Implication

Children participating in a FMS-focused PE lesson might be expected to become less physically activite as the emphasis on more static movements is introduced, i.e. balance. Whilst initially this may be the case, longer-term evidence suggests that the children engaged in more physical activity, therefore reducing their sedentary activities.

More physically active children are more likely to improve their FMS, be active in their own time and lead to healthier lifestyle choices.

Mean percentage time spent in each activity threshold during Physical Education lessons before (P), after (P1) and at follow-up (P2 and P3) from the Bupa Start to Move training.



Pupils' P1 comments:

"It's all about moving your body and you can balance"

Pupil, School 8, P1

"PE is very good fun. It's where you do stuff like seated balance" Pupil, School 3, P1

"Where you play lots of activities to get fit"

Pupil, School 3, P1



4. Children spoke more positively about their PE experiences after their teachers had been Bupa Start to Move trained. They were also observed enjoying PE more when their movement improved.

Assessing children's enjoyment and engagement in PE lessons

Groups of up to four children were asked about their enjoyment of, and engagement in, PE. Children also used puppets and drawing tasks to explain their experiences of their PE lessons. Results were analysed using a content analysis method where the number of comments related to an aspect of their PE lessons were grouped and presented as percentages. Enjoyment comments were further grouped by comments relating to different activities, e.g. FMBA, play activities or sport-specific-based activities.

Evidence

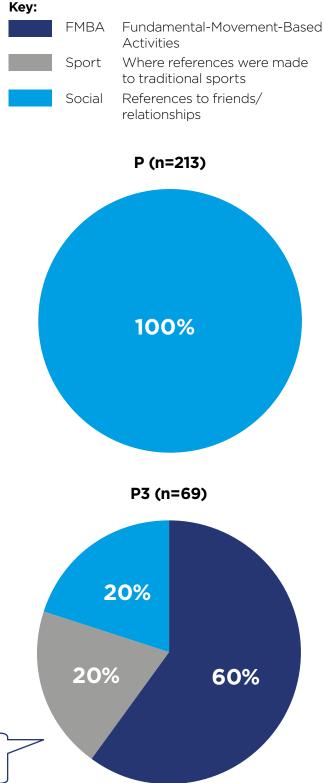
Initially at P, children's comments relating to enjoyment were all associated with being with their friends. By the end of the study, 60% of enjoyment comments were linked to FMBA.

Implication

Children who are more engaged in their PE lesson are more likely to increase their FMS levels and participate in more physical activity. If children develop an enjoyment for being active in PE, they are more likely to choose movement activities during break-times and out of school, with the potential of influencing their activity choices later in life.

byment and Soci s ren were asked about ngagement in, PE. ts and drawing tasks as of their PE lessons

Comments reflecting enjoyment and engagement in PE



Teachers reported that more competent movers were happier movers

Recommendation: Teachers of EY and KS1 children should adopt a movement-based approach to improve children's enjoyment and engagement levels in PE.

5. After Bupa Start to Move training, teachers' confidence in teaching PE in EY and KS1 increased by an average of 30%.

Assessing teacher confidence and perceptions of competence

36 teacher interviews were conducted consisting of P (n=12), P1 (n=10), P2 (n=9) and P3 (n=5). Online questionnaires were also completed (P: n=444, P1: n=68) by teachers from around the country to show the impact of the training on them and their schools.

Evidence

The main themes emerging from the preintervention interviews were lack of PE training and experience and difficulties faced when teaching PE. However, over time, teachers reported an increase in confidence and competence. P and P1 results are presented in the graph below.

The evidence shows an average increase of 30% in teachers reporting a level of confidence of 7 out of 10 or above after training.

Teachers also reported an increase in perceived competence with 5% more teachers assessing their own competency, in delivering PE, as 7 out of 10 or above. Further evidence suggests that teachers' confidence and competence increased, with 19% more teachers delivering all the PE to their own class.

Implication

Evidence clearly shows that Bupa Start to Move training can increase teachers' confidence and perceived competence in teaching engaging PE lessons. The training demonstrated to teachers how their current pedagogic expertise can be used within PE, and how cross-curricular themes can engage learners in developing their physical literacy skills. Confident teachers are more likely to try new approaches to support learning.

Teacher's P comment:

"Terrified... so nervous (about teaching PE and attending CPD)" Reception Teacher, School 11

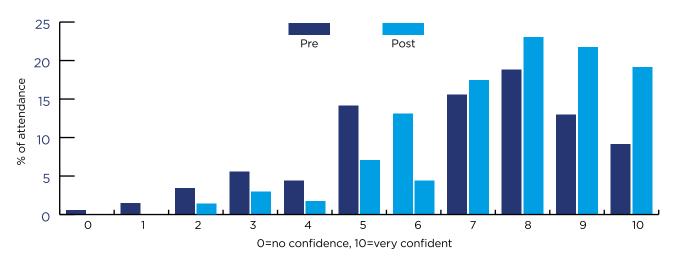
Teacher's P2 comment:

"The kids are enjoying it more because we're more confident" Year 1 Teacher, School 12

Teacher's P3 comment:

"There is a lot more confidence within what people are actually doing"

PE Co-ordinator, School 2



Recommendation: All primary teachers across the UK who wish to improve their confidence and competence in teaching PE to 4-7 year olds, should adopt a Bupa Start to Move approach.

How confident are you at teaching PE?

6. After Bupa Start to Move training, 30% more teachers were aware of how Bupa's expertise supported teachers and their families to have a healthier lifestyle.

How we asked teachers about their awareness of Bupa

Teachers were asked about their awareness of Bupa's website by completing an on-line questionnaire before and after training. The website offers easy-to-use, interactive tools, from free exercise programmes and health assessments to apps and expert advice. Bupa hoped that teachers would access these tools to benefit themselves and their families.

Evidence

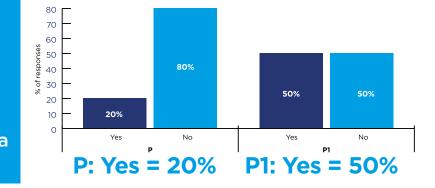
After training, 30% more were aware of how Bupa's expertise supported teachers and their families to have a healthier lifestyle (see graph below).

Implication

Not only does this training benefit pupils and teachers in the school environment but it gives teachers the knowledge of how to access further health advice for their families. This information can be found in the health information section of the Bupa website.

Attendees' awareness of how Bupa's expertise supported teachers and their families to have a healthier lifestyle (P - n=444, P1 - n=68)

Recommendation: To raise awareness of how families can be supported to have a healthier lifestyle, parents and teachers should refer to the Bupa website.





Case studies

Case study 1: Cascading Bupa Start to Move to all teachers significantly increased children's movement competence.

Improving whole-school awareness of Physical Literacy

Such was the positive impact of the PE Coordinator's attendance on the training when returning to his inner-city school, he shared the potential of Bupa Start to Move with the headteacher. The headteacher subsequently advocated a whole-school Physical Literacy project, in which the trained teacher shared this movement-based, story-telling approach with colleagues during staff training.

Other aspects of the Physical Literacy project included training for young leaders and lunchtime supervisors to encourage more movementbased activities during break-times and physical literacy 'homework' projects, which were introduced during school holidays.

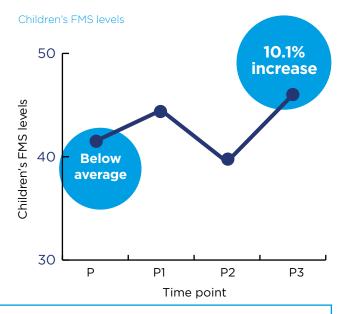
The children and teachers were initially introduced to the concept of Physical Literacy, using on-line videos and materials from the Bupa Start to Move Zone website during a physical literacy assembly. Children talked about

"(after physical literacy INSET training), I would be comfortable talking about it (physical literacy)... I'd like to have more training" Year 3 Teacher, School 2, P3 learning more in PE lessons and having more opportunities to be active during play-times.

At P3, the children moved to Year 3 with a new, non-PE specialist teacher. However, due to the physical literacy project opportunities provided, scores from the BOT-2 movement assessment increased to levels higher than any other time point (see graph below).

Implication

By sharing the movement-based, story-telling approach to teaching PE in EY and KS1, in addition to other projects that encouraged children's movement (Physical Literacy Project), FMS levels improved. After training, new information and energy from a course can influence colleagues' practice and perceptions, and if headteachers are convinced, whole-school practice.



What we found in this school: Whole-school dissemination of the Bupa Start to Move approach was an effective way of increasing children's FMS at EY, KS1 and beyond.

Case study 2:

Teacher's confidence and perceived competence improved after Bupa Start to Move training.

The training increased a Year 1 primary teacher's confidence and perceived competence in delivering PE to 8 out of 10, despite the teacher's lack of previous training and experience.

A Year 1 teacher, in her second year of teaching, had a non-PE-related undergraduate degree and gained Qualified Teacher Status (QTS) through the Graduate Teacher Programme (GTP) route. It would be no surprise that she perceived her competence to be as low as 3 out of 10 before attending the training. However, after training, that score increased to an 8.

This teacher felt that in PE you were "left to your own devices", using schemes of work and finding out for yourself. The teacher said she felt brave enough to realise that not all aspects of prescribed lesson plans were suitable for her class.

What aspects of Bupa Start to Move training had the biggest impact on confidence and competence?

The teacher was amazed how much more the children were enjoying PE lessons once themes were introduced. This increased the teacher's confidence that she was meeting the children's needs:

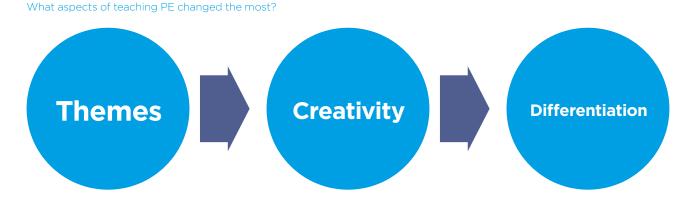
"I did some of that [Space approach from Bupa Start to Move training course] and about four or five of them came and said, 'Ah, that was the best PE lesson' and you think, yes!!!" P1 The teacher felt more confident at allowing the children to do more creative work and learn through discovery, by teaching in a less prescriptive way. The teacher added that instead of asking children to kick a ball, she allowed them to choose how they controlled objects, naming "shuffling, stuck in their knees and gripped between their feet" as methods the children created.

A light-bulb moment occurred for this teacher when she realised that differentiation can be utilised in PE just like in other subjects:

"We differentiate for Maths, English and Science; why aren't we doing it for PE?..., and I would never have thought of [doing that] had we not gone onto the [Bupa Start to Move] training" P3

Implication

Teachers are already experts in learning although, for many, this expertise is perceived to remain in the classroom. Bupa Start to Move allows teachers to realise that this expertise is transferrable to the gym, field or playground and that, with some content guidance, the same principles apply. Therefore, a teacher's confidence can increase when they realise that they already possess the skills to teach effective PE lessons.



What we found in this school: Bupa Start to Move training increased teachers' confidence and perceived competence even when considering low levels of pre-training expertise or experience.

Case study 3:

Infant school teacher increases pupil enjoyment and engagement through using a Bupa Start to Move approach.

Laughing and smiling children have been observed in PE lessons in this infant school since the approach was implemented. Before the training, the children talked about doing games such as the 'Bean Game' and 'Scarecrow Tig' but not with reference to enjoyment or learning.

When asked how to improve PE lessons, 72% of pupils' comments suggested more play and Fundamental-Movement-Based Activities.

What changed in PE after Bupa Start to Move to increase children's enjoyment

The teacher stated that PE had "totally changed" since the training. Children experienced PE through a theme or a topic and were "a lot more engaged in PE than what they were before" (Year 1 teacher). She added:

"I see them (the pupils) laughing and smiling and every child is actually doing something all the time... they're learning about themselves, they're learning skills, it's had a massive impact".

When asked what they like about PE, the children also talked positively about the themes that were introduced.



"[PE] makes me feel good

because I like

what I am

doing"

fully in PE lessons.

"We

pretend we

"From the ones that didn't want to do PE, they love PE now; because there's some homework challenges now, they're like, 'can you stand on one foot and watch the adverts?', and things like that..."

Finally, the teacher was impressed at the reaction

from the children who normally did not engage

(Year 1 Teacher, School 3)

What we found in this school: Bupa Start to Move increased children's engagement and enjoyment.



Challenges

Themed

lessons

Physical literacy homework



Summary of recommendations

The evidence suggests that in the UK, all KS1 and EY teachers should access Bupa Start to Move to increase children's FMS, especially in schools where low FMS levels are present in children. Where pupils have high FMS scores, teachers should stretch and challenge these more able children by differentiating activities, ensuring that competent movers are also challenged to make progress (Page 8).

A Bupa Start to Move approach should be particularly encouraged within schools in deprived areas as this is where the children with low FMS levels are mostly found (Page 9).

A Bupa Start to Move approach should be used to increase physical activity levels in EY and KS1 Physical Education and combat childhood inactivity. These increases were found in schools despite some schools focussing on more sedentary activities such as balance development (Page 10). The evidence also suggests that to improve children's enjoyment and engagement levels in EY and KS1 PE lessons, teachers should adopt a Bupa Start to Move movement-based approach (Page 11).

Another reason why Bupa Start to Move should be recommended to all primary teachers of 4-7 year olds across the UK is because it improves their confidence and competence levels in teaching PE (Page 12).

To raise awareness of how families can be supported to have a healthier lifestyle, parents and teachers should refer to Bupa's website for more information, tools and useful tips (Page 13).





Future research

Areas where further research is recommended include:

- 1. Continued tracking of children's movement ability to investigate impact of a KS2 PE programme on movement competency.
- 2. The development of a motor proficiency assessment tool that teachers can reliably administer during a PE lesson.
- 3. A longitudinal study where TPA is measured in PE lessons every week for a sustained period of time.
- 4. Repetition of the study with a larger sample across different areas of the UK.
- 5. Further evaluations of interventions that aim to improve children's physical activity levels, motor proficiency or teachers' confidence and competency levels.
- 6. Further study to confirm how best to support the development of teachers after a one-day training intervention.

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For the full report, contact Youth Sport Trust: impactandresearch@youthsporttrust.org

For more information about our work, visit: **www.youthsporttrust.org**



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Permission was granted by the school's headteacher for use of all photographs







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