'Lessons Learned' from introducing universal strategies designed to support the motor and functional skills of Reception and Year 1 children in a sample of primary schools in South East England.

Abstract

This article describes an evaluation of universal resources designed to support motor development in Reception and Year 1 children. Four schools (Year R - Year 6) in the South East of England, three with high numbers of disadvantaged children participated. Senior leadership influenced take up of the initiative. Health and well-being practitioners and occupational therapy students contributed to 'roll out' of the resources with support provided by the authors over 12 weeks. Interview and focus group data from participating staff were gathered alongside examples of schoolwork from pupils. School staff needed access to support when incorporating universal strategies. The initiative contributed to schools working towards Healthy Schools targets. At the end of 12 weeks improvements in children's sitting position, handwriting and lunch time skills were noted, warranting further exploration of this approach to address the needs of children with poor motor skills at school entry.

Key words: Reception and Year 1 children, occupational therapy, specialist teaching, 'Healthy Schools', motor development, lunch time, sitting, handwriting, school readiness, universal provision.

Introduction

A significant number of children start school at a disadvantage due to delayed motor development and poor functional skills. In Reception and Year 1 the child's ability to sit independently, to go to the toilet, take off their coat and put on their shoes is as important to a 'good start' at school as is the ability to focus their attention and to interact and communicate with other children and adults (Field 2010). Delayed motor development, difficulties in communication and social and emotional problems are the most common areas of concern in early years' settings (Ofsted 2014). Children, however, rarely experience difficulty in a single area and a holistic approach, based on

understanding of child development, is required if teachers are to effectively support children who have specific difficulty with movement and coordination (Consueol *et al,* 2014; Soan 2013; Iverson 2010).

In this article we, the authors are Eve Hutton a children's occupational therapist and academic and Sue Soan an academic with a significant background in teaching special educational needs. We describe an evaluation of resources that combined both occupational therapy and specialist teaching perspectives on children's motor and functional skill development - developed with the aim of enabling teachers to introduce universal strategies in their class and school environments.

In this feasibility study, we explored the take up of the resources and how interested teachers were in making use of them and assessed the impact they had on children's handwriting, sitting position and lunch time skills. We plan to scale up this intervention and this study enabled us to explore factors that will inform a larger scale evaluation (Medical Research Council 2006).

Background

Difficulties with communication are widely recognised as presenting a barrier to learning. As a consequence of universal interventions that build capacity amongst early years practitioners and school staff there is now widespread awareness of the importance of early intervention to address language delay (ICAN)[1]. There has been less awareness or recognition of the impact of delayed motor development on a child's learning – originating from general neglect of the motor domain as a topic of study (Iverson 2010). Recent interest from educationalists and a growing body of research now supports the view that children who present with motor delay also have social and cognitive difficulties that directly affect their academic performance (Rhemtulla and Tucker Drob 2011; Brown 2010; Diamond, 2007, 2000; Murray *et* al. 2006; Kuh *et* al. 2006).

Lack of early movement opportunities are a contributing factor to delayed motor development in young children (Department of Health [DoH] 2013; Hansen et al. 2010). Many children who present with poor motor and functional skills on school entry are from disadvantaged backgrounds highlighting known links between delayed development and poverty (Ofsted 2014; McPhillips and Jordan-Black 2007). Significant difficulties in attaining motor milestones and on-going difficulties

1 ICAN http://www.ican.org.uk.

with movement and coordination are a feature of children with developmental disabilities who are integrated in mainstream educational provision in England. The numbers of children diagnosed with autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD) and developmental coordination disorder (DCD) is increasing (DOH, 2013). Many conditions co-exist presenting a complex range of needs for teachers to accommodate (Rhemtulla and Tucker Drob, 2011).

A limited number of these children arrive at school with packages of support, but many developmental disabilities are not diagnosed until the child has started school. One in four schools visited by Ofsted in 2014 reported children arriving without having their special educational needs and/or disabilities identified and without any additional support in place. Unfortunately, in too many cases, these children's needs continue to go unrecognised leading to longer term problems that can extend into adulthood affecting work prospects and the young person's ability to lead a fulfilled life (Marmot, 2012).

Early intervention to address issues associated with delay and disability is vital if society is to meet the needs of this growing population of children (Early Intervention Foundation[2]; DOH 2013; Marmot 2010). Evidence indicates that schools should intervene as early as possible to support the child's development, in order to benefit the motor domain and address associated cognitive difficulties such as reading and speech and language (Allen 2011; Brown 2010). Many teachers however do not have the resources or skills to identify children who are at 'risk' or the necessary understanding to know how to intervene effectively (Nash 2010).

It can be argued that with recent advances in developmental science primary teachers require now, more than ever, a greater appreciation of child development and a holistic understanding of the interrelatedness of a child's development across social, cognitive and motor domains (Diamond 2007). Initial teacher training (ITT) as it is currently provisioned in England presents few opportunities for students to gain knowledge and experience relating to specific aspects of motor development and an understanding of the links between motor development and learning. Earlier research by the authors found that ITT students lacked knowledge of the relevance of motor development to learning (Hutton and Soan 2010).

Current support for teachers in practice has tended to focus on either assessing for a specific motor deficit and then treating this with a specific task, or; identifying the causes or processes which may

2 Early Intervention Foundation http://www.eif.org.uk/

disrupt the acquisition of motor skills. Notably the movement interventions that are currently available to schools require teachers to 'add to' their already overburdened curriculum. Findings may indicate positive outcomes, including improved self – esteem, self – confidence, handwriting and phonic knowledge (Brown 2010), but such programmes require long term commitment, both financial and human resourcing, to sustain progress.

Earlier research by one of the authors identified that teachers benefited from working alongside children's occupational therapists based in their classrooms and gained a greater understanding of aspects of child development which informed their teaching practice resulting in improvements in pupils' attention, skills and well-being, (Hutton 2009). Schools however have limited access to specialist children's occupational therapists due to the low number of occupational therapists working with children in England, and therefore intervention is often restricted to children with 'high' level needs and children with Statements of Special Educational Needs or Education Health and Care Plans. Access to specialist services is likely to become even more restricted in the future as public spending restraint takes effect within the National Health Service (Ham, Dixon and Brooke 2012).

Practical experience in schools by the authors who have undertaken research in the area of capacity building within schools (Hutton and Soan 2010; Hutton 2009; Hutton 2008) led to the initiative described in this article which is based on a holistic approach to promoting the development of children's motor and coordination development. We aimed to create evidence-based resources that could guide and inform teachers and other school staff, including lunch-time supervisors, as 'non specialists'. The resources provide knowledge in an accessible format, universal strategies and low cost interventions that can be applied in the context of a school system where substantial resources and access to specialist occupational therapy is limited.

Movement and coordination resources

The resources used in the study were developed by children's occupational therapists, specialist teachers and academics as part of an earlier study funded by a Teaching and Development Agency for Schools award (TDA/SEN). This study, conducted in 2008, evaluated the utility of these resources using a sample of ITT students (20) and a sample of teachers (25) in local primary schools and is reported in an earlier publication (Hutton and Soan 2010). Three resources were developed based on 'gaps' identified by teachers in their knowledge of child development affecting the acquisition of

skills enabling the child to participate at school (Hutton 2008). The resources provided teachers with information and universal approaches to addressing a range of issues that affect teachers practice, for example, difficulties with young children's sitting ability and attention, lunch-time skills and difficulty with large movement skills such as ball skills and balance affecting participation in PE and playground activities.

The resources were intended to enhance teachers' understanding of typical motor development in young children, highlighting the influence of the motor domain on learning and attainment (Beringer and Winn 2008; Wray and Medwell 2006). It was anticipated that greater understanding of typical motor development and stages of skill acquisition of young children would assist in the early identification of children with delay or difficulties, enabling teachers to put in place effective classroom strategies and to sign post those who needed specialist help.

The findings from this initial study were encouraging; teachers reported that the resources prompted them to reflect critically on their classroom practice and make positive changes that had assisted children's learning. An example includes a teacher who allowed children to adopt any individual sitting style that was comfortable, in preference to requiring children to sit crossed legged during carpet time. The teacher observed an improvement in children's listening skills. Another teacher commented that where she had once interpreted fidgeting in the class as a behaviour issue she now reasoned that fidgeting may indicate discomfort and that the class needed to have more frequent movement breaks.

The evidence-based resources were valued by teachers and gave them confidence when communicating with parents and other professionals about why they changed or altered their classroom practice, for example, changing their classroom layout to ensure that all children could see the interactive whiteboard without having to turn around. Support from the authors enabled the development of closer working relationships and greater understanding of the respective roles of occupational therapists and teachers. Senior management support was a key factor leading to the successful adoption or otherwise of the resources by the schools and teachers involved.

Further development of the resources and set up for the current study

The 2008 study demonstrated that there was potential to influence the practice of teachers and sufficient interest to justify further development work. We were successful in obtaining a grant from

the Kent County Council Standards Fund in 2010. We decided to develop links in the resources with an already well-established health initiative that was popular within schools. The 'Healthy Schools' initiative provided schools with a systematic framework to embed the ethos of the World Health Organisation 'health promoting school'[3] into school improvement planning. We speculated that by creating links with this initiative we might facilitate the uptake of the resources in schools. With the assistance of health promotion specialists employed by the NHS, linking the content with health and well-being outcomes made it possible for the schools to utilise the resources to achieve Healthy Schools goals. Healthy Schools was launched in 1999 and ran for 13 years to promote the five key policies of Every Child Matters (DfES 2003). The programme was then devolved locally by the then UK Coalition Government that continued to support Healthy Schools (DOH, 2010; DOE, 2010). The work of updating the resources was undertaken by the authors and resulted in three revised versions in the form of evidence based illustrated booklets.

To provide readers with an insight into the nature of the resources a sample page from 'Are they Sitting Comfortably? The good posture resource for teachers' is included. This illustrates the format of each Resource booklet which is divided into manageable topics and where information explaining a key concept or idea is supported by a 'try this' activity for the teacher to use in the context of their classroom. A novel 'teachers have said' section is incorporated where comments from teachers who used the resources in the earlier study provokes discussion and debate. Each topic also includes links to health and well-being resources and research to prompt exploration of the topic in more depth.

- 'Move and Learn' – resources to support movement and coordination development.
- 'Are they sitting comfortably?' – 'good' sitting strategies for teachers
- 'Second helpings' – strategies for teachers, assistants and lunchtime supervisors designed to improve the lunch time experience for children.

The location of the four schools that participated in areas of high social deprivation, presented an opportunity to identify the relevance of the resources to schools with a higher than average population of disadvantaged children and investigate the potential public health benefits of closer association with the Healthy Schools programme.

3 World Health Organisation http://www.who.int/school_youth_health/gshi/hps/en/

Importance of occupational therapy and specialist teaching support

One of the conclusions from the 2008 study was that providing teachers with written Information alone was insufficient to support change in teachers' practice. Teachers needed to be able to ask questions and to receive answers from occupational therapists and specialist teachers on a regular and near immediate basis, helping them to evaluate and make further improvements to interventions and strategies they were implementing.

In the current study this support was provided to two schools by the authors (Sue Soan and Eve Hutton). In the remaining schools two occupational therapy students were on a role emerging practice placement in the schools and the intention was that students would utilise the resources as part of their placement targets (Dancza, Bates and Martin 2011). The students' feedback, based on reflective reports they completed while on placement enabled us to contrast novice (final year student occupational therapist) and expert (experienced children's occupational therapist and specialist teacher) support to schools (King 2008).

Research questions

What was the extent of take up by school staff?
What barriers and facilitators to take up were noted?
What impact did changes in teachers practice have on children's handwriting, sitting ability and lunch time skills?

Methodology

Study design

A case study approach was adopted in order to assist our understanding of how the resources were used in the four participating schools, which varied greatly in terms of; school management, organisational structure, teaching team and the community setting (Yin, 2009). During a 12 week period data were collected from focus groups and interviews we carried out with participants and some examples of schoolwork from pupils in one of the schools were also gathered. Case study procedures were drawn up at the outset of the study in an attempt to manage the expectations and involvement of a wide range of participants. Participants in the study included teachers,

occupational therapy students on placement in two of the schools and health and well-being practitioners working as part of the Healthy Schools teams.

Ethics

Ethics approval was obtained from Canterbury Christ Church University Faculty of Health and Social Care Research Ethics committee (submitted29 October 2010). Individual head teachers in the schools involved in the study gave written permission for the research to be conducted.

Sample

Four mainstream primary schools in East Kent were included in the study. This was a convenience sample. Three of the four schools form part of a school Federation in an area of social deprivation with higher than the national average number of children described as disadvantaged (based on school meal eligibility and child measurement data). One of these three schools has an attached Nursery, but is an Infant School (3-7) One school is a primary school (4-11) and another a Junior school only (7-11). The fourth school located in a different demographic area has been classed as outstanding by Ofsted and is a primary school (4-11). The sample provided a varied group of schools which enabled the exploration of various factors.

Each of the schools had been identified by the Healthy Schools team as being ready to embark on a needs analysis to identify health targets associated with Enhanced Healthy School Status. Case study field procedures were drawn up to clarify the roles of those involved and arrangements for data collection over the 12 weeks. In two schools Case A and B, occupational therapy students were present and were based in the schools for 12 weeks as part of their final year practice placement. In Case Study C and D the schools had support from one of the researchers and author (Sue Soan) who contacted the schools, in person or over the telephone regularly over the period of the study to meet with the relevant members of the teaching team and to provide support.

Timetable

In January 2011 the researchers (Eve Hutton and Sue Soan) organised a series of meetings with representatives from the schools, the Healthy Schools team and occupational therapy students. The

aim of these meetings was to outline the purpose of the study and to introduce the resources and describe what support would be available to teachers.

Following the initial meetings each school received an electronic version of the resources and a small number of printed copies were distributed via the students in Schools A and B and by the researcher Sue Soan in Schools C and D. Sue Soan also attended staff meetings in each of the schools in order to inform the wider teaching teams about the study and to answer any questions. During the following 12 week period the students, Healthy Schools team and teachers were asked to contribute to the study by gathering data following the protocol provided at the outset of the research. The intention was to draw on these data to formulate what could be learnt from the uptake of the resources in the schools.

At week 6 half way interviews were conducted with key individuals. At the end of the 12 weeks the researchers visited the schools to interview the stakeholders, occupational therapy students, teachers, head teachers and health promotion specialists. The discussion was structured around the research questions with the focus of discussions on whether the resources were felt to be useful, their impact, and any practical issues affecting how they were viewed or adopted by schools including barriers and facilitators.

Other data sources

Other data sources outlined in the case study field procedures including impact logs and observational checklists supplied as part of the resources were not collected by participants in schools A and B. Schools C and D did collate a quantity of data using the impact log. School D also completed observational checklists resulting in the first collection of data incorporating evidence of positive change. Schools C and D hoped to be able to use the data they were beginning to collect to develop a needs analysis using the healthy schools framework (DH and DfES, 2002). Occupational therapy students completed reflective logs which they were required to complete as part of their assessment.

Analysis

Focus group and interview data were recorded and transcribed. Sue Soan and Eve Hutton read the transcripts and this was shared with the students supervisor who supported the two occupational therapy students during their role emerging placement. The observational checklist data provided by School C was reviewed by the student supervisor and Sue Soan. All other data were analysed with a view to increasing our understanding about how teachers viewed the resources and the actual use they made of them in their day to day practice. We drew on examples where there was little or no engagement by teachers and explored possible reasons for this. We were particularly interested to explore whether utilising the well-established 'Healthy schools' initiative worked as a means of 'piggy backing' the resources into schools (Victora et al. 2004).

Findings

Interest and engagement of teachers and other school staff

Our interviews and focus groups with teachers led us to conclude that there was greatest interest when teachers could see direct relevance of the information with learning and attainment amongst their pupils. The information was seen to be particularly relevant for children at Key Stages 1 and 2 as the content addressed sitting ability and the impact on pencil control and scissor skills.

'*I think it[the resources] would be more useful in Key Stage 1. I think the staff will see it as more relevant to them. Key Stage 2 seem more curriculum guided it just seems certainly in early years that these issues are more up front'* (SENCO, School C).

One teacher (School A) highlighted that children's inability to 'sit still and listen' was a significant issue particularly for children from disadvantaged backgrounds in her class. She commented that children may never have had opportunities to sit on chairs at home. Children were described as routinely 'falling off' their chairs in class, sitting 'inappropriately' with legs tucked underneath them, and of not being able to sit 'still' on the floor at carpet time without fidgeting. In other interviews issues about sitting were often the cause of disruption to other children and teachers were therefore motivated to explore the suggestions and ideas that assisted them address these difficulties.

In the two schools (C and D) where Sue Soan provided support a senior member of the school leadership team distributed the resources and directed members of the teaching team to implement strategies and suggestions contained in them. The Deputy Head Teacher (School D) devoted an

entire staff meeting to the initiative and identified individuals within the team who would be responsible for taking aspects forward. There was evidence in both Schools C and D of take up by teachers who read the resources and attempted to implement changes in their classroom practices.

All the schools had uploaded the resources onto their intranet systems. However it was apparent when speaking to teachers that none of them had accessed the resources this way. A small number of printed copies of the resources were distributed at the start of the study in all of the participating schools. In one school (School C) the school SENCO provided additional printed copies of the booklets to teachers, having access to a printed copy appeared to assist take up by teachers in this school.

In School C, the Reception and Year 1 teacher had encouraged children to adopt a more relaxed approach to sitting in their classroom - allowing children to choose a comfortable position during carpet time and introducing posture cushions for certain children. All the teachers wanted to ensure that they had 'done the right thing' by discussing this with Sue Soan and Eve Hutton, because they wouldn't have known '*if things were OK or not'*. During these follow up discussions with teachers it was apparent that they were 'not entirely sure' of the principle involved in allowing children to adopt different sitting positions or use cushions or blocks to make sitting more comfortable and they benefited from the additional advice we were able to provide.

These observations confirmed the importance of providing access to advice to assist teachers gain greater understanding of the underpinning knowledge and reasoning behind recommendations and universal strategies.

'*We have read the booklet which is easy to follow but it's not really understanding the importance of this –we wouldn't know if things were OK or not – sitting crossed legged or wrapping feet around the chair we wouldn't know this'* (Foundation teacher).

In schools A and B which hosted the two occupational therapy students on their role emerging placement, busy teachers delegated responsibility for implementing strategies in their class to the students and the school nurse. At the start of their placement the students lacked confidence and needed reassurance from their tutors that they were implementing ideas and strategies appropriately.

' *I identified something I could help with but however I realised that by communicating this I was also promoting myself as someone who had the answers which created some anxiety for me … she (the class teacher) had expected me to provide some solution '* (Student).

By the end of the placement the students had instigated a series of initiatives, such as changes in the school meal experience of pupils, which were highly valued by the schools and the pupils (Dancza 2011).

'*..having a student has been essential – I don't think we would have got the eating skills off the ground without her'* (Inclusion Manager).

At the end of the placement during the follow up interviews student occupational therapists said that the information in the resources had assisted them in adopting 'whole class/whole school' occupational therapy intervention and contributed to their appreciation of the role of occupational therapist within schools.

(b) Impact on the movement and coordination skills of children

We were interested in whether teachers and other school staff had observed any improvement in children's skills during the 12 weeks of the intervention. Because of the limited timescale, the schools had opted to focus on resource(s) that they felt were most relevant, with the intention of following up on others later in the school year. The sitting and lunch-time resources proved most popular.

Noticeable improvements in sitting, handwriting and cutlery use amongst children were observed by teachers and school staff to differing degrees in all the school settings. Strong leadership from the senior management team in School D was evident and the head teacher coordinated the introduction of the lunch-time and sitting resources within the school, delegating responsibility to specific members of the school team. Those responsible, followed up on recommendations in the resources and introduced activities to assist children develop their fine motor skills and improve awareness of sitting within the school.

School D noted significant improvements in children's sitting ability, handwriting and cutlery skills at the end of a relatively short intervention period of twelve weeks. The use of prior and post research

photographs and pupil work, annotated by class teachers, illustrated the changes observed in class / or the lunch hall. Teachers interviewed in the other schools (A,B,C) involved also noted changes although these were not evidenced.

A teacher in School C said that the sitting resource had prompted her to ask children in her class whether they were comfortable and she was 'horrified' to find that 'almost every child said they had back ache when they sat on the floor'.

– they never mentioned this before also that their legs ache. I think this has enabled them to say if something is uncomfortable – it's given them the freedom to move position' (Foundation Teacher School C).

The inclusion manager highlighted that 44% of children were on the special needs register and in receipt of free school meals and would benefit from an eating skills group as described in the lunch-time resource (School A).

'In the reception they have looked at the dining hall and looked at tables and the use of cutlery – this child is too high or too low just a quick observation and they have put in cutting skills and some clever hands things and seen improvements… Going onto handwriting one of the teachers has been getting the children to sit on chairs properly and another used a cushion and there have been improvements in just two weeks'' (Deputy Head Teacher, School D).

(c) Sustainability

We did not expect schools to achieve Healthy Schools' objectives within the limited timescale of this small exploratory study. However two of the schools did start the process of collecting and analysing data related to Enhanced Healthy Schools' status (Schools C and D) and we understand continued this work after the initiative had ended. The needs analysis framework used by the Healthy Schools team prompted teachers in these schools to think about determining a baseline in order to measure changes in lunch-time experience. Teachers in Schools C and D started the process of gathering data. It was apparent that the resources needed to give clearer direction to teachers with regard to how to go about identifying need and measuring changes. We had anticipated that links to Healthy Schools may assist the uptake of the resources however in some schools it highlighted differences

between the goals and targets of the health and wellbeing practitioners working in the schools and the schools themselves.

''W*e need to know how many children have these problems – to be able to say 50% of children in this school have these issues affecting concentration and ability to work to their potential, this would be useful for commissioners'* (Healthy Schools' Practitioner).

'*the feeding thing is a huge issue in this school – for some of the children this is their main meal – getting told off for not eating properly makes this an unpleasant experience – so the dining hall thing is hopefully a long term thing and we will get the resource to support it' (*Teacher School A).

We enquired as to whether participants thought the strategies proposed in the resources would be sustained. Everyone hoped for sustainable change, but where there was external ownership of the initiative (by visiting student occupational therapists for example) there was a question mark as to whether the school, without the additional input provided by the students would maintain any changes.

'*My fear is that here they won't take things on when the support from OT is gone'* (Healthy School Practitioner).

Time and manpower resources were an issue in all the schools and some felt that 'it would be a big ask' to get everyone on board at a time when schools were seeing a reduction in their teaching assistant support. Lack of time and other pressures on teachers' time were cited as reasons as to why there had not been greater involvement from the teaching team in some schools. However this contrasted with schools, particularly schools C and D that were under similar pressures but still managed to prioritize the initiative.

We do know that in two schools the initiative has been maintained and extended into the new academic year. The Deputy Head Teacher in School D has engaged each teacher and teaching assistant in implementing one of the resources in their class and during lunch-time, deciding that each year group will have a particular focus throughout the year. The Deputy Head Teacher has also decided to use the resources as part of the evidence towards her NPQH (Head Teacher qualification). She is taking the resources and introducing them to another infant school in East Kent.

Limitations of the study

There were several limitations to this feasibility study and caution needs to be applied in terms of any generalisability of our findings. The research focused on a small opportunistic sample of schools in one geographical area. Adopting a case study approach enabled us to take advantage and gather information about events occurring at the time of the data collection. For example, we utilised the presence of occupational therapy students on a role emerging placement in two of the schools that participated. We took the opportunity to adjust the timing of the study to coincide with the Healthy School teams who were working with the schools on achieving Healthy Schools' status. We wanted to explore whether or not association with the well-established initiative might enhance the uptake of the resources.

These factors presented challenges alongside opportunities, particularly around ensuring good lines of communication between participants across the four school sites. Despite drawing up a protocol for data collection and briefing participants - only one school used the pre and post collection tools we had devised. Other challenges included occupational therapy students 'finding their feet' in schools unused to hosting students and some unforeseen dynamics between the Healthy Schools teams and the participating schools. For example, expectations in certain schools around the support that would be provided from the Healthy Schools team to assist with the work associated with attaining Healthy Schools Enhanced status differed from the Healthy Schools team's perception of their role. There was often frustration that in some of the schools the work required to achieve a baseline from which change could be measured was not a priority. The original intention of the resources assisting in schools achieving Healthy Schools status got caught therefore in a certain level of 'cross fire' between students, teachers and healthy school practitioners with differing expectations.

The presence of the students and dynamics between the schools and the Healthy Schools practitioners enabled us to consider factors we hadn't previously considered that have proved useful in informing further planned research, prompting reflection on the implementation of universal strategies in schools and the requirement for support when sharing specialist knowledge (Godemann 2008).

Conclusion

Findings confirmed our conclusions of the earlier 2008 study (Hutton and Soan 2010). Most strikingly was the importance of senior leadership support to take up of the initiative and longer term sustainability of change. A prerequisite to introducing any initiative in schools is therefore securing the support and active involvement of the head teacher and senior leadership team at the outset (Bush 2009; Rutherford 2004).

In terms of content of the resources we found that the information that had greatest relevance for teachers focused on learning and attainment and related to everyday classroom and school issues. This confirmed the need to have an explicit 'teaching and learning' component. The information about the development of postural control in young children as a prerequisite to sitting ability and the lunch-time skills strategies that raised teachers awareness of lunch time as an integral part of the curriculum rather than a 'lost lesson' were particularly relevant for children in the Foundation Stage and Key Stages 1 and 2 (DOE 2013).

The study reinforced the importance of providing teachers with on-going access to support from occupational therapy and specialist teaching alongside the availability of written materials designed to promote universal strategies. This brought into focus the importance of ensuring that strategies classed as 'universal' need to be accompanied by sufficient information and appropriate support that enables the principles and theories underpinning them to be understood.

Occupational therapists who work successfully in schools adopt a collaborative approach with the class / form teacher and SENCO so that educationalists are able to gain a greater understanding of the importance of developing movement and coordination skills for learning. This collaborative approach to supporting universal provision is also vital for sustainability and resourcing (Hanft and Shepherd 2008; Missuna et al. 2012). Teachers need to be involved and accept responsibility for this work alongside health colleagues. Having access to resources that have been developed jointly with input from specialist teachers, we believe, may assist collaborative working, over-coming recognised barriers of language and professional culture (Bose and Hinojosa 2008; Kennedy and Stewart 2011).

We hoped that the Healthy Schools teams who visited the schools during the 12 weeks of the intervention would be able to support school staff with the implementation of strategies

recommended in the resources as part of the Enhanced Healthy Schools programme. The study demonstrated that there are opportunities to collaborate on targets relating to health and well-being across disciplines and professions (O'Toole *et al,* 2007). The addition of health promotion materials such as those linking difficulty with participation in activity with poor motor skills and awareness-raising amongst teachers of the link between disability and obesity in childhood fitted well with current government targets relating to prevention and health promotion in schools (DoH 2010).

The resources prompted two of the schools to start a Healthy Schools needs analysis. The experiences reported by School D illustrated the importance of assisting schools with a more structured approach to setting baseline targets, carrying out observation and other data collection methods that can assist the generation of evidence to support the effectiveness of interventions and aid the process of data analysis. Although it was unrealistic to expect schools to attain Healthy School status in the limited time scale of the project in schools we know that Healthy Schools practitioners continue to value the resources and are exploring ways to extend their reach and impact in schools (Healthy Schools programme http://www.kentcht.nhs.uk).

In the spirit of lessons learnt we conclude by considering how we can apply what we have discovered and take our research on to the next stage at a time of unprecedented cost constraint in public services (Chowdry and Sibieta 2011; Kings Fund 2012). From September 2015 local authorities in England will be responsible for commissioning universal and targeted public health services for children and young people. Based on our findings we want to explore the potential for closer collaboration between children's occupational therapists and health and well-being professionals already working in schools on universal and targeted interventions. Practical experience in schools by the authors who have undertaken research in the area of capacity building within schools (Hutton and Soan 2010; Hutton, 2009; Hutton, 2008) suggested that if early motor development deficits can be tackled as part of universal early years' provision, geographical spread and embedded sustainability is more likely to be achieved.

Summary

There is considerable debate at present surrounding a child's 'readiness' for school, but there is a consensus around the need to support children who start school at a disadvantage (PACEY 2013). The evidence seems to support the usefulness of universal resources in addressing gaps – for those

children attending school who lack basic motor and coordination skills. We have demonstrated how these resources, with appropriate accompanying support, can assist teachers in thinking about how to make simple adaptations and introduce activities that promote the development of children's movement and coordination skills. These combined occupational therapy and specialist teaching strategies, supported through access to specialist advice could become an integral part of teachers' everyday practice – offering a cost effective way of addressing the motor and functional skills development of children in Reception and Year 1 who start school at a disadvantage.

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