Promoting children’s physical development, wellbeing and attainment with Psychomotor Prevention

A study carried out in a primary school 2015 / 2016

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1. Key message
Psychomotor Prevention is a proven and effective way to implement social, emotional, mental health (SEMH) curriculum and improve academic achievement.

This report presents the outcome of a study, carried out in a primary school in Walsall. Two groups of children have been identified: A Control Group who did not attend Psychomotor Prevention and a second group who has been attending Psychomotor Prevention embedded in their school timetable. This briefing is a summary of the key evidence, which underlines that Psychomotor Prevention is an effective way of Pupil Premium spending in order to promote disadvantaged pupils wellbeing, development and consequently close the attainment gap.

1. 1 Key points from the evidence
• Pupils who attend regular Psychomotor Prevention improve their gross and fine motor skills more than pupils who don’t attend.
• The evidence illustrates that Psychomotor Prevention boosts the weakest children’s development the most.
• Emotional wellbeing increases by attending Psychomotor Prevention, which can be seen in less avoidance behaviour and improved motivation to “have a go”.
• Psychomotor Prevention boosts the pupil’s speech & language competences by an average score of 2.3 compare to children not attending who increased by an average of 1.0.

2. Background
Under Section 78 of the Education Act 2002 the school’s curriculum must: “promote the spiritual, moral, cultural, mental and physical development of pupils at school and of society, and prepare pupils at the school for the opportunities, responsibilities and experiences at later life”.

A report on children’s health by the chief medical officer of England highlighted furthermore that: “promoting physical and mental health in schools creates a virtuous circle reinforcing children’s attainment and achievement that in turn improves their wellbeing, enabling children to thrive and achieve their full potential.”
A UK study already provided evidence; “...the amount of moderate to vigorous physical activity pupils engage with at the age 11 had an effect on academic performance cross English, maths and science at age 11, 13 and final GSCS exam results.” (Report from Public Health England: The link between pupil health and wellbeing and attainment. November 2014)

3. Psychomotor Prevention – setting description
Psychomotor Prevention aims to improve the children’s emotional wellbeing and physical skills through psychomotor activities. Activities such as climbing a high ladder, jumping from tall trestles, balancing over benches and crawling through tunnels help to improve children’s physical competences. In turn this reinforces a sense of achievement and enables children to thrive and fulfil their potential.
The following structure is common for Psychomotor Prevention sessions:
Children are introduced by the Psychomotor Therapist to rules (wait your turn, be aware of others etc.), made aware of risks (the bridge is very wobbly, the climb is very steep etc.) and taught strategies to deal with the risks (land on your feet when jumping from the ladder, never let go of your hands when climbing etc.) After the introduction of the different stations, which have been prepared in advance by the Psychomotor Therapist, pupils choose which activity they want to “have a go”. This “child lead” approach allows pupils to feel in control of their own actions and set their own challenges according to their abilities. The Psychomotor setting supports the pupil’s personal development since they are encouraged to take responsibility for themselves. Additionally, Psychomotor Prevention acts as accident prevention because the children are taught to judge their own abilities and risks accordingly which results in less accidents.

The Psychomotor Therapist aims not only to enable pupils to judge their own abilities and risks, but also to encourage children to “do it themselves”. Through experiences of success, the pupils’ self efficacy (I can do it) and resilience (I am not giving up) are strengthened. In order for this dynamic to be effective, the Psychomotor Therapist is required to know every child’s developmental level so that the different stations are tailored to the children abilities. Furthermore it is crucial for the Psychomotor Therapist not only to observe actively and encourage children during the whole session but also to remind and intervene if needed. This is because the Psychomotor Prevention setting encourages children to adapt and evolve the original stations, which creates new challenges and risks. It is essential for the Psychomotor Therapist to intervene only if Health and Safety issues appear in order to raise risk awareness and help understand the consequences. Alternatively the Psychomotor Therapist amends the setting so as to allow children to fulfil their ideas and enhance their creativity and imagination.

For this study, nursery children have been attending Psychomotor Prevention, which was held weekly in the school’s PE hall and carried out in small groups by Isabelle Walser (teacher with QTS and Psychomotor Therapist). Lessons are 60-90 minutes long.

4. Selection criteria
Before starting with the group interventions, one week was spent in nursery to observe all nursery children during free play and guided activities. Children who’s social, emotional and mental development (SEMH) appeared delayed or hindered were selected to join the Psychomotor Prevention intervention. Difficulties in SEMH can manifest itself in the following behaviours: struggle to settle, appear often tearful, refuse to join activities, chose not to talk, struggle to get along with other children, appear isolated, avoidance behaviour, consistent tantrums etc.

After the observation week, a meeting with the nursery teacher and teaching assistants was held in order to integrate the practitioners’ view of the pupils and highlight any other children with SEMH difficulties. This process was selected in order to assess all nursery children according to their needs, rather than considering Pupil Premium children alone, who do not necessarily show SEMH issues.

It is worth noting that after the selection process, the Pupil Premium data was consulted so as to find out how many children appeared initially to have SEMH difficulties were also Pupil Premium children. 7 children from the group who have been attending Psychomotor Prevention (7 out of 19) are registered as Pupil Premium.
Premium children. On the other hand, not one pupil from the Control Group is a Pupil Premium child. The children for the Control Group have been selected randomly from the remaining nursery children without SEMH difficulties.

5. Material and methods
A standardised physical assessment called M-ABC2 was carried out with 29 nursery children in September 2015 (pre assessment) and again in May 2016 (post assessment).

Out of the 29 pupils, 19 have been attending Psychomotor interventions (called PMT Group) from September/October 2015 until May/June 2016. The remaining 10 nursery children did not attend Psychomotor interventions (called Control Group).

This approach was selected in the interest of detecting a difference in progress between the PMT Group and the Control Group.

It is important to compare same with same, which is why always 10 results from the PMT Group was compared with 10 results from the Control Group. This method was chosen to cluster the children who received Psychomotor Prevention into three different groups: random selection, weakest results and highest results. This would enable the study to paint a comprehensive picture allowing different comparisons.

The charts Nr. 1 to Nr. 6 illustrate a percentile rank of four different areas (hand dexterity, balance, ball skills and total test value). A percentile rank tells us what percentage of the pupils in the same age category achieved the same or a lower score on the test. For example a percentile rank of 50 means that this student performed better than 50% of the children in his or her age who took the same test.

In order to investigate if Psychomotor Prevention does or does not enhance other school relevant areas like English, the M-ABC2 assessment figures were compared with the speech & language assessment called WellComm.

WellComm is a speech & language toolkit for screening and intervention in the Early Years and was carried out by an early years practitioner in nursery. All nursery children from the PMT Group and the Control Group were assessed with WellComm in September/October 2015 (pre assessment) and again in May/June 2016 (post assessment).

The scores from this screening tool ranges from 1 to 9. A score indicates in which age group a child performed during the assessment. For the comparison, the raw data, which indicates the child’s speech & language performance in September/October 2015, was brought in relation with the score the child achieved in May/June 2016. The WellComm’s data was then compared with the M-ABC2 results in order to see if there is a correlation between physical and speech development.

The difference between the pre assessment and the post assessment for both M-ABC2 and WellComm is called the rate of improvement.
6. Motor development comparison

6.1 PMT Group with Control Group

Turning the spotlight to chart Nr. 1, it can be seen that the random selected 10 PMT pupils increased their score by 111% compared to the Control Group, who only improved by 72%. Thus, the Control Group’s physical developmental level lies in May 2016 still below the norm (35), whereas the PMT Groups rank is above the 50th percentile (56).

But what if we compare the pupils with the 10 lowest total test numbers from the PMT Group with the Control Group? Does the PMT Group still outperform?

Selecting the PMT Group’s 10 lowest total test data (pre-assessment) against the Control Group’s results, it is remarkable that the PMT Group managed to improve their total test value up to the same level as the Control Group (35) even though their pre-assessment was at the lowest developmental level (6). See chart Nr. 2.
Ultimately, the data shows that the development of the weakest pupils progressed the most over the duration of 8 months. This can be seen not only in the areas of ball skills and balance, but also in hand dexterity (see chart Nr. 3, 4 and 5 consecutive). It can therefore be concluded that Psychomotor Prevention boosts the weakest children's development the most. The charts Nr. 3, 4 and 5 additionally show a correlation between gross motor skills (ball skills and balance) and hand dexterity;

The three year olds who participated in Psychomotor Prevention improved their hand dexterity by 36 percentile compare to the Control Group who only improved by 14 percentile. This evidence supports the assumption, that gross motor activities like jumping, climbing, balancing and crawling provided in Psychomotor Prevention, boost the children's fine motor skills more effectively than conventional fine motor exercises alone. Consequently children with a better hand dexterity perform better in writing, as hand dexterity is the prerequisite for writing. It can therefore be said, that pupils who attend Psychomotor Prevention will perform better writing skills than pupils not attending.

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Looking at chart Nr. 6 it can be seen that the 10 highest total test values from the PMT Group improved their pre assessment score by 20 percentile, whereas the Control Group’s pre assessment data increases by 15 percentile.

Regardless of how we group the PMT children; whether we select the 10 lowest results, the 10 highest results or a random selection of 10, the fact remains the same. The PMT Group’s rate of improvement increased more than the Control Group’s, which demonstrates the intervention’s effectiveness.

7. Correlation between physical development and academic achievement
Psychomotor Prevention also has an impact on other areas such as emotional wellbeing and confidence: 31% of the pupils from the PMT Group were displaying avoidance behaviour during the assessment in September 2015 (6 out of 19). In May 2016 however, not one child out of the same group avoided. This observation confirms, that not only the PMT Group’s physical development has improved, but also avoidance behaviour has lessened and participation has enhanced as well.

It is to conclude, that Psychomotor Prevention boosts the children’s confidence, which consequently has a positive impact on following instructions and learning attitude.

Public Health England (2014) reinforces this evidence and takes it even one step further by confirming, that “…pupils with better health and wellbeing are likely to achieve better academically”.
8. Comparison speech & language development with movement development

The charts Nr. 7, 8, and 9 illustrate that the PMT Group’s pre assessment score lies in all sub groups below the Control Groups’. Surprisingly though that the PMT Groups’ rate of speech & language development increased by a score of 2.3 whereas the Control Group improved by an average of 1 score only. This leads to the conclusion that Psychomotor Prevention also has a positive impact on the children’s speech & language skills, even more than conventional nursery interventions.

The fact that the PMT Group’s rate of improvement increased more than the Control Groups’ in both physical development and speech & language emphasises that there is a correlation between physical development and speech & language.
9. Conclusion

Overall it can be said, that the Psychomotor Prevention has a very positive impact on the children’s movement development, emotional wellbeing, learning attitude and speech & language skills.

It is furthermore obvious that the PMT Groups’ rate of improvement increased more than the Control Groups’ rate of improvement. Highlighting that there is a correlation between physical development and speech & language improvement. It is to assume that the physical activities carried out in the Psychomotor Preventions sessions boost the children speech & language skills.

This study leads to the conclusion that Psychomotor Prevention is a preventative intervention, which improves wellbeing and attainment of Pupil Premium pupils as well as pupils with low emotional and social competences.

Psychomotor Prevention is transferable to all primary school stages (Early Years to year 6) and would therefore be an extremely effective SEMH curriculum when implemented as a whole school approach.

As a consequent of this study, Psychomotor Prevention is made available to all nursery and nurture children in a large primary school and staff are being trained to carry out Psychomotor Prevention.