How classroom teachers do take the ‘Physical Activity Pauses at School’ (PAPS)?
A project implemented in Wallonia

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• M. P. Stassart (Alderman for Education)

Active Healthy Kids Global Alliance:
38 countries, assignation of letter grades to different indicators
https://www.activehealthykids.org

Introduction
Interventions are needed
Active Living Domain: Occupational activities

Behavior settings Access and Characteristics: School environment

Policy Environment: School policies (guidelines, budget ...)

Ecological model (Sallis et al., 2006)

6 dimensions of PA at school

Snyers et al. (2014)
What Works to Get Kids Active

Schools and communities can help kids get the 60 minutes of physical activity they need each day.

- Renovate parks: +12 min
- Add after-school programs: +10 min
- Support walking/cycling to school: +16 min
- Provide in-class activity breaks: +19 min
- Require daily P.E.: +23 min

Brain break, Movement Break, Activity break, Energizers...

Physical activity breaks
Main effects

- Daily PA rate: positive effect

- Fitness level: mixed effect
  Tumynaité et al. (2014) – No effect
  Katz et al. (2010) – Positive effect

- ‘On-task’/‘Off-task’ behaviors: positive effect
  Mahar et al. (2006), Whitt-Glover et al. (2011), Ma et al. (2014), Webster et al. (2015)

- Selective attention: positive effect
  Ma et al. (2015)

- Academic success: mixed effect
  Katz et al. (2010), Howie et al. (2015) – No effect
  Maeda & Randall (2003) – Positive effect

- Group interactions: positive effect
  Paquette (2016)
Current experiences
International to national

- Dissemination of the concept worldwide
- Positive reaction of a growing number of classroom teachers
- Resistance of others
  - Time
  - Resources
  - Knowledge

“...if the participants don’t like the treatment they may avoid it, or run away, or complain loudly. And thus, society will be less likely to use our technology no matter how potentially effective and efficient it might be.”

Howie, Newman-Norlund & Pate (2014, p. 681)

Current experiences
International to national

Brain breaks in the classroom
An example of implementation in Belgium

Cloes & Cloes (2016)

Cloes & Mornard (2014)
Our aims

KIDS NEED TO BE ACTIVE

Aims of the study

1) What is the real implementation of the PAPS throughout the school year?

2) What factors distinguish continuing teachers from those who stop?

3) What are the barriers and levers to the daily implementation of the PAPS?
Methods
WHAT WE DID

Physical activity breaks ➔ PAPS

- PAPS = Physical Activity Pauses at School
- Characteristics
  - Implementation according to the pupils’ behavior
  - Routine

Signal and implementation ➔ Active phase ➔ Cool down

Cloes & Cloes (2014)
Physical activity breaks

SOME EXAMPLES

Stage au cycle 2
1ère année
Ecole Xhovémont (Liège)

Methods

- 2015-2016 school year
- ‘School moves for its health’ (City of Liege)
- 24 classes/teachers (1st/2d grades - 7 primary schools)
- Data collecting: focus group, diary and questionnaires
- Mixed approach: quantitative/qualitative research
Results
WHAT DO THE DATA SAY

1) How do classroom teachers implement PAPS along the school year?

Descriptive statistics

- Poursuite: n=16
- Arrêt: n=7

- 1 / jour: n=8
- 3 à 4 / semaine: n=6
- 1 à 2 / semaine: n=2
**Results**

1) How do classroom teachers implement PAPS along the school year?

- Identification of 4 profiles

<table>
<thead>
<tr>
<th>Profile</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disengaged</td>
<td>(n=7) Stop, Non respect of the ‘routine’, No video PAPS tested</td>
</tr>
<tr>
<td>Prudent</td>
<td>(n=2) Continue irregularly</td>
</tr>
<tr>
<td>Involved</td>
<td>(n=7) Regular implementation, Invention of new teaching material, Bigger number of PAPS, Appropriate implementation, Use of video PAPS</td>
</tr>
<tr>
<td>Innovators</td>
<td>(n=7)</td>
</tr>
</tbody>
</table>

Qualitative analysis

2) What variables do differ between teachers who continue and those who stop?

- Variables that differ according to the profiles
- Initial interest
- Initial understanding
- Use of video PAPS
- Teaching experience
- School
- Interest towards PAPS in colleagues
- Doing PAPS with the pupils
- Self-confidence about the implementation of the PAPS

- Factors that do not differ according to the profiles
- Support of the principal
- Number of pupils
- Perception of the trouble making level of the class
- Kind of class
- Perception of ones’ computer skills

Inferential statistics:
- Correlations (number of PAPS * factors)
- ANOVA (difference between groups * factors)
## Résultats

### 3) What are the barriers and levers to the daily implementation of the PAPS?

<table>
<thead>
<tr>
<th>Levers</th>
<th>Barriers/limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Pleasure/pupils’ interest</td>
<td>• Lack of time</td>
</tr>
<tr>
<td>• Positive effect on classroom management</td>
<td>• Concurrence with other activity</td>
</tr>
<tr>
<td>• Answer to a need of the pupils</td>
<td>• Discipline problems</td>
</tr>
<tr>
<td>• Support to pupils’ attention</td>
<td>• Lack of computer equipment</td>
</tr>
<tr>
<td>• Positive effect for group atmosphere</td>
<td></td>
</tr>
<tr>
<td>• Personal interest of the teacher</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recurring items</th>
<th>Punctual items</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Quick/easy to implement activity</td>
<td>• Space</td>
</tr>
<tr>
<td>• Wellness/health</td>
<td>• Some pupils do not participate</td>
</tr>
<tr>
<td>• Simple equipment</td>
<td>• Noise</td>
</tr>
<tr>
<td>• Overall view of the pupils</td>
<td></td>
</tr>
<tr>
<td>• Creativity</td>
<td></td>
</tr>
</tbody>
</table>

Mixed method:
- Qualitative analysis
- Quantitative analysis

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**La perception diffère selon les profils**

Mixed method:
- Qualitative analysis
- Quantitative analysis
Discussion

WHAT DOES IT MEANS

- Teachers stopped quickly or continued = no weariness
  (≠ Cloes & Mornard, 2014)

- More Innovators than in other studies
  (Marsollier, 2002)
Discussion
12 factors determining teachers' involvement in PAPS

<table>
<thead>
<tr>
<th>Factors</th>
<th>Barriers</th>
<th>Facilitating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Initial motivation</td>
<td>Pressure of the principal</td>
<td>Interest, request of information</td>
</tr>
<tr>
<td>2 Appropriate implementation</td>
<td>Lack of cool down</td>
<td>Respect of the routine</td>
</tr>
<tr>
<td>3 Observed effect on behavior</td>
<td>Increase of off-task behaviors</td>
<td>Positive effect on pupils attention</td>
</tr>
<tr>
<td>4 Computer equipment</td>
<td>Lack of projection equipment</td>
<td>Availability of the equipment</td>
</tr>
<tr>
<td>5 Computer skill</td>
<td>Reluctance towards ICT</td>
<td>Mastery of the ICT equipment</td>
</tr>
<tr>
<td>6 School/class projects</td>
<td>Concurrent projects</td>
<td>Links with the school project</td>
</tr>
<tr>
<td>7 Colleagues’ attitude</td>
<td>Indifferent colleagues</td>
<td>Supporting colleagues</td>
</tr>
<tr>
<td>8 Frequency of implementation</td>
<td>Obligation of daily implementation</td>
<td>Implementation on need</td>
</tr>
<tr>
<td>9 Pupils’ interest</td>
<td>Lack of interest of some pupils</td>
<td>Pupils’ request</td>
</tr>
<tr>
<td>10 Classroom space</td>
<td>Restricted space</td>
<td>Spacious classroom</td>
</tr>
<tr>
<td>11 Administrative aspects</td>
<td>Diary fulfilment</td>
<td>No document to fulfil</td>
</tr>
<tr>
<td>12 Individual support</td>
<td>Teachers left to their own</td>
<td>Support of the teachers</td>
</tr>
</tbody>
</table>

Discussion
A model in order to implement a PAPS’ project

Physical Activity Pauses at School (PAPS):
* Active pause lasting around 5 minutes, comprising 3 steps (preparation activity – cool down)
* Free support : video or game
* Proposed as often as possible - when the teacher detects the need

Present, give taste
- Concrete examples
- Give an experience

Train and equip volunteers
- Practical training (use of the equipment)
- Create and animate PAPS

Stimulate exchanges
- Short period (2 to 4 weeks)
- Share problems (find solution together)
- Web platform

Provide a follow up
- Meeting 1 to 2 times per year
- Contact person
- Propose support in the classroom

Extend the project
- Share experience
- Step 2 for volunteers!

Propose a demonstration with the pupils of the class, of the school

Involve the PE teacher
Conclusion

WHAT YOU NEED TO REMEMBER

1) Facing our innovation, the teachers adopted 4 attitudes

2) The traditional version was preferred to the modern one

3) The main barriers are lack of time, lack of ICT skills and pupils discipline

4) The perceived positive effects are pupils’ pleasure, positive effect on attention and on class atmosphere

A third of the subjects continue to propose the PAPS after one year and half!
Implications

1) Need to share such experiment in order to disseminate

2) Find and encourage partnerships

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http://hdl.handle.net/2268/214117

Thank you
Publications

Ma, J. K., Le Mare, L., & Gurd, B. J. (2015). Four minutes of in-class high-intensity interval activity improves selective attention in 9-to 11-year olds. *Applied physiology, nutrition, and metabolism, 40*(3), 238–244.


Pictures & illustrations

- Slide 32 - [http://picssr.com/photos/traing33k/favorites/page7](http://picssr.com/photos/traing33k/favorites/page7)