



**The Feasibility of a Community of Practice Approach  
to Support Implementation  
of Daily Physical Activity in the Elementary School Classroom**

**Établissement d'une communauté de pratique au service de  
l'activité physique quotidienne dans les écoles élémentaires**

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**Abstract**

Although providing daily physical activity (DPA) in the classroom has been shown to be effective for increasing physical activity levels in students, elementary teachers face barriers to implementing DPA. Communities of Practice (COP) have been identified as one mechanism to improve performance in the education sector. The aim of this study was to explore the feasibility of using a COP approach to enhance regular professional dialogue and engagement in planning among district DPA champions and support school level implementation of DPA. Ten elementary teachers, skilled in the implementation of DPA, volunteered to form a COP. To examine feasibility, data were collected using focus group interviews, teacher feedback, participant observations and tracking of school peer-to-peer activities. Results showed time constraints and cynicism about members' ability to change the situation limited the feasibility of the COP approach. The need for a district level support structure for DPA training was highlighted.

**Résumé**

*Même si l'on sait maintenant que les programmes d'éducation physique quotidienne (EPQ) aident à accroître le taux d'activité physique des élèves, les enseignantes et enseignants de l'élémentaire qui aimeraient offrir une EPQ se heurtent encore à maints obstacles. On a établi que la création d'une communauté de pratique pourrait s'avérer utile pour améliorer le rendement du secteur de l'enseignement à ce chapitre. La présente étude portait sur la faisabilité*

*d'établir une communauté de pratique dans le but de favoriser le dialogue entre professionnels, la participation des champions de l'EPQ aux activités de planification et l'instauration de programmes d'EPQ dans les écoles. Dix enseignantes et enseignants de l'élémentaire familiers avec les programmes d'EPQ se sont portés volontaires pour établir une communauté de pratique. Pour déterminer la faisabilité du projet, ils ont recueilli des données à l'aide d'entrevues, de groupes de consultation, de rétroactions d'enseignants, d'observations de participants et de suivis d'activités entre pairs à l'école. Les résultats ont révélé que les contraintes temporelles jumelées à un certain cynisme quant à l'aptitude des membres à faire bouger les choses minaient la faisabilité du projet de communauté de pratique. Ils faisaient également ressortir la nécessité d'une structure d'appui à l'échelle du district afin d'offrir une formation sur l'EPQ.*

## **Introduction**

Many researchers believe that physical inactivity is one of the key factors contributing to the dramatic increase in childhood obesity, which has nearly tripled in Canadian children during the past 25 years (Public Health Agency of Canada, 2010; Shields, 2010; Tremblay & Willms, 2000). Both physical activity researchers and public health professionals identify the school as a prime setting for enhancing the physical activity levels of children and thus contributing to the fight against this alarming trend (Maeda & Murata, 2004; Naylor & McKay, 2008; Stewart, Dennison, Kohl & Doyle, 2004).

Traditionally, elementary schools have provided physical activity through Physical Education (PE) classes. However, research has shown that PE classes may not be reaching the recommended level of frequency or duration, or providing enough moderate to vigorous physical activity (Waring, Warburton & Coy, 2007). One feasible and effective approach to increasing the physical activity of children is to provide structured classroom physical activity breaks throughout the school day (Naylor, Macdonald, Zebedee, Reed & McKay, 2006; Naylor, MacDonald, Warburton, Reed & McKay, 2008; Stewart et al., 2004).

Several provinces in Canada have responded to the need for daily physical activity in the schools by implementing daily physical activity (DPA) guidelines. For example, the British Columbia DPA guidelines state that schools will provide 30 minutes of daily physical activity for students in kindergarten through grade 9. However, although teachers interact with children on a daily basis and DPA has been shown to be effective, many barriers exist to its implementation (Dwyer et al., 2007; Lytle, Ward, Nader, Pedersen, & Williston, 2003). Along with the primary barrier of lack of time other barriers include: an increased emphasis on academic success delegating DPA to a lower priority; low levels of teacher skills, confidence, and limited training (e.g. preservice teacher education and/or inservice professional development); and lack of funding (Dwyer, et al., 2007; Evenson, Ballard, Lee & Ammerman, 2009; Morgan & Bourke, 2007; Stewart et al., 2004; Thomas, 2004; Waring et al., 2007). Given these barriers, there is a clear need to provide teachers with support throughout the implementation process.

Parks (2003) suggested that teachers needed support to successfully integrate physical activity into their class routines. In the evaluation of the Sports, Play and Active Recreation for Kids (SPARK) program, participants listed teacher training as an important enabler to the development and implementation of the program. Frequent support by a physical education specialist was also extremely helpful (Faucette, Nugent, Sallis & McKenzie, 2002). In the field of professional development of teachers, Joyce and Showers (2002) emphasized that training,

when coupled with peer coaching, can result in positive implementation outcomes in the classroom. Peer coaching teaches and reinforces evidence-based skill development and assists teachers to adapt their skills and knowledge to fit their personal styles and situations. For example, in a school setting, peer coaches help teaching colleagues by providing ideas and advice on how to modify components of training to suit the class composition, grade level, or space within the classroom.

Similar to the concept of peer to peer coaching is the concept of COP proposed by Etienne Wenger (2006) which involves “a group of people who share a common passion and learn ways to improve their practice through regular interaction” (p. 1). Communities of Practice have been used to enhance and improve performance through social co-participation (Kerno, 2008). According to Etienne Wenger (2006), there are three elements that characterize COP: the domain, the community and the practice. Wenger (2006) goes on to explain:

In pursuing their interest in their domain, members engage in joint activities and discussions, help each other, and share information. They build relationships that enable them to learn from each other and this joint enterprise binds the community together. As members of a COP interact and learn together, they develop a shared repertoire of resources: experiences, stories, tools, ways of addressing recurring problems - in short, a shared practice. This takes time and sustained interaction. (p.1)

In the COP perspective, learning is defined as the ways in which groups of people gradually transform their practices through ongoing negotiation of meaning as they engage with one another and respond to changing conditions in their environment (Coburn & Stein, 2006). However, as Wenger (2006) points out, “in schools, changing the learning theory is a much deeper transformation. This will inevitably take longer” (p. 4). Up to now, most research has centered on COP within schools, with little focus on the way professionals are influenced by connections with their colleagues from outside of their own schools (Coburn & Stein, 2006). For these reasons, applying a COP model, that brings teachers from multiple schools together to develop methods to support the implementation of DPA, may have potential to enhance collaboration, promote the negotiation of meaning, and gradually transform school practice.

Based on the literature and her experiences as a physical activity champion in her district and school, the primary researcher designed and implemented a collaborative approach, based on the COP model, to enhance the implementation of DPA in her school district. After a successful experience leading a collaborative exercise where colleagues within her own school worked together to identify feasible and acceptable classroom strategies for DPA implementation (30 minutes of DPA is a requirement in the Province of British Columbia), the primary researcher sought to engage other physical activity champions (like minded individuals) from across the district in a COP to enhance and improve implementation of classroom-based DPA in all district elementary schools.

The purpose of this study, therefore, was to explore the feasibility of a district level COP comprised of what we call “DPA leaders” engaged in a project to enhance DPA implementation each in his/her own school. Specifically, we examined, and describe here, the current situation related to DPA implementation in schools, the experience of DPA leaders as they tried to share DPA strategies with their school colleagues (peer-to-peer coaching), teachers’ perception of this peer-to-peer coaching, and barriers and facilitators to participation in this district level COP.

## Methods

### Study Design and Participants

We used a typical case study design to study the phenomenon of a COP made up of teachers from elementary schools in one school district in Western Canada, who were interested in supporting DPA implementation practices in their schools. The purpose of a typical case is “to capture the circumstances and conditions of an everyday or commonplace situation” (Yin, 2009, p. 48). The typical case is meant to represent the experiences that would occur for an average person, or in this case a practicing teacher involved in the COP, in the role of DPA leader.

After approval from the University Human Research Ethics Board, all elementary school teachers in the school district were sent a recruitment email (n=183) to identify DPA leaders (teachers who were personally active, felt they had skills in the area of physical activity and were implementing daily physical activity opportunities regularly for their students) who were willing to participate in a COP. Ten teachers, representing eight elementary schools volunteered. The group consisted of seven female and three male teachers (age range 30 - 55 years). Nine of the participants were classroom teachers, three were also vice-principals and one was a Learning Assistance teacher. Eight of the ten were experienced teachers (10 or more years) and two had less than 5 years of experience. The primary researcher (henceforth referred to as the COP coordinator) was included in this group as a participant-observer and organized and led the district COP.

### Procedures

The stated purpose of the COP (included in the recruitment letters) was to provide an opportunity for these DPA leaders to share ideas and identify DPA activities to share with their colleagues (other teachers in their school). The primary researcher acted as the COP coordinator (McLaughlin, Milbrey & Talbert, 2006) and the initial plan was to mirror the collegial process piloted in her own school in the district COP. The steps in this collegial process included (a) breaking the ice through discussion of the current context; (b) initiating discussions about strategies that each of the DPA leaders used in their own schools, (c) collaborating to select the ‘better practice’ strategies that they thought were feasible to share with colleagues, (d) returning to their school environment to share them (peer-to-peer coaching) and (e) returning to COP meetings to reflect on how it went. There were four separate DPA leader meetings (initial, 2 mid and 1 post) across the 9 weeks. In the initial meeting the discussion focused on the current context and DPA implementation strategies already in use in local schools. Following this discussion, DPA leaders used their experience and a selection of materials from various physical activity resources (provided by the COP Coordinator) to choose simple classroom-based physical activities to introduce to their peers (teachers in their school) through the peer-to-peer coaching /sharing. After the meeting these DPA activities were summarized, printed and provided to each DPA leader by the COP Coordinator. DPA leaders were asked to demonstrate two activities each week to teachers at their school (n=18 activities) and to distribute the activity cards. The number of teachers in each school varied ranging from 9 to 25 teachers. DPA Leaders then met every three weeks for the duration of the 9-week intervention to discuss implementation, problem solve issues, and select new activities. In preparation for a final group discussion the DPA leaders elicited information about the successes and challenges the teachers in their school experienced in implementing the ideas the DPA leader had shared. The final group discussion reflected on

successes and challenges of the school level and district level initiative, its value to classroom teachers and the potential sustainability of the experimented approaches.

### **Data Collection**

Three techniques were used to collect data in this study: focus group interviews, participant observation of guided COP discussions, and classroom teacher interviews.

**Focus group interviews.** Two formal focus group discussions with DPA leaders were held during the initial and final COP meeting. All meetings were held after school in an elementary school centrally located in the School District. Each meeting was approximately 1.5 hours in duration and recorded digitally. Upon completion of the program, focus group interview data were transcribed verbatim.

**Participant-observer field notes.** Field notes were used to record key issues arising at each of the other COP meetings. A list of questions was written up on the board to guide discussion (How did it go? What were the problems/success? What modifications needed to be made, based on this what activities should be implemented in the next period?). The primary researcher's experiences as a classroom teacher implementing DPA were incorporated into the discussion at each group meeting to stimulate thinking and highlight concepts. The researcher also tracked the attendance of the DPA leader participants.

**Classroom teacher feedback.** Classroom teacher feedback was gathered through face-to-face informal interviews between leaders and their colleagues or through email. Classroom teachers were asked by their DPA leaders to report on their awareness of the DPA Leadership program in their school, use of the strategies provided, and the barriers and facilitators they encountered using the activities. DPA leaders orally reported their colleagues' responses during the final focus group interview and this information was recorded and subsequently transcribed.

### **Data Analysis**

The primary researcher completed all data analysis procedures. To ensure data quality, an expert investigator assisted by examining and questioning the results of the study. Observational field notes were reviewed for key issues and reoccurring themes following each DPA leaders meeting. Constant comparison was used to compare components from each DPA leader discussion for similarities and differences and identify patterns in the data set (Corbin & Strauss, 2008). Following the completion of the program, data from the focus group interviews were transcribed and all transcriptions and observational field notes were again reviewed. Through open coding, a process where data are broken apart and concepts are delineated and qualified in terms of their properties and dimensions (Corbin & Strauss, 2008), text units were organized into categories and subcategories to address the key questions. Finally, categories from all data sources were grouped into recurring themes and sub-themes.

## **Results**

Themes and sub-themes generated from all data sources are displayed in Table 1 organized by key question and described in detail in the following paragraphs.

*Table 1*  
Themes and Sub-Themes Emerging From the Analysis

Key Questions	Themes/sub-themes
Current situation related to implementation of DPA in schools	School-wide solutions are the current answer Teachers can't because... It will only work if....
Experiences providing peer-to-peer coaching and support	There is no good time It's a hard sell I have a job! There is a silver lining To make this work we need....
The impact of peer-to-peer coaching on teacher implementation of classroom DPA	I don't have to because.... I can't because; a) I don't have time and it's not a priority b) I don't know how c) I don't have space or the energy Great activities help!
Barriers and facilitators to COP implementation	Sorry I can't make it. Great idea... somebody else can.

### Understanding the Current Situation Related to DPA Implementation

Three themes arose when DPA Leaders were asked about the current context for DPA implementation. These themes highlight variability in the current situation of individual schools but, also similarity in how DPA implementation had been addressed and the perceived systemic barriers to teacher level implementation.

**School-wide solutions are the current answer.** It was evident during the preliminary discussions with DPA leaders that strategies to implement DPA in the classroom were different across schools. Most leaders reported that schools had made an effort to remove some responsibility for DPA from individual teachers by organizing school-wide DPA initiatives. Some of these initiatives included primary or intermediate aerobics classes, whole-school walks, buddy class activities, playground circuits, activity stations, and an array of special sporting events taught by DPA leaders or community members. Two of the DPA leaders reported having two gymnasiums, and thus five PE periods could be scheduled weekly. Schools with more limited facilities had to find additional ways to deliver DPA. Some teachers could take advantage of services offered by skilled colleagues. However, leaders agreed that not all schools had staff members willing and able to take on a leadership role.

**Teachers can't because ...** This theme highlighted the myriad of barriers DPA leaders thought teachers faced in their attempts to implement DPA. DPA leaders, although coming together to discuss classroom DPA strategies, were not convinced at the outset of the viability of the peer-to-peer approach (participant observation notes). They felt that teachers faced major barriers and there was unanimous agreement that teachers lacked the time to properly implement DPA. This and the low priority of DPA within the curriculum were perceived as major barriers to implementation. Faced with an overloaded curriculum, the leaders reported that teachers felt

that DPA should be completed in PE class or during recess breaks. The following excerpts are representative of their comments.

Anything over and above Reading, Writing and Math isn't on the priority list. (DPA Leader 7)

I think most teachers are thinking, well, 'I gotta do the math and the reading.' How do they fit everything in? (DPA Leader 4)

One of my colleagues told me, 'I don't do DPA... my priority is Reading and Math. My kids are low and need a lot of work in these areas.' (DPA Leader 9)

Leaders suggested that teachers' feelings of inadequacy were another common barrier to implementation, reporting that teachers lacked ideas, confidence and motivation for planning and executing movement activities. The following comments represent this theme:

Teachers are out of their comfort zones when it comes to physical movement activities. (DPA Leader 8)

If I bring these ideas to the teachers at my school and they have to model them, they won't do it! (DPA Leader 5)

Teachers' own fitness levels also affect their abilities and confidence to include DPA. (DPA Leader 1)

**It will only work if...** After intense discussion (participant observation notes) about the barriers, the DPA leaders discussed the conditions that were necessary for DPA implementation in the classrooms. Hence the theme "it will only work if..." Leaders indicated unanimously that teachers would be unwilling to try classroom DPA strategies unless they met the following prerequisites: easy to learn, involve little preparation or equipment, be operable in confined spaces, be fun and suitable for all grade levels, involve safe whole body movement, take no more than 10 minutes and require no teacher modeling.

### **Experiences Providing Peer-to-Peer Coaching (Sharing DPA Strategies with Colleagues)**

Five themes arose out of feedback from DPA leaders regarding their experiences offering peer-to-peer coaching to their colleagues (see Table 1). The first three themes directly represent the substantive challenges that DPA leaders had experienced in actually implementing peer-to-peer coaching and the fourth highlights the 'silver lining' or positive impact of their efforts. The final theme (To make this work we need...) represents ideas that emerged organically from the discussion, further illustrating the group's belief that voluntary peer-to-peer coaching was very challenging. This theme encapsulates the group's ideas about what it would take to support DPA implementation effectively.

**There is no 'good' time to demonstrate.** DPA leaders reported several challenges in their attempts to demonstrate the two weekly DPA activities to their colleagues. Selecting a common, appropriate time to bring colleagues together to demonstrate activities was difficult. Before school, teachers were often too busy preparing the day's lessons to watch demonstrations, while at lunch they may be supervising, eating, meeting with students, prepping or marking. One of the DPA leaders demonstrated the weekly DPA strategies by teaching the activities to large groups of students in the morning aerobic classes while their teachers were there to watch. However, not all activities were suitable for groups of over 100 students in a gymnasium.

**It's a hard sell.** Several leaders reported that classroom teachers were unwilling to consider new ideas due to a large workload or lack of interest. In the words of one DPA leader,

“It’s a hard sell to get new people in that really need to benefit from it” (DPA Leader 7). Leaders indicated that teachers were overwhelmed and this led to them being unreceptive to the new strategies presented. In addition, leaders who attempted to demonstrate the DPA strategies to teachers during their lunch break felt that the demonstrations were not well received.

**I already have a job!** DPA leaders themselves admitted to being overworked and often too short of time to distribute the resources and/or demonstrate the activities. Several DPA leaders found that gathering groups of teachers together to demonstrate the DPA strategies required too much time. Being classroom teachers themselves, the leaders also had many responsibilities to attend to each day and found it very challenging to fit the demonstrations into an already overcrowded daily schedule. Preparing for the day’s lessons, marking, meeting with students, coaching, as well as attending other committee meetings resulted in missed opportunities for DPA leaders to share techniques and strategies with their colleagues. Without time for weekly demonstrations, the DPA leaders resorted to simply delivering the hard copy summaries of the strategies suggested for each week. This provided colleagues with a very basic level of peer-to-peer support. Although DPA leaders were asked to copy the summaries of the DPA strategies and distribute two activity cards per week to each of their colleagues, many leaders were too busy to complete this request each week and therefore distributed six activities all together for a three- week period of the program. Providing all of the activities at once for a three-week period meant that classroom teachers did not receive the strategies as refreshers each week. As well, DPA leaders were asked to copy the strategy summaries onto cardstock so they could be hole punched and compiled into an easy-to-use booklet of activity cards. Unfortunately, most reported that their schools did not supply cardstock; therefore, activities were printed on plain white paper making the collection more difficult to use and easier to lose in the stacks of letter-sized papers on teachers’ desks.

In an effort to lessen their workload, some of the leaders submitted the DPA strategies to their school secretaries for inclusion in the daily school news. This modification brought its own set of challenges, including staff members forgetting to read the DPA strategy that was printed on the back of the daily news. As daily news bulletins get recycled at the end of each day, this technique for distributing the DPA strategies did not promote saving the activities as a resource booklet of DPA ideas.

**There’s a silver lining.** Regardless of the numerous challenges DPA leaders faced during this program to support the implementation of DPA, some positive outcomes were reported. All DPA leaders and classroom teachers reported a raised awareness of DPA within the school because of the initiative. Although not all teachers were willing to try the classroom activities provided, some DPA leaders reported that school-wide DPA initiatives were better attended following the start of the leadership program. One DPA leader described a teacher attending a whole school aerobic session saying, “Once the DPA program started, that teacher started coming to KidFit for 15 minutes twice a week where they did not come at all before. (DPA Leader 2)

Another DPA leader reported,

During the time this DPA program was going on, a number of staff approached me for ‘mini’ PE lessons from field event explanations for lessons to skill sequences for Frisbee instructions. This is a side benefit of our awareness building. (DPA Leader 3)



It seems possible that, although many teachers were not ready to implement DPA strategies themselves, the DPA leadership program may have given them the necessary prompts to take part in alternate activities offered within the school and some tried to build their repertoire of skills, which should impact on their confidence.

Many teachers also felt the hard copies of the strategies they were provided gave them the regular reminders and ideas they needed to include DPA in their routines each day. DPA leaders reported some of their colleagues saying,

Getting those ideas were refreshing! (DPA Leader 9)

The ideas are excellent, especially during the rainy months. (DPA Leader 4)

I like the ideas coming in. It prompts me to do it. (DPA Leader 7)

**To make this work we need...** Several recommendations were put forth during the follow-up COP meeting regarding possible methods to promote the implementation of DPA in elementary schools. The following list represents the recommendations put forth by the DPA leadership team to enhance the implementation of DPA within the district.

**Assign a district DPA leader.** Of primary importance to DPA leaders was to have dedicated training and leadership provided for teachers. Leaders were enthusiastic in their dialogue around the idea of a district elementary DPA leader position being formed to consult with elementary school teachers and coach them on ways to fit DPA into the crowded daily classroom schedule. Thus the idea of peer coaching was supported but the idea that volunteer DPA leaders could provide the peer coaching was not. Leaders felt that a district DPA specialist could assist school staffs with a variety of strategies to implement DPA including whole school initiatives, outside activities and classroom energizers. A mailing list could be created to provide teachers with quick monthly refreshers around DPA. As well, teachers could have the option of attending a district meeting around DPA two or three times each school year. Leaders agreed that having a forum to conduct professional discussions around DPA (a COP) was worthwhile adding that, “it would be beneficial for teachers from different schools to have an avenue to sit and dialogue around what we’re doing in our classrooms with physical fitness.” (DPA Leader 1)

**Form a DPA leadership team within each school.** Several recommendations on how DPA should be promoted within each school were put forth. Primarily, leaders felt that there should be a DPA Leadership Team within each school, as sharing the role of DPA leader would alleviate some of the demands of individual committee members and provide a stronger message to colleagues (DPA Leaders 1,2,4,6,7,9). DPA teams would promote healthy, active schools and encourage a “try-it” mentality among staff members. As one DPA leader suggested, “this will help change mindsets and improve teacher buy-in.” (DPA Leader 1)

**Share the research around DPA.** DPA leaders agreed that classroom teachers might be more willing to implement DPA if they understood the research behind it. Sharing information with staff around the benefits of physical activity such as improved physical fitness, increased focus and attention, and improved academic performance may help classroom teachers realize the advantages of including DPA breaks in the classroom. One DPA leader who attended a Pro-D workshop around brain-based learning expressed both appreciation and enthusiasm for the information she learned at the workshop saying, “People need to know the connection between body and brain. Bringing teachers together to learn more was wonderful. When you know better, you do better!” (DPA Leader 1)

**Include DPA promotion at all monthly staff meetings.** Perhaps the most emphatic and unanimous recommendation of the DPA leaders group was to include DPA ideas on the agenda of every monthly staff meeting. Leaders felt that, in order to raise both awareness for, and the

priority of, DPA within the school it must be promoted regularly in a professional forum and this would require the school administrator's support. It was also suggested that the school leadership team (if the school had one) could present one DPA strategy to colleagues each month in this time.

DPA leaders felt that actively involving all staff members in the exercise demonstration during the staff meeting would be an essential component of the program. By physically participating in the activities, leaders felt staff members would better understand the movements, develop skills in modeling the strategies and hopefully derive some enjoyment from the activity. One highly skilled DPA leader emphasized the importance of physically engaging the staff in the DPA refresher by saying, "The activities that I remember off the top of my head are not something I read, it was something I did. I think that if you actually get the person doing the activity they are more likely to bring it to their classrooms" (DPA Leader 2).

### **The Impact of Peer-to-Peer Coaching on Teacher Implementation of Classroom DPA**

To gain feedback on the DPA program, classroom teachers were asked to report on their awareness of the DPA Leadership program in their school, their use of the strategies provided, and the barriers and facilitators they encountered using the strategies. The following three themes arose from the classroom teachers' feedback.

**I don't have to because...** Schools where a number of school-wide DPA initiatives were organized offered teachers a variety of 'ready-made' daily physical activities and these teachers reported 'not having to implement classroom DPA activities.' As well, feedback from DPA leaders at those schools with two gymnasiums and five PE sessions indicated that teachers felt the PE lessons provided the 30 minutes of mandatory daily physical activity and, therefore, they did not have to offer additional physical activities in the classroom.

**I can't because...** Teachers indicated that they could not implement DPA for a number of reasons. The primary reasons were lack of time, feelings of being overwhelmed with a packed curriculum, and the lower priority of DPA compared to core subjects like math and language arts. Teachers who shared a classroom with a partner felt particularly pressured for time as they had less flexibility to move activities into other parts of the day. One teacher was quoted as saying, "How do you throw this in when you're still trying to get through all your other stuff as a partnership?" (Classroom Teacher 4) Some teachers reported lacking the energy required for trying out a new program and others felt under-confident in their abilities to teach movement in the same manner in which the DPA Leader had demonstrated it. After watching one of the demonstrations, one classroom teacher stated, "That's [leader's name] demonstrating! I can't do that in my classroom!" (Classroom Teacher 2) Some teachers also reported that they were unwilling to change their routines late in the school year and felt that it was difficult to fit DPA into their schedule at this point. The following quotes from staff members represent their feelings toward adopting a new program:

Starting in September would be easier to build it into your routine. (Classroom Teacher 6)

Having it start in September would be a lot easier to implement because that's when I set up my routine, instead of part way through the year when I'm kind of set. (Classroom Teacher 1)

Many teachers were not able to implement the strategies provided based on concerns of large class sizes and the lack of physical space in their classrooms. Especially intermediate teachers with 28 – 30 students reported not having enough room in the classroom to move around. Several DPA leaders reported that their colleagues felt overwhelmed receiving two

activities to try each week for a nine-week period. Others felt that some of the activities were not suitable for young children and they weren't able to modify them to enhance their suitability.

**Great activities help!** Several aspects of the program made implementation successful and most of the classroom teachers who tried the DPA strategies reported positive experiences. These teachers stated that the activities were well chosen and provided students with a good degree of exercise intensity. The teachers reported that the students loved the activities, were keen to participate and demonstrated improvement in their general levels of fitness, coordination and confidence in movement. Teachers also reported that it was beneficial to give those children who do not exercise regularly a taste of enjoyable fitness activities and said that those students gradually became more willing to try the strategies provided.

Many classroom teachers felt the provision of new ideas assisted them to build a repertoire of DPA strategies. Those teachers who tried the strategies felt they offered simple, quick, ready-to-go ideas for DPA. Most of the teachers appreciated that the strategies did not require elaborate equipment and found that the activities were easy to fit in and provided good movement breaks for the students. Some of the classroom teachers reported that their students were more focused on their academic tasks following the activities and others found the students needed additional time to settle back into their work. Teachers also reported making simple modifications to some of the strategies in order to better fit their grade level. For example, some classes that could not complete 'Textbook Aerobics' due to the absence of textbooks at the primary level substituted pencil boxes or water bottles for the books. Many classroom teachers found ways to integrate the DPA strategies within the curriculum. For example, several teachers reported using the strategies as active methods to practice spelling, French, language skills and mathematics. The following excerpts represent their comments:

Great ideas! They were quick and ready-to-go! (Classroom Teacher 6)

I love that they need very little equipment and that you can sometimes incorporate academics- the spelling and exercise combination. (Classroom Teacher 10)

Those teachers who were receptive to trying the strategies felt the program provided necessary reminders to include daily PA in their class routines, that it raised the overall awareness of DPA in the school, and that the activities provided excellent role modeling of healthy living.

### **Barriers and Facilitators to COP Implementation**

This section illustrates the challenges involved in creating and sustaining a COP made up of teachers from across a school district. The data for this section were collected from transcriptions and observational field notes from the DPA leader meetings. Two themes arose from the focus group discussion data, each describing factors that challenged the operation of the COP.

**Sorry, I can't make it.** This theme represents the challenges that both the researcher and the participants of the COP faced in their efforts to form and sustain a DPA leadership group. Although, ultimately, the teachers involved in the COP reported that they benefited from the opportunity to share ideas with teachers from other schools, it was, nonetheless, a challenging process to find enough teachers, experienced and confident in DPA, to attend meetings and take a leadership role in the study. These difficulties fell into two categories: recruitment and attendance.

The initial recruitment of the DPA leaders was challenging. Although an email was sent out to 183 teachers, only seven teachers representing five of the eight elementary schools volunteered to take part in the discussion group. Hence, additional emails were sent to the

schools without representatives and in two cases, verbal requests were made by the researcher to specific individuals to take part. Eventually, ten teachers volunteered to participate, representing all of the eight elementary schools in the district.

Although all ten teachers committed to attend, only six were able to take part in the first DPA leadership meeting. Reasons for this low attendance included other school or district obligations, child care responsibilities, marking and preparatory work in their classrooms or workload. The first meeting went ahead and those teachers who had been unable to attend met with the researcher the following week. One teacher withdrew at this point due to workload.

Subsequent meetings (held every three weeks during the 9-week the program) also had attendance challenges. This was due primarily to a lack of time, obligations within the district, family responsibilities or marking/planning/preparatory duties. Mid- and post-intervention meetings went ahead with an incomplete group of teachers, ranging between 7 and 8 participants and at each meeting some left early to meet other commitments.

**Somebody else can.** When asked directly about the viability of the COP approach to enhance the implementation of DPA within the school district in the future some felt that it was worthwhile because it provided an opportunity to share ideas and most felt that such a group required leadership. Participants indicated that they had no time to take on a leadership role nor would they commit to even participating in the future. DPA leaders thought that new people needed to take part and assume leadership roles. The following quotes represent their responses:

You might get people who show up for a meeting once a month. You might get the same people every time, you might get a different person, you might have nobody. (DPA Leader 4)

I think that there are all these people who are giving, giving, giving, giving, and sometimes it's hard to be always the same person doing that, much as you love it, so I just say that if there was a team of people to do it I would almost prefer that myself.

I think it's really important, I just think that you would have the same people that are here right now. (DPA Leader 7)

Teams from each school are needed so it's not always the same person. (DPA Leader 1)

The discussion around the topic of carrying on in a leadership position in this area indicated that leaders were too busy to continue in this role and that somebody else would have to take the reins in the promotion of DPA.

## Discussion

We set out to form a 'real world' COP to enhance DPA implementation in schools within a school district; engaging skilled, physical activity champions in collaborative efforts to plan and implement school level sharing of strategies to enhance implementation. We started by recruiting passionate physical activity champions who volunteered to participate based on their own interests. We provided a COP coordinator and planned a series of processes or activities to initiate discussions and engagement. We had many of the stated characteristics of a COP (Kerno 2008; Wenger, McDermott & Snyder, 2002; Wenger 2006). We shared best practices, mutually engaged in problem solving, focused on competencies, discussed common practices, and shared a common perception of the current environment (Kerno 2008). We also demonstrated two important structural components of COP. We had a group of 'experts' with similar backgrounds and roles in the schools. We also had an inter-organizational focus, which Kerno in his summary of the COP literature highlights as important to rapid sharing of technologies when staff within

an organization may not have the time or resources to connect to access the knowledge of their peers.

We explored the feasibility of this approach and the peer-to-peer coaching practice integrated within the COP processes related to DPA implementation. To the best of our knowledge this is the first study applying a COP approach in the physical education realm. The approach required that two important conditions be respected: a willingness on the part of PA champions skilled in the implementation of DPA to collaborate and take a leadership role in the coaching of their peers, and a willingness on the part of classroom teachers to learn from their colleagues and try out suggested strategies. Our findings illustrated that this approach was challenging at both the District COP and school level and had limited feasibility in the minds of the COP members (a common perception of the current environment). The feedback from DPA leaders about the current context and about implementation of the peer-to-peer coaching, and the teacher's comments about the peer-to-peer coaching, support the conclusion that both DPA leaders and teachers alike were pressed for time, lacked confidence in their abilities to deliver DPA (or in the case of DPA leaders coach others), and struggled to balance work responsibilities. Kerno (2008) has highlighted the barrier of lack of time as a critical challenge to the effectiveness of COPs.

The barriers that teachers themselves and DPA leaders reported that they faced in their efforts to provide quality physical activities for their students were not unique. Throughout the past two decades, a number of school-based PA studies have identified lack of time (Faucette et al., 2002; Naylor et al., 2006; Dwyer, et al., 2007; Evenson et al., 2009; Thomas, 2004), low teacher confidence (LaMaster, McKenzie, Marshall & Sallis, 1998; Morgan & Bourke, 2007; Morgan & Hansen, 2008), lack of training (Dwyer et al., 2007; Thomas, 2004; Johnson et al., 2003; Waring et al., 2007) and the increased emphasis on academic success relegating physical activity to a lower priority (Stewart et al., 2004; Evenson et al., 2009; Naylor et al., 2006; Johnson et al., 2003; Waring et al., 2007) as barriers to implementation of quality physical activity opportunities in school. It appears that the challenges teachers face have an enduring and systemic nature.

In fact, in her study of classroom teachers' perspectives of individual and collective efficacy, Parks (2003) found that the strongest predictor of collective efficacy (teachers' beliefs that they can have a positive effect on student achievement) was the institutional environment. Like the recommendations made by the DPA leaders group in this study, Parks concluded that teachers needed substantial training if physical activity was to be implemented effectively. However, as Joyce & Showers (2002) have documented, training by itself is not sufficient to enhance implementation. They explain that newly-learned behavior is incomplete and teachers must receive on-the-job coaching to adapt their training to the real-life situations of their working environment. For actual changes in the behavior of classroom teachers to develop, teachers need guidance and on-going support. Our research showed that a voluntary model of providing this coaching was challenging because of time and work overload.

Few school districts have acted on the recommendations for training and consistent coaching for teachers made by numerous researchers during the past two decades. In southern British Columbia, some school districts employ a DPA facilitator who offers consultations, suggestions and ideas to help classroom teachers enhance their DPA implementation. Our results suggest that such an individual is very important if classroom teachers are to improve their skills and raise their levels of confidence in this area.

The challenges we encountered recruiting and sustaining a COP around DPA indicated that a district level COP might also not be viable. Wenger's (2006) and Kerno's (2008) work highlight the importance of extended time for engagement. Our data showed that DPA leaders not only did not have the time to coach their colleagues, they also did not have the time or energy to take a regular leadership role in the District. However, our participants suggested a different format agreeing that it would be beneficial for groups of teachers to form DPA leadership teams (COPs) in their own schools. This recommendation is supported by previous research by DeCorby et al. (2005) that supported the value of a school leadership team to assist with planning and organizational issues and provide leadership for other staff. Shared responsibility may enhance feasibility by reducing the expectations of any one individual teacher. Other ideas to enhance the feasibility of DPA support in the context of elementary schools were generated by our participants and included dedicated District level support/coaching and inclusion of DPA activity suggestions in regular staff meetings. This highlights a further issue identified by Kerno (2008); the influence of organizational hierarchy on COP functioning. The DPA leaders reflected their practice-based understanding of this issue when they recommended embedding the practice of sharing into an existing organizational practice (staff meetings) and called for accountability mechanisms.

DPA leaders felt strongly that for DPA to become a valued component of the curriculum teachers need to be accountable for daily implementation. Our results highlighted that DPA was often compromised by investments in other curricular areas that teachers deemed were more important. Provincial, school district, and school level monitoring mechanisms (including the monitoring of policy implementation) may encourage implementation and communicate its importance to staff members.

The study findings should be viewed in light of the strengths and limitations of the design. The strengths include the in-depth knowledge of the researcher (who served as a participant-observer and COP coordinator), the participants (experienced teachers), and the use of multiple data collection techniques to explore the issue. The small purposive sample and the involvement of the leader in the process increase the potential for bias and limit the generalizability of the findings. In terms of the actual COP, although our COP had many characteristics and structural elements of a COP the initial idea was not generated collaboratively, nor was it supported by school district management. It was initiated by a single champion recruiting other PA champions to participate and as our data showed, prolonged engagement was impossible because the champions were exhausted, cynical about their ability to effect change, and wanted somebody else to step up to the plate.

## **Conclusion**

Desired changes in important human services can only be achieved by transforming daily practice (Fixsen, Naome, Blase, Friedman & Wallace, 2005). In the school environment, implementing a DPA policy into daily practice is a challenging endeavor due to the numerous barriers teachers face on a regular basis. Although other research has shown that COP were effective for enhancing change in many areas, our study highlighted the challenges to COPs previously outlined by Kerno (2008). We showed that implementing a COP approach to enhance DPA implementation in the school setting was problematic. In this case, the systemic barriers faced by teachers and leaders (time, competing priorities and skills/confidence) outweighed the

willingness of both DPA leaders and the teachers to mutually engage in a collaborative approach to support implementation of DPA.

The implementation of DPA in the schools has the ability to make a valuable contribution to the health and learning of children and thus to the development of a generation of healthier young people. The problems of lack of time and competing demands will remain major barriers to implementation of DPA unless systemic changes are made. District and school level leadership and a training and support structure to enhance peer-to-peer sharing are recommended if implementation of daily physical activity in schools is a goal.

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