'You get some very archaic ideas of what teaching is…': Primary school teachers' perceptions of the barriers to physically active lessons

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Abstract

Physically active lessons present a key paradigm shift in educational practice. However, little is known about the barriers to implementing physically active lessons. To address this, 31 practising primary teachers (23=*female*) from nine primary schools across West Yorkshire, England, were engaged in focus group interviews. Drawing on the socio-ecological model, findings revealed that barriers influencing the implementation of physically active lessons are multifaceted. Teacher's confidence and competence, concerns over classroom space, preparation time and resources, coupled with the wider school culture that is influenced by governors and parents, reinforce a didactic approach and act as barriers to physically active lessons.

Keywords: *Active lessons, Movement, Education, Didactic teaching, Socio-ecological model*

Introduction

School-based education has been, and largely remains, predominantly sedentary. In England at least, a tradition of didactic teaching exists as a result of increasing class sizes (Hall & Nuttall, 2000) and a culture of performativity that acts as a powerful influence on pedagogical choices within primary school classrooms (O'Riordan, 2016). Didactic teaching involves the one-way transfer of information (from teacher to pupil) through closed questioning and minimal feedback. Given the propensity for this approach to help pupils acquire and recall subject knowledge, these traditional didactic teaching methods require pupils to spend large segments of classroom lessons inactive, often seated for extended periods of time (Nettleford et al. 2011). At the same time, traditional school-based physical activity opportunities, such as physical education or break time/recess, have tended to decrease due to an increased emphasis on academic performance (Hardman 2011; Stylianou et al. 2016). This is surprising since there is evidence to suggest that introducing physical activity into the school day can improve on task behaviour (Maher et al. 2006; Mahar 2011), enhance cognitive function and academic achievement (Daly-Smith et al. 2018; Donnelly & Lambourne, 2011; Watson et al. 2017) and develop perceived competence and effort in the classroom (Vazou et al. 2012). This is in addition to decreasing sedentary time (Salmon et al. 2005; Salmon, 2010) and increasing time spent engaging in physical activity (Batholomew & Jowers, 2011; Martin & Murtagh, 2015), which could have positive implications for primary school-aged children's health.

There is however, a growing movement to develop and adopt classroom-based physical activity in an effort to increase physical activity within the school day. According to Watson et al. (2017) there are three prominent types of classroom-based physical activity frequently discussed in primary schools that, while sharing a common goal to increase physical activity and reduce sedentary time, differ in terms of the purpose of the movement. These include: (i)

63 activity breaks, (ii) curriculum-focussed active breaks, and (iii) physically active lessons
64 (Watson et al. 2017). With regard to the former, one common use of physical activity is as a
65 stand-alone activity that provides a 'break' from academic instruction within or between
66 lessons (Webster et al. 2015) (for example, Wake Up Shake Up). Curriculum-focussed active
67 breaks however, comprise short bouts of physical activity that include curriculum content
68 (Watson et al. 2017) (for example, Take 10!). On the other hand, physically active lessons are
69 those that seek to integrate movement into the existing curriculum, in key learning areas other
70 than physical education (Watson et al. 2017). Physically active lessons, therefore, present a key
71 paradigm shift in current educational practice since the movement is integrated in a meaningful
72 way with the curriculum content. This pedagogical approach offers a stark departure from
73 traditional didactic teaching, potentially adopting a more constructivist and problem based
74 learning approach whereby teachers act as facilitator for learning in a physically active manner.
75 Importantly, a recent two-year longitudinal study demonstrated that pupils who engaged in
76 physically active lessons were four months ahead in maths and spelling than their peers who
77 only engaged in traditional classroom learning (Mullender-Wijnsma et al. 2016). To date, while
78 some literature would argue that physically active lessons have not always led to enhanced
79 academic outcomes (Graham et al. 2014), no study has found a negative effect compared to
80 traditional classroom learning (Watson et al. 2017).
81
82 Despite this, classroom-based physical activity interventions are often designed by researchers
83 who understand elements of the provision but may lack the operational knowledge of the school
84 environment and the barriers to implementation that teachers may face. While short-term
85 outcomes are likely to be fuelled by initial teacher enthusiasm, longer-term success may be
86 hampered by the multifaceted barriers within the school social, physical and political
87 environment. To solve longer-term implementation challenges, it is important to gain a wider

understanding of the barriers to successful implementation within the school. While several studies have reported on barriers to activity breaks within lessons (e.g., Gatley et al. 2013; McMullen et al. 2014), to date only a few studies have sought to explore the barriers to physically active lessons more specifically (McMullen et al. 2016; Martin & Murtagh, 2015). In these studies, time, space, a lack of training and the pressures of standardised testing were identified as the main barriers. However, in the Irish study by McMullen et al. (2016), data were drawn from a small sample of 13 teachers in the same school who were already involved in implementing physically active lessons. In the Irish study by Martin and Murtagh (2015), findings were based on survey data from only one teacher.

Thus, for longer-term success, knowledge of the barriers within and beyond the school is essential in order to best support the implementation of this innovative practice. Akin to McMullen and colleagues (2016) suggestion for further research that considers the perspectives of teachers, we also argue that research should include a broader sample, drawing from a more diverse range of primary school staff (across a variety of different schools), who do not currently implement physically active lessons. As such, this study offers a comprehensive exploration of the factors that influence the successful implementation of physically active lessons. More specifically, it aimed to:

(1) explore a wide range of primary school teachers' perceptions of physical activity lessons and,

(2) map the barriers to a socio-ecological model, identifying the varying and interconnected levels of influence.

Briefly, socio-ecological models offer a framework for mapping and understanding the multidimensional influences that shape practice (Langille & Rodgers, 2010), in this case, implementing physically active lessons. As well as accounting for intrapersonal (individual)

and interpersonal factors, socio-ecological models consider broader influential factors such as the community, the school institution itself, and the influence of policy (McLeroy et al. 1988). Socio-ecological models have been used previously in similar studies to explore preservice classroom teachers perceived barriers in implementing movement integration in America schools (Goh et al. 2013).

Methodology

Participants

Given the aims of the study, a qualitative approach was adopted in order to explore, in depth, participants understanding of physically active lessons and their perceived barriers to implementation. As such, 31 practicing teachers (23=*female*) from nine different primary schools across West Yorkshire, England, were recruited for the study in 2016. These nine schools were rated by Ofsted as Good or Outstanding but varied with regard to the proportion of pupils with a special educational need or disability and the proportion supported by Pupil Premium (see table 1). An initial school was identified through a School Sport Partnership Manager before further schools were approached through a process of snowball sampling (Cohen et al. 2011). Once a school was identified, key gatekeepers (Head Teachers) were contacted via email and telephone. Teachers within the school were then invited to take part in the study. To be included, participants had to be working in a primary school in a teaching related capacity at the time of the study (e.g. either as a teaching assistant, as a full- or part-time primary school teacher, or on a teacher training programme). Moreover, those recruited were not engaged in delivering physically active lessons and so could speak about what might prevent them from engaging with this practice. The resulting sample included those engaged in teacher training, subject leaders, classroom teachers, Assistant Head Teachers and Head Teachers (see table 2).

INSERT TABLE 1

Method and procedures

All participants were invited to take part in a semi-structured, focus group interview. In total six focus groups were conducted. Prior to data collection, university ethical approval was granted. From the outset, all participants were asked if the interviews could be recorded, to allow data analysis to be carried out at a later stage and were asked to provide signed consent to participate in the research. Focus group interviews, while often driven by the researcher's interests, are thought to provide access to reports on a wide range of topics and are relatively efficient in comparison to individual interviews in terms of gathering equivalent amounts of data (Sparkes & Smith, 2014). However, they can be dominated by a few individuals and are often susceptible to facilitator bias (Yin, 2016). To minimise the risk of bias, a focus group interview schedule was drafted, piloted and provided to participants in advance. The participants were informed that the questions were related to physically active lessons, where movement was integrated with curriculum content. As such, questions covered teachers' understandings, perceived benefits and barriers to physically active lessons. Pre-defined points to probe were included with all questions to ensure interviewees were encouraged to elaborate on their answers to maximise the depth of the data captured. Interviews then took place in school classrooms or the staff room depending on the school, lasted between forty-five minutes to an hour and were conducted by the lead researcher to ensure consistency of approach.

INSERT TABLE 2

Data Analysis

All focus group interviews were transcribed verbatim and thematically analysed (Braun & Clarke, 2006). Following multiple independent readings of the transcribed texts by the three authors, the data were coded via a process of open coding (Cohen et al., 2011). After this initial point, a peer review strategy was employed whereby all three authors met to share and discuss their independent analysis and emerging patterns. During this process data were moved into different first-order and second-order themes with each author describing their justification for the placement of the data. No strong disagreements between authors were identified. Codes were, therefore, collated into potential core themes before a thematic table was generated (Cohen et al., 2011) (see Table 3). The themes and patterns within the data were identified in both an inductive ('bottom up') and a deductive (theoretical or 'top down') way (Braun & Clarke, 2006). The former ensured that themes identified were strongly linked to the data themselves without trying to fit them into a pre-existing coding frame. The latter, a deductive analysis, was employed as this allowed for a more detailed analysis of some aspects of the data in respect of the socio-ecological model that was used to guide thinking around potential barriers to implementation (Braun & Clarke, 2006; Langille & Rodgers, 2010). For instance, the initial emerging first order themes of 'perceptions of teaching and learning' and 'teacher reluctance' where grouped to form the second order theme of 'teacher attitudes'. Then, by applying the socio-ecological model, this second order theme was grouped with 'teacher confidence and competence' to form the core theme of 'individual factors', since this was the most proximal level of influence recognised in the socio-ecological model (see table 3). The resultant themes were then refined, whereby negative cases that contradict emergent patterns were sought to expand, adapt or restrict the original construct to help tell the overall story (Cohen et al., 2011), though none were identified here. Several themes emerged around definitions and the benefits of 'physically active lessons', but these data did not necessarily relate to the aims of this paper and, therefore, are not presented here.

INSERT TABLE 3

With regard to the trustworthiness of the study, the process of peer review and the ensuing dialogue between authors helped to determine the studies credibility and transparency. Transparency was obtained through foregrounding the dialogue between the authors above, and by providing a rich description of the research methodology. Moreover, we sought rigor through rich descriptions and explanations of the theoretical framework (as discussed later), the data sources and the wide sample the data were drawn from (Tracy, 2010).

Findings and discussion

After analysing the data, five core themes emerged relating to the factors that influence whether or not teachers would implement physically active lessons in primary schools. As identified in the socio-ecological model, results are reported under individual, interpersonal, institutional, community, and public policy levels of influence.

Individual level influences

According to McLeroy et al. (1988), individual factors relate to personal characteristics and choices and, in relation to physically active lessons, teachers' knowledge, skills and levels of self-efficacy. Importantly, these factors are thought to be the most direct and influential in shaping behaviour or in this case, a teacher's practice (McLeroy et al. 1988). Here, prominent themes to emerge from the focus group interviews were teachers' confidence, competence and their attitudes toward delivering physically active lessons. Interestingly, few teachers admitted to a lack of knowledge of how to integrate activity with curriculum content, instead they focused on the physical capabilities of some teachers:

I think it depends on the individual staff as well and their circumstances, I mean you've got to consider other people's health as well, you know if someone is ill, or coming back from a major illness or operation, can they actually be as involved in these things as you want them to be? So I think you've got to bear in mind staff's, not just their willingness, they might be willing but they might not be capable but they could still be supportive in a way (FG4, T4)

While this reflected a perception that teachers should engage in the active component with pupils, it also suggests that teachers perceive the level/intensity of activity to be quite high. Many primary school staff also discussed how other teachers may lack the confidence to deliver these lessons: "*Confidence in staff, not everyone, even in PE not everybody will go all out, there are some that are reluctant because they lack confidence*" (Focus group 1, Teacher 4). In the same focus group, another teacher also identified how a lack of confidence specifically acts as a barrier:

I think one of the things people might see as a con is the disruption, I know that teachers lack confidence and feel more uncomfortable when children are moving around and picking their equipment and things like that. They feel that it is unorganised if they don't have children sitting at desks in the classroom… that could be a con [negative] for me (Focus group 1, Teacher 1)

Although the teachers here didn't report a lack of knowledge with regard to how they implement physically active lessons, arguably, enhancing their knowledge through continuous professional development may subsequently increase levels of confidence. Moreover, while it has been suggested that the integration of physical activity into classroom lessons could pose problems for teachers who lack confidence (Welch, 1998) previous studies that have looked at classroom-based physical activities more broadly have identified self-efficacy as a key barrier

(Gibson et al. 2008; Parks et al. 2007). However, this study is the first that relates this barrier to the implementation of physically active lessons specifically.

It could be argued that the perceived lack of confidence reported by teachers contributes to a feeling of reluctance to engage in physically active lessons and to see past the traditional perceptions of teaching and learning. Several participants suggested that some primary teachers "*are very stuck in their ways*", viewing teaching as very didactic, teacher lead and more often than not, sedentary. This was often rationalised in relation to the need to sit and write, which reflected the real world beyond school:

> *There'll always be a time when they need to sit down and write something (Focus group 4, Teacher 2)*
>
> *…they need to be taught the skills of working independently don't they? Because they are not going to be active all day when they're in the real world, they are going to be sat at a desk sometimes (Focus group 4, Teacher 1)*

In the above exchange, it could be argued that the emphasis placed on working independently, associated here with working in a sedentary manner, devalues other transferrable skills such as teamwork and communication that might be more evident in physically active lessons. In addition, while this general reluctance to see past the traditional didactic view of teaching was consistently identified as a barrier to delivering more innovative, physically active lessons, some teachers recognised this was also a product of the educational system itself.

> *But it's seen as an acceptable progression isn't it? You know, we'll get them out of foundation stage, year 1 at the start of the year there's more provision and by the end of the year it's more formal. Then in year 2, you're ready to sit at a desk so that's seen as a positive isn't it, right, well done, you're ready to sit down now and do nothing… it's taken us a year but we've managed to drive out all of your self-motivation and*

creativity and by year 5, if you've not got a pencil, you'll sit at your desk for ten minutes with your hand up until someone brings you one! (Focus group 5, Teacher 1)

Evidently, this teacher believed the current primary education system serves to reinforce a didactic approach that limits pupil agency and impacts negatively on self-motivation and creativity. This *system* may reflect the pressures of standardised testing and a performative culture (O'Riordan, 2016) with sitting down patiently recognised as a sign of success whereby pupils are subservient to the teachers. All in all, teacher's views of teaching and learning and the reluctance of teachers to change their ways and deviate from the traditional didactic delivery in relation to the introduction of physically active lessons were perceived to be key barriers here. Furthermore, while individual level factors are thought to be the most significant with regard to making a change in practice, these are shaped and further exacerbated by factors at various other levels as outlined later.

Interpersonal level influences

Interpersonal level factors were also identified by participants as barriers to implementing physically active lessons and revolve around the interpersonal processes and the primary social groups involved (McLeroy et al. 1988). While few teachers mentioned the need for help or support from peers, for instance, in the need for role models to help them deliver physically active lessons, the most prominent responses centred on the pupils they had in their class. Overwhelmingly, teachers reported pupil behaviour as a particular barrier:

We have some children who kick off at an active lesson, then that's a barrier for the teacher, for themselves and for the class, then it's handling the behaviour rather than the active learning (Focus group 3, Teacher 1)

I would say behaviour management there as well, I do pride myself on it but even anything active, you've got to find the spellings or go outside, there will always be more

major behaviour issues then there will be if everyone is sitting down and I think that will be why the majority of people that aren't that keen on active things would choose not to do them because, instead of just chatting, a kid might run off or hurt someone or hurt themselves, it escalates, so I think that needs to be a priority (Focus group 1, Teacher 1)

Pupil behaviour could therefore be used as an excuse to avoid implementing physically active lessons. This finding is reflected in McMullen and colleagues (2014) study of activity breaks whereby teachers reported student behaviour as a key issue when considering whether to use an activity again or not. Moreover, ensuring the pupils remain seated helps to ensure a level of control and classroom management and may act as a repressive strategy that reinforces the traditional didactic view of teaching reported earlier under the individual level influences. A unique finding however, was a recognition that having pupils in the class with special educational needs and disabilities (SEND) may influence decisions to engage with physically active lessons due to the difficulties of maintaining an inclusive environment:

I know from my son's point of view, he's a wheelchair user, that when they do that sort of thing at high school, he's left at the side, or because it takes him so much time to get into groups of organisation, that he always ends up with the person that no one else wants to work with. So, it's about ensuring those sorts of physical aspects don't isolate people (Focus group 4, Teacher 4)

Institutional level influences

Along with the physical and social environment, institutional factors also refer to the rules, regulations, practices and policies of the school (McLeroy et al. 1988). Here, the analysis revealed three core sub-themes: the physical environment, available resources and the school

311 culture. With regard to the former, primary school teachers spoke about the challenges with
312 space and the classroom layout:

313 *You wouldn't be able to do it in Year 1 or Year 2, the classrooms kind of fold on to one*
314 *another in a couple of places, so that would be a bit of nightmare. I guess time as well.*
315 *(Focus group 2, Teacher 2)*

316 *I mean you could do it in your classroom but you've got all your tables, chairs and*
317 *furniture. I know in our classroom a lot of the furniture sticks out and you've got areas*
318 *so then we'd have to start lugging all the furniture around to get a big space where you*
319 *could do something. (Focus group 3, teacher 2)*

320 These challenges also had implications for the amount of time it would take to (re)arrange
321 classroom furniture, the associated safety issues with pupils moving around the classroom
322 (McMullen et al. 2016) and how sharing space with other classes was particularly problematic.
323 This is perhaps, not surprising since the literature that addresses physically active lessons and
324 classroom-based activity more broadly, most frequently cite institutional factors and the
325 physical environment more specifically as a central barrier. For instance, in the study by
326 McMullen et al. (2016) that drew on data from 13 participants in one Irish primary school,
327 space including classroom set-up and class size, was repeatedly identified across their data
328 sources. This is reflected in the broader literature too (Gately et al. 2013; McMullen et al. 2014;
329 Stylianou et al. 2016). While previous studies have identified the need to find time to
330 implement activity within the lesson (Cothran et al. 2010; McMullen et al. 2014; 2016; Naylor
331 et al. 2006; Stylianou et al. 2016) this study identified the preparation time as a central barrier
332 with regard to moving and rearranging classroom furniture.
333

Similar to the sharing of space, participants also recognised the availability of resources as a potential barrier. For instance, teachers discussed having to share physical resources and a lack of staff resources that would otherwise support physically active lessons:

> *So if you want to use the balls for your science lesson and someone else was doing a PE lesson, you know it's… (Focus group 4, Teacher 4)*

> *You have to consider your staff ratio… For early years it is 1 to 13, so for a class of 30 you would have two adults in there but you would have to make sure that the other adult didn't get taken away for anything else because you were outside doing something, which is often an issue in schools, so your active lesson couldn't then go ahead (Focus group 3, Teacher 1)*

Finally, participants discussed the role of school and governor expectations and whether they could get their buy-in as another factor that would influence their ability to implement physically active lessons.

> *Yeah when you're under the pressure of 'Hang on if they don't get results and things and they've been outside in the playground, well what have they been doing? (Focus group 2, Teacher 1)*

> *Even talking to a chair of governors about this a couple of months ago he said well that's what you've got to prepare for when they work – it's that they sit at desks when they are in the office and again that's just a mind-set… (Focus group 5, Teacher 2)*

These comments largely reflect the broader school culture and whether or not physically active lessons align with the school development plan and whether the school governors recognised the positive effect it could have. It is important to remember that teachers do not operate in a vacuum and are influenced by the wider environment in which they operate. Hence, teacher's beliefs, values, competence and confidence at an interpersonal level are likely to be shaped by the school culture and support from senior management at the institutional level.

Community level influences

Perhaps the most prominent responses with regard to community level factors related to parents and their expectations. For instance, in an exchange between the two teachers involved in the second focus group, there was recognition that parents may view learning in different ways:

Karl: Trying to read parents, we have more chance of predicting lottery numbers, even if you think you are sure about something you will always get one parent who will be like 'they seem to be going outside an awful lot, I don't agree with that, they should be inside sat at a table', so you might get one parent who…

David: You get some very archaic ideas of what teaching is…

Similarly, there were teachers who recognised that some parents had expectations that their child would leave primary school and attend a grammar school. Hence, anything other than being seated, with information drilled into them, would negatively impact their learning and chance of progressing. This ultimately acted as a barrier to changing the way they taught and further reinforced the barriers identified earlier at the individual level.

I also think that the type of children that we have that go off to grammar school tend to be the more capable, and I think that their parents will perceive that those lessons aren't doing anything to push and challenge their high-ability, high-achieving children… (Focus group 4, Teacher 3)

I think some higher ability parents might be against it, so some of the children who are really bright in my class, some of their parents think they should be sat down and learn the next step then go through it, drill through learning. (Focus group 3, Teacher 3)

Well it would probably be on Facebook to begin with and slagged off [by parents]. (Focus group 3, Teacher 1)

Throughout the responses, teachers discussed the need to ensure parents saw the value of physically active lessons and that they were able to recognise that their child could still achieve the desired learning outcomes through non-traditional means of teaching. To our knowledge, no study has yet identified how influential parents may be with regard to what schools deliver within lessons. Yet here, unanimous across the different focus groups were teachers who were cognisant of parental expectations and how their practice may be received. Importantly, Allison (2010) has argued that teacher's perceptions and personal fears (perhaps in this case of how they are perceived by parents at the community level and Head Teachers and governors at the institutional level) are likely to influence their choice of pedagogy and thus may result in reinforcing a traditional didactic approach.

Policy level influences

The final level of the socio-ecological model centres on public policy (McLeroy et al. 1988), particularly those policies that may shape practice in primary schools with regard the implementation of physically active lessons. Here, the National Curriculum (which suggests what should be taught in most state-run schools in England) along with Ofsted, the organisation responsible for inspecting a range of educational institutions were identified as key barriers. For instance, when discussing the learning outcomes of curriculum content, several teachers thought it would be difficult to integrate movement:

> *Somethings just don't fit. Sometimes you just need to be sat in front of a laptop, you've got to be researching or you've got to have a text in front of you or reading examples. Comprehension style activities. (Focus group 2, Teacher 1)*

Similar to the study by Gately et al. (2013) that evaluated an activity break within lessons, Ofsted was cited here as a particular factor that would shape decisions to implement physically

active lessons. For instance, there were several discussions that centred around Ofsted and what teachers thought inspectors would want to see.

> *…if you think about the big O word, you know if we are prepared to rip the curriculum up or become much more active then we've got to know, are we actually at a stage where we can do that knowing that potentially Ofsted come next year or the year after? We've only just come out of 'requires improvement', so are we going to be putting ourselves at risk… (Focus group 4, Teacher 4)*

In keeping with the interconnected nature of the various factors across multiple levels of influence, arguably, the focus on Ofsted also made teachers reflect on how they provide evidence of progress and assessment in physically active lessons.

> *There is a fear there… from an Ofsted point of view, you could get inspectors, you know the school where my children go they are very much about evidence in books because that's what they've been told they have to do… that's not going to encourage teachers to engage in active lessons (Focus group 5, Teacher 1)*

> *That was the Head Teachers' comment when we brought this to her this morning, was what about assessment for learning? How will you know that they have achieved it because the evidence is not there and you may be a facilitator of the activities rather than in a position where you can assess what they have done? (Focus group 1, Teacher 5)*

> *It's just how would you show that rigour that challenge in an active lesson? How would you prove to parents that actually you are challenging their child? (Focus group 4, Teacher 4)*

It has been suggested that the Curriculum generates specific mechanisms to assess pupils and promotes didactic skills-based teaching (Allison, 2010). Here, there was also an explicit concern about preparing pupils for SATs, which reinforced a specific way of teaching. Hence,

the challenges of monitoring and providing evidence in physically active lessons was identified as a key barrier. These findings are reflective of the wider literature where the pressures of assessment combined with an already packed curriculum have been identified to act as a barrier to classroom-based physical activity more broadly (Bartholomew & Jowers, 2011; Cothran et al. 2010; Gately et al. 2013; Gibson et al. 2008; Naylor et al. 2006) and in physically active lessons more specifically (McMullen et al. 2016). However, while many of these studies discussed assessment pressures in terms of time, here assessment pressures were identified with regard to the challenges of monitoring and evaluating progress for external inspections within a physically active lesson.

Conclusion

This study provides a comprehensive exploration of the barriers to implementing physically active lessons from the perspectives of primary school teachers who do not currently incorporate physically active lessons into the school day. It has drawn on a wider and more varied demographic sample to present a detailed analysis of the barriers that impact on a teacher's ability and willingness to implement physically active lessons. Consequently, this paper differs from previous studies that have sought the views of teachers who have experience of implementing physically active lessons (Martin & Murtagh 2015; McMullen et al. 2016) or those that have explored teachers' perceptions of activity breaks (Gately et al. 2013; McMullen et al. 2014; Stylianou et al. 2016).

School-based interventions, such as physically active lessons, are often short lived. One explanation is that they do not take into account the multi-level factors that prevent teachers engaging with the intervention. This paper offers an important contribution to the existing literature since, primarily, it demonstrates that the barriers influencing the implementation of

physically active lessons are multifaceted. Teachers, schools, communities and public policies all have a role to play and given the interconnecting nature of these influences, are likely to shape teachers practice in numerous ways. Importantly, unlike previous studies, this study identified parents, as key stakeholders at the community level, as particularly influential in shaping decisions to implement physically active lessons. Therefore, consideration needs to be given to individual, interpersonal, institutional and community factors that constitute the different levels of the socio-ecological model. Furthermore, if the integration of physically active lessons into the primary school day is to be successful, the adoption of a framework such as the socio-ecological model, with all that this represents, is essential.

Practical implementations

Our study reveals that for physically active learning interventions to achieve long-term adherence, a multifaceted intervention, engaging all levels of the socio-ecological framework, needs to be implemented. This is essential in order to challenge the various interconnected factors that currently reinforce the traditional didactic teaching methods and prevent teachers from adopting alternative pedagogical approaches that integrate movement into curriculum content in physically active lessons. Based on the findings, the following recommendations are therefore suggested for the future design and implementation of physically active lesson interventions:

- To ensure the buy in of key stakeholders (Ofsted, governors, parents, head teachers, teachers and pupils), who may question the role of physically active lessons, programme designers should include information sessions and material that promotes the role physical activity can play in enhancing academic achievement.
- Given the need to evidence pupil progress, programmes should be designed to enable recording of work for assessment. For example, this may involve the use of technology

to record learning during the physically active lesson and/or blocks of time where work is recorded within books.

- Given the space limitations in a typical classroom, education outside of the classroom may provide another solution to enhancing physical activity. This may take the form of activities such as forest school or learning combined into physical education related activities, though this should be in addition to, not instead of, the usual physical education lesson.
- Training programmes need to address teachers' competence (skill development) and confidence (self-efficacy) to deliver active lessons and manage classes in non-traditional settings.
- Teachers should be provided with the knowledge of how to incorporate physical activity into their lessons. This training may be supplemented with a range of equipment and resources, separate to those required for other subjects such as physical education, to reduce the time required for preparation. The Physical Education and Sport Premium funding that primary schools in England can access offers opportunities here. Since one key indicator is to engage pupils in regular physical activity, the funding could be used to engage teachers in continuous professional development so as to enhance their knowledge, skills and confidence to teacher physically active lessons.

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602 Table 1: School characteristics

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School	Gender	Age range	Approximate No. of pupils	Pupil ethnicity	Proportion of pupils supported by Pupil Premium	Proportion of pupils with SEND	Ofsted rating
1	Mixed	5-11	400	Above average proportion of BME pupils	Well above average	Well above average	Good
2	Mixed	4-11	200	Majority white British	Above average	Above average	Outstanding
3	Mixed	4-11	400	Majority white British (though increasing proportion of BME pupils)	Below average	Below average	Outstanding
4	Mixed	7-11	200	Majority white British	Below average	Above average	Good
5	Mixed	3-11	750	Majority white British	Below average	Below average	Outstanding
6	Mixed	2-11	250	Majority White British	Below average	Above average	Good
7	Mixed	4-11	200	Majority white British	Well below average	Below average	Good
8	Mixed	3-11	250	Majority White British	Above average	Above average	Good
9	Mixed	3-11	700	Above average proportion of BME pupils	Above average	Above average	Good

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605 Table 2: Participant characteristics

Focus Group	Pseudonym	Gender	School Number	Role in the school	Number of years experience
1	Laura	Female	Primary School 1	Year 2 teacher	3 years teaching
	Mary	Female	Primary School 1	Physical Education (PE) Specialist	5 years teaching
	Nicky	Female	Primary School 2	PE teacher (Manages School Sport Partnership)	6 years teaching
	Becky	Female	Primary School 2	Year 5 teacher	4 years teaching
	Joanna	Female	Primary School 3	Year 3 teacher & PE Coordinator	9 years teaching
	Claire	Female	Primary School 4	Year 4 PE teacher & Special Educational Needs Coordinator (SENCO)	13 years teaching
	Lennie	Female	Primary School 4	Year 4 teacher & PE coordinator	5 years teaching
	Kate	Female	Primary School 4	Year 2 teacher & Religious Education (RE) coordinator	2 years teaching
	Hannah	Female	Primary School 4	Year 3 teacher	8 years teaching
2	Karl	Male	Primary School 5	PE Coordinator	9 years teaching
	David	Male	Primary School 5	Year 6 teacher	3 years teaching
3	Khloe	Female	Primary School 6	Lead practitioner early years	7 years teaching
	Rebecca	Female	Primary School 6	Teaching assistant	4 years teaching
	Jane	Female	Primary School 6	Year 3 & 4 teacher	9 years teaching
4	Jenny	Female	Primary School 7	Year 5 teacher & SENCO	4 years teaching
	Harriet	Female	Primary School 7	Year 3 teacher	2 years teaching
	Natalie	Female	Primary School 7	Year 2 teacher	6 years teaching
	Sarah	Female	Primary School 7	Year 6 & Acting Deputy Head	15 years teaching

5	Adam	Male	Primary School 8	Year 5 teacher & Assistant Head Teacher	19 years
	Andrew	Male	Primary School 8	Head Teacher	23 years
	Danielle	Female	Primary School 8	Year 3 teacher	1 year
	John	Male	Primary School 8	Year 4 teacher	Trainee Teacher
	Laurie	Female	Primary School 8	Assistant Head Teacher & SENCO	18 years
	Rebecca	Female	Primary School 8	Year 1 teacher	2 years
	Theresa	Female	Primary School 8	Teaching assistant	7 years
6	Ben	Male	Primary School 9	Year 3 teacher	7 years
	Aaron	Male	Primary School 9	Year 2 teacher	10 years
	Jessie	Female	Primary School 9	Year 1 teacher	7 years
	Lucy	Female	Primary School 9	Teaching assistant	2 years
	Natalie	Female	Primary School 9	Year 5 teacher	5 years
	Craig	Male	Primary School 9	Assistant Head Teacher	13 years

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608 Table 3 – Thematic Analysis Table

Core theme	Second order theme	First order theme	Example of raw data
Individual factors	Teacher confidence & competence	Teacher 'ability'	Whether that is fitness or attitude it will prevent people from doing something because you've just not got that ability or want to do it. (Focus group 2, Teacher 2)
		Teacher confidence	I'd say another barrier is people not having the confidence or the experience of doing this. Just like I'm not a musical person, if I was to have my lessons with a musical theme… (Focus group 2, Teacher 1)
	Teacher attitudes	Perceptions of teaching & learning	Obviously, we do still need to teach them the fundamentals, it's not… (Focus group 4, Teacher 1)
		Teacher reluctance	You know I could say myself, I've been teaching quite a few years and everyone gets stuck in their own ways (Focus group 4, Teacher 4)
Interpersonal factors	Pupils	Pupil behaviour	Children can get a bit too physical. A certain child in my class, if someone is in their face because they have got more space, they just can't deal with it. They lash out. (Focus Group 3, Teacher 3)
		Pupils with SEND	Specially in our school we have a lot of SEN children, people in wheelchairs, so we have about two per class, so to have people running around just wouldn't happen. (Focus Group 1, Teacher 7)
Institutional factors	Physical environment	Available space and layout	We're quite limited for space (Focus group 4, Teacher 1)
		Preparation time to arrange furniture	So, prep time and resources it takes a lot of time and if you move your classroom around, getting it back where it needs to be. (Focus group 3, Teacher 3)
		Sharing space	And also, it's [the hall] used for dinner time so you've got the dinner staff setting up and clearing up so that takes half an hour either side of the lunch hour. (Focus group 3, Teacher 2)
		Safety	…you get your health and safety head on because then if they fall and break their… you know, there would be those logistics for me (Focus group 1, Teacher 1
	Available resources	Physical resources	I'd also say resources as well, because if all classes are going to be doing active lessons, do we have enough resources for all of the classes? (FG4, T1)
		Staff resources	I think you would need at least two members of staff. One taking on a supervisory role… making sure that everything is safe and can sort out squabbles but then you would also need that adult that is in there with the children interacting, keeping them motivated, modelling, keeping everything going (Focus group 3, Teacher 1)

	School culture	School expectations	It's essential to have that Head teacher support in everything you do, nothing gets covered unless it has Head teacher approval. (Focus group 1, Teacher 1)
		Governors expectations	…their [governors] big question would be especially that monetary side of it. They aren't money driven but they will be 'how much will it cost' and is that value for money for what he brings to the children (Focus group 2, Teacher 2)
Community factors	Parental expectations	Parental perceptions of learning	I think there would be some parents who are thinking how can we move towards being outstanding and suddenly you're having these, you're not sitting down having these active lessons (Focus group 4, Teacher 4)
Policy factors	Policy influences	National Curriculum content	It's [the curriculum] out of our control, that's a kind of lump it get on with it. (Focus group 2, Teacher 2)
		Ofsted	…we're very much aware of the school development plan and where we need to go because of Ofsted and things like that (Focus group 4, Teacher 3)
	Assessment pressures	Challenges of monitoring and providing evidence	I think a barrier is how we monitor, assess or even provide like evidence of what the children have done in an active lesson. That would stump me (Focus group 6, teacher 3)
		Preparing for SATs	I've got year 6 and you're getting up towards your SATS, I would feel personally I can't give a whole hour to being active every single day when actually we need to drill some of this (Focus group 4, Teacher 3)

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