

PHYSICAL LITERACY IN WALES

PLUGGING THE GAP

Nalda Wainwright

In the autumn edition of *Physical Education Matters*, the second article in this series examined the contribution of the Foundation Phase in Wales to the development of physical literacy and identified that there was a gap in pupils' physical development in relation to fundamental motor skills, in particular object control skills. This third article will outline how a cross-disciplinary approach in west Wales has trained staff and supported schools and families to plug this gap, supporting the development of physical literacy.

BACKGROUND

The Foundation Phase Curriculum uses playful pedagogy in a child-centred holistic approach for children aged 3-7 years old. As highlighted in the second article in this series, the dynamic environment of the Foundation Phase, with its individualised approach, contributed to many of the attributes of physical literacy; however, it did not develop pupils' object control skills. The research showed that staff in the Foundation Phase lacked the knowledge of children's motor development to be able to teach them these skills both in focused learning opportunities and in setting up environments that enabled the acquisition of these skills through structured play. Although this may not seem a big problem, as it could be argued that not all children will go on to play structured sports and as such may not need these skills, the implications of not learning these skills are actually very serious. Developmental models and research in the field of motor development show there is a very complex relationship between early childhood physical activity, motor competence and perceived competence which influences lifelong engagement in physical activity (Stodden *et al.*, 2008; Barnett *et al.*, 2016). An important factor is that children are inaccurate in their perception of their own physical competence at an early age, so this gives us an opportunity to make sure they become competent before they start to compare themselves to others and decide they are not very good and opt out. As such, early childhood is a crucial time for ensuring children learn to move well in order that they are motivated to be physically active as they get older. This gap in development in the Foundation Phase is a serious cause

for concern if we are to ensure that children in Wales can progress on their physical literacy journey and make choices to engage in physical activity throughout life.

A lack of teacher knowledge in the area of physical development is not unexpected as the lack of physical education specialism in primary schools is well documented, along with limited hours of physical education training for generalist teachers. However, less is known about the lack of knowledge specifically in relation to the area of motor development. This is not generally an aspect of physical education or sports science undergraduate work in the UK as, historically, the majority of literature and research in this field has been in the USA. Added to this is the debate about the role of Fundamental Motor Skills (FMS) (Pot and van Hilvoorde, 2014) which may have caused confusion about the importance of FMS and their role in life long physical activity, resulting in a misconception that focusing on FMS results in the teaching of a narrow range of skills to children. If children are not given appropriate opportunities to learn these skills they are more at risk of entering a negative spiral of disengagement in physical activity and, as such, at greater risk of weight gain and poor health (Stodden *et al.*, 2008).

It is widely accepted that whilst children may naturally develop skills that are required in daily living (such as walking), which are known as phylogenetic activities, there are other more culturally specific skills that need instruction, such as object control skills, known as ontogenetic activities. In the past, this need for instruction may have been masked because children

played outside for long periods of time with children of mixed ages, such as older siblings, cousins and neighbours. Skills were acquired from interaction with older children and there were extended periods of play that allowed for multiple opportunities for practice and instruction from other children. The decline of this type of free play means that the only place children can learn these skills is in the highly structured environment of a sports club from a coach or in school. Unfortunately, without the need to teach these skills in the past, this field of knowledge is rarely, if ever, included in initial teacher education. This means that Foundation Phase teachers who are best placed to teach children in their early years with their expertise in early childhood pedagogy do not have the content knowledge in motor development to support the development of children's FMS.

The introduction of the Welsh Government-funded Physical Literacy Programme for Schools (PLPS) in 2014 presented an opportunity for The Wales Institute for Physical Literacy (WIPL) to find a way to plug this gap in Foundation Phase provision. To do this a programme of motor development from the USA was explored as a way to develop pupils' motor skills in the Foundation Phase. The PLPS was targeted at schools in areas of socio-economic deprivation as it is well-documented that poor motor skill development is frequently found in children from these areas. Over 20 years of research in the USA in deprived communities led to the development of a programme of Successful Kinaesthetic Instruction for Pre-schoolers – SKIP© (Goodway and Branta, 2003).



SKIP©

The SKIP© programme is a structured movement programme that applies Newell's Constraints Theory (1986) to create an authentic learning environment for developing FMS. SKIP© considers individual constraints, such as a child not effectively eye tracking a ball and alters the environmental constraints, such as using a large bright ball, and the task, such as working individually or with a partner. As such, this approach uses the developmental stage of the child to inform the task and environmental conditions and enable the child to move to proficiency in motor skills. The SKIP© programme in the USA has been shown to have significant impact on children's motor skills.

SKIP IN WALES: SKIP-CYMRU©

Drawing on the strong evidence from the work in the USA, SKIP© was integrated into the playful pedagogy of the Foundation Phase, developing a programme called SKIP-Cymru©. Working with Professor Jackie Goodway (the creator of SKIP©) training began for Foundation Phase teachers and practitioners in the targeted schools. Prior to the training a programme of advocacy for this work was carried out with the head teachers across the region. It was important that teachers taking part in training knew that the heads were supportive of them developing this approach back in their schools. The training incorporated theory highlighting the importance of movement in early childhood in relation to physical and cognitive development. A key aspect was the recognition that schools were under pressure for academic results so

sharing evidence from the fields of motor development and neuroscience showed teachers that improving pupils' movement would also improve their learning. Children's interpretation of cues related to play and work were also explored so teachers could understand that making learning more physical meant children interpreted the tasks as play and were more engaged. During the practical aspects of the training teachers learned to recognise stages of Fundamental Motor Skill development and to organise appropriate tasks, equipment and environments that would best develop the children's skills in a way that also recognised the play-based learning environment of the Foundation Phase.

With limited funding, the approach needed to be both cost-effective and sustainable. To achieve this, a collaborative approach was developed that drew on existing expertise in school clusters and the community. The regional sports development team had Active Young People (AYP) officers who worked in school clusters in the region. The AYP officers attended several training sessions to be able to work as mentors for the staff in the schools. In some clusters there were no AYP mentors so specialist teachers from the secondary school in the cluster were trained with SKIP-Cymru© to support the work in their feeder primary schools. Mentoring was typically a session per week for between six and eight weeks. This enabled the teachers to have a go at setting up SKIP-Cymru© sessions in the knowledge that they would initially have support, giving them time to develop their confidence. Once Foundation Phase teachers started to use the strategies in their settings it soon became apparent that, due to their

knowledge of early childhood pedagogy, the additional knowledge of motor development led them to very quickly apply their understanding of pedagogy to the physical context. Having seen examples on the training and through mentoring of how to manipulate the tasks and environments to encourage the required actions, they were soon setting up tasks and activities to respond to the different developmental stages of the children in their settings. It also became clear that they had embraced this as a way to teach across all areas of learning. This cross-curricular aspect of SKIP-Cymru© was an important element to the work as it created a whole school ethos of valuing movement and physical activity beyond traditional structured physical education. Teachers were constantly looking for a way to carry out learning that was physical and increased their use of the outdoors as an aspect of this.

To embed the physical literacy work in the communities as well as across the whole school, parental engagement sessions were set up after school or at lunch times. Parent bags were sent home with children in the classes where teachers were incorporating SKIP-Cymru© into their teaching. The bag contained a selection of equipment for practising activities at home, such as ball, bean bag, bat and spots, activity ideas and a booklet for making a record of what they did. A group of six children would take the bags home for a week and play at home with parents and siblings and record in the booklet what they had been doing. This bag passed on to the next family the following week; they could see ideas from the last family of things to do at home and add to the booklet for the next family.

HAS IT WORKED?

To evaluate the impact of SKIP-Cymru© a research study was carried out across schools in the project. Baseline measures of pupils' FMS were taken prior to teachers commencing a programme of SKIP-Cymru© back in their schools. The Test of Gross Motor Development was used to assess pupils' motor competence (being a widely used instrument in motor development literature). For this study the latest version TGMD-3 (Ulrich, 2016) was used and evaluated performance in two subsets of locomotor and object control. A sample group of children from schools across the region (n=164) was tested with the TGMD-3. To understand more about the impact of the programme and the experiences in schools, semi-structured interviews were conducted with heads, teachers, teaching assistants and parents from the schools (n=11). Scores from the TGMD-3 were analysed with SPSS to ascertain impact of the SKIP-Cymru© programme on pupils' physical competence. Interviews were transcribed and analysed through a system of coding into nodes and themes using NVIVO-10. Analysis of the quantitative data found significant improvements in pupils' motor competence ($p < .001$) from an eight-week programme of SKIP-Cymru© in the Foundation Phase. The control group showed no significant improvement ($p = .289$).

Analysis of qualitative data from the interviews identified five main themes:

1. Impact on pupils – the pupils showed higher levels of skills, confidence, collaboration, enjoyment and wellbeing.
2. Impact on staff – the staff felt they had improved motivation, confidence and autonomy.
3. Variety in activities in the school – the increased value placed on movement and physical activity meant there were more opportunities for physical activity and a greater variety of choice as well as pupils choosing a more diverse range of activities.
4. School ethos – head teachers embraced the importance of early childhood movement and adopted a whole school approach that incorporated SKIP-Cymru©, and encouraged greater use of the outdoors and parental engagement sessions.
5. Supporting other staff – repeated cycles of the training enabled the staff who were more confident and experienced to support those who had recently had the training.

Parental engagement sessions were well attended in schools where parents had been notoriously difficult to engage. In one case, parents took over the running of the after-school SKIP-Cymru© club and developed their own confidence to such an extent that they gained NVQ qualifications and were employed by the school.

The PLPS funding ended in 2016; however, SKIP-Cymru© continues to develop due to its cost-effective and sustainable approach. Key to this has been that the programme is not resource-based so there are no expensive resources to sit on shelves. SKIP-Cymru© trains the staff to be able to use existing resources in the schools and develop ideas of their own, so much so that a section on the WIPL website had to be created for staff to share their ideas and the most successful activities. The approach focuses on training staff who are employed already so does not 'buy in' people to deliver the sessions and leave. The mentoring uses collaboration across sectors, drawing on and extending existing expertise in the region. Working with AYP teams, healthy schools officers and early years advisors in the region, clusters of schools are targeted where mentoring is available to embed the approach in the Foundation Phase, engage parents and create a school and community ethos that values movement and physical activity.

In the absence of motor development in initial teacher education, SKIP-Cymru© is a cost-effective, sustainable way to plug the gap in Foundation Phase provision ensuring that all pupils have the motor competence to perceive themselves as competent and confident movers and, as such, develop physical literacy. ■

For more information about SKIP-Cymru© and the work of the Wales Institute for Physical Literacy at the University of Wales Trinity Saint David, contact N.Wainwright@uwtsd.ac.uk or go to <http://physicalliteracy.cymru/>

REFERENCES

- Barnett, L., Stodden, D., Cogen, K., Smith, J., Lubans, D., Lenoir, M., Livonen, S., Miller, A., Laakkonen, A., Dudley, D., Lander, N., Brown, H. & Morgan, P. (2016) Fundamental Movement Skills: An Important Focus. *Journal of Teaching in Physical Education* 35(3) pp. 219-225.
- Goodway, J.D. & Branta, C.F. (2003). Influence of a motor skill intervention on fundamental motor skill development of disadvantaged preschool children. *Research Quarterly for Exercise & Sport*, 74, 36-46.
- Newell, K.M. 1986. "Constraints on the Development of Coordination." In *Motor Development in Children: Aspects of Coordination and Control*, edited by M. G. Wade and H. T. A. Whiting, 341-360. Dordrecht: Nijhoff.
- Pot, N. & van Hilvoorde, I. (2014). Fundamental movement skills do not lead necessarily to sport participation. *Science & Sports*, 29, Supplement, S60-S61.
- Stodden, D., Goodway, J., Langendorfer, S., Robertson, M., Rudisill, M., Garcia, C. & Garcia, L. (2008) 'A Developmental Perspective on the Role of Motor Skill Competence in Physical Activity: An Emergent Relationship', *Quest*, 60(2), pp. 290-306.
- Ulrich, D.A. (2016). *The Test of Gross Motor Development* (3rd Ed.). Austin, TX: Pro-ed (in press).

Dr Nalda Wainwright is Director of the Wales Institute for Physical Literacy at the University of Wales Trinity Saint David.

