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*“Fundamental Movement Skills don’t necessarily come naturally
– they need to be taught”*

What are the common factors that combine to produce students with highly developed fundamental movement skills?

“Children who do not master these skills are less able and often less willing to persist with the difficult task of learning more complex motor skills, and will avoid activities which expose them to “public failure”. Ultimately, such children encounter a sport skill proficiency barrier and reject participation in physical activity as part of their lifestyle”.

FMS - A Manual for Classroom Teachers. Department of Education, Victoria.

“Acquiring skills and confidence allows individuals to enjoy a variety of sports and physical activities. Physical literacy is just as important as the ability to read and write. The most important step toward developing physical literacy is mastering fundamental movement skills”.

Canadian Sport for Life

Acknowledgements

I would like to acknowledge, first and foremost, the Wainui Beach School Board of Trustees for supporting my application for sabbatical leave.

I also acknowledge my DP, Rodney Montford, senior staff and other school staff, who stepped up to carry out the extra duties in my absence.

I acknowledge Sport Gisborne, especially Phil Robinson for allowing me to use his research and being so generous with his time. Sport New Zealand, especially Peter Miskimmin, for their interest and support. Sanne Effmann, graphic designer who has donated her time to design a resource which meets our highest hopes and expectations.

I acknowledge the Ministry of Education for making sabbatical leave available to principals. The opportunity to be able to take time out and look in depth at an aspect of our practice and to have a period of refreshment is invaluable.

My last acknowledgement is to the schools I contacted. The schools in the UK and Australia kindly answered my questions and Kylie Watson from New South Wales Department of Education and Communities who confirmed we have permission to use their video link on our resource.

Thank you for helping make my sabbatical study a success.

Nolian Andrew

Executive summary

The Fundamental Movement Skills (FMS) of Stability, Locomotion and Manipulation, previously thought to be developed naturally in early childhood appears to actually require teaching – beginning in the pre-school setting and developing and consolidating throughout the primary years so that students are confident that they possess the basics that will enable them to access the sports that they want to take part in. They will not gain proficiency simply by getting older.

Purpose of my Sabbatical

Sport New Zealand aims to have 'more Kiwi kids in sport and recreation' but there is a growing awareness that some intermediate and high school students' basic skill levels are insufficient for them to participate in sport effectively and confidently so they simply choose not to take part.

Phil Robinson from Sport Gisborne asked if he could start working with our school as a pilot school to trial some FMS testing in Terms 3 and 4, 2011. We noted in his findings that there are a few key skills that students need to be successful in a variety of sports. We have trialled how to teach this at our school. The beauty of the programme so far is that it can be done on a daily basis for 10 minutes with very little equipment and be effective to develop the fundamental skills of running, balancing, catching and hopping. We have seen that by working specifically on these skills the students have improved their core strength and these skills are therefore more successful in PE and sports activities. This in turn makes it more likely that they will be actively involved. We have seen an improvement in their posture and this helps their learning, particularly concentration. The local Visiting Neurodevelopmental Therapist (VNT) has noticed that some students with learning difficulties also have very poor posture and I investigated this further.

The purpose of my sabbatical was to further develop this programme in my own school and the Gisborne district, and in addition to develop some resources that are easy to use and cheap to produce, that teachers and older students could use easily to help with their FMS. Also to research how similar programmes have been implemented in Australia and the UK.

Activities undertaken

With Phil Robinson from Sport Gisborne, we implemented a 10 minute daily programme to teach FMS in our school, focusing on running, balancing, hopping, throwing and catching with our 5 and 6 year old pupils. Phil also worked with 10 other schools across the Gisborne area and tested 8 -12 year old students and ranked them in each of the six FMS exercises specifically focusing on balance: – *single foot balance, single hand and single foot balance, shoulder stand, hand stand (unsupported), head stand (unsupported), and sitting balance*. A follow up study focused on sprinting, balancing, throwing and catching.

We identified **two key barriers** to the programme being implemented regularly, these are:

1. Making time
2. Teacher confidence teaching the skills

Making time:

If the leadership of the school is not backing this programme then it is much more likely that the programme will not be taken. It is easy for teachers to be “too busy” to take the 10 minute break to do FMS. It is an additional requirement to a PE programme. The culture and expectation of the school needs to reinforce the programme and celebrate the benefits.

Lack of Confidence:

Teachers have the FMS manual (approx. 300 pages) available in some schools.

However it is cumbersome and gives a lot of information. A focus of my sabbatical has become the development, with a graphic designer, of a set of FMS cards. These will be slightly bigger than playing cards and have specific instructions for the basic requirements of each skill, a photo of a child doing the skill, assessment points and a QR Code link to a video ©New South Wales Department of Education and Communities, which we have been given permission to use. Photo of an example card is attached.

In the UK the focus for teachers I spoke to is getting good results on Academic League tables. The schools I contacted had their own specialist PE teachers who hadn't heard of FMS although they had heard of Physical Literacy. They taught skills for dance, rugby, football etc. In Scotland they had specialist teachers and teachers may choose to take their class out for a game, but there seemed to be no programme similar to FMS.

In New South Wales there is a high level of support from the Department of Education with resources, but it is still up to individual schools to implement the programme. Time and confidence are barriers identified also.

We have applied for funding to print off an initial run of 500 sets of cards. Sport NZ is looking at what schools are spending their Kiwisport money on and this may be a source of money for schools to use to purchase the cards as resource.

Findings:

- 1. Schools that follow a planned delivery programme for FMS development demonstrate a high level of achievement with their students,** regardless of the decile of the school, there is however evidence that students from higher decile schools demonstrate lower levels of FMS overall.
- 2. Schools or classes where the teachers put little emphasis on teaching FMS development show student performance levels dropping or plateau-ing.**

3. **Teachers need training in activities to undertake with their students in order to facilitate skill improvement** and avoid the two key barriers identified above – it is one thing acknowledging that the students lack skills it is another to know how to deliver skill improvement activities. In our school we have used Phil Robinson from Sport Gisborne to train teachers and support them. This could be done by a teacher with interest in PE or the specialist PE teacher if one is available.
4. **There is a need for schools to be supported in the provision of activities to develop skills in students throughout the primary age range** – it is not enough to merely highlight the need for schools to address the issue of FMS development as many teachers will not have the time or the wherewithal to plan and prepare appropriate activities.
5. Anna Proctor a VNT, who works in Gisborne, confirms that **a FMS programme is likely to be beneficial to children with learning difficulties** if their posture and vestibular system (inner ear) isn't stimulated. If a child has a weak core they have to put much more effort into holding themselves upright, and this makes them tire more easily, slouch, causing less oxygen to get to the brain, making it more difficult to pay attention and sit up straight enough to write at a desk or sit on the mat. With muscular and postural control these children are able to pay more attention and concentrate. Their fine motor skills improve through having a stable core and shoulder strength. Taking FMS as a 10 minute activity half way through our school's two hour morning session has increased all students concentration for the second hour. It gives the children a physical break as well as adding value through developing important skills.

Implications and Solution:

As a result of this research I believe that the FMS cards we have designed will make it easier for teachers and older students to understand and see exactly what the movements look like, the teaching points and what to assess. With the QR Code link they will be able to show their class, or on a tablet or ipad, a group of children or individuals what the skill looks like in action. Using the app 'Ubersense' on a smart phone, the teacher can film the child or the child can film themselves doing the exercise and compare and analyse their performance so they can correct their movement. This has been trialled with Phil Robinson and Central School in Gisborne.

Conclusion:

In conclusion, with a planned programme of delivery for FMS development students will make progress, regardless of their starting level or the school's decile ranking but if such a programme does not exist, or is not delivered by the teachers, progress stops and in some cases the student performance levels regress. The FMS programme has been beneficial to all our students. It is not difficult to administer. It is convenient, as it needs very little equipment – only small balls which are cheap. A teacher can take it alone. It is a positive activity to take in a 'brain break' when teachers see children need some exercise between learning activities. It encourages children's confidence and increases entry skills to other activities for example gymnastics. It has a positive impact on learning as concentration and attention spans increase due to increased posture and muscular control.

References:

Gill Connell: A Moving Child is a Learning Child

<http://www.youtube.com/watch?v=w0p6mUVByFY>

Connell G., and McCarthy C. (2013). *A Moving Child is a Learning Child: How the Body Teaches the Brain to Think*. USA: Free Spirit Publishing

Physical Literacy - Wales

<http://www.youtube.com/watch?v=R8PIXqp3JpA>

Physical Literacy – Canada

<http://piseworld.com/physical-literacy/>

Fundamental Movement Skills – Australia

<http://www.det.wa.edu.au/curriculumsupport/physicalactivity/detcms/navigation/teaching-and-learning-support/fundamental-movement-skills--k-3-/?page=1#toc1>

http://www.canberra.edu.au/researchrepository/file/50f8c79c-2aca-a83f-ae88-254288c36220/1/full_text_final.pdf

Landy J.M., & Burrige K.R. (1999) *Ready-to-Use Fundamental Motor Skills & Movement Activities For Young Children*. USA : Prentice Hall.

Articles:

<http://www.balancedandbarefoot.com/blog/the-real-reason-why-children-fidget>

<http://www.smh.com.au/news/National/Life-expectancy-to-drop-for-first-time-in-1000-years/2005/03/17/1110913743754.html>

STATIC BALANCE

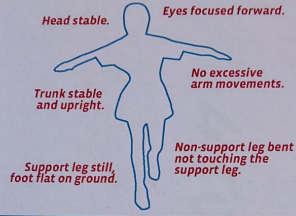


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► Gymnastic, Dancing

Balance is fundamentally important to achieving success in almost every sport or physical activity.

Assessment



Cues

- Stand still with your foot flat on the ground.
- Hold your bent leg (leg bent at 90deg) away from your other leg.
- Look at something in front of you.
- Stand up tall when you balance.
- Keep arms stretched but drop/relax shoulders.

Exercise

Students balance:

- hands on hips (40 seconds each foot)
- on different body parts
- with a partner shadowing their balance position
- using an object to counterbalance.



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www.curriculumsupport.education.nsw.gov.au/primary/pdhpe/gamesport/fms002a.htm