

Preparing physically educated citizens in PE Expectations and practices

Prof. Marc CLOES

Department of Sport and Rehabilitation Sciences
University of Liege, Belgium

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Four questions among others

- What does the society expect from PE?
- Does PE meet the expectations?
- What the PE teacher should do for that?
- How to go in this direction?



One starting point

- Every human being has a fundamental right to physical education, physical activity and sport without discrimination on the basis of ethnicity, gender, sexual orientation, language, religion, political or other opinion, national or social origin, property or any other basis.



United Nations
Educational, Scientific and
Cultural Organization

<http://unesdoc.unesco.org/images/0023/002354/235409e.pdf>

1978 → 2015

International Charter
of Physical Education, Physical Activity and Sport

Key messages

- The high prevalence of physical inactivity, its harmful health and environmental consequences, and the evidence of effective physical activity promotion strategies, make this problem a global public health priority

Physical Activity

The pandemic of physical inactivity: global action for public health

Harold W Kohl 3rd, Cora Lynn Craig, Estelle Victoria Lambert, Shigeru Inoue, Jassem Ramadan Alkandari, Grit Leetongin, Sonja Kahlmeier, for the Lancet Physical Activity Series Working Group*

Lancet 2012; 380: 294-301
 Published Online July 18, 2012
[http://dx.doi.org/10.1016/S0140-6736\(12\)60898-8](http://dx.doi.org/10.1016/S0140-6736(12)60898-8)
 This is the fifth in a Series of five papers about physical activity
 *Members listed at end of paper
 University of Texas Health Science Center, Houston School of Public Health, and University of Texas Health Science Center, Houston School of Public Health

Physical inactivity is the fourth leading cause of death worldwide. We summarise present global efforts to counteract this problem and point the way forward to address the pandemic of physical inactivity. Although evidence for the benefits of physical activity for health has been available since the 1950s, promotion to improve the health of populations has lagged in relation to the available evidence and has only recently developed an identifiable infrastructure, including efforts in planning, policy, leadership and advocacy, workforce training and development, and monitoring and surveillance. The reasons for this late start are myriad, multifactorial, and complex. This infrastructure should continue to be formed, intersectoral approaches are essential to advance, and advocacy remains a key pillar. Although there is a need to build global capacity based on the present foundations, a systems approach that focuses on populations and the complex interactions among the correlates of physical inactivity, rather than solely a behavioural science approach focusing on individuals, is the way forward to increase physical activity worldwide.

The compounding costs of physical inactivity over a lifetime

- <http://www.designedtomove.org/>

The infographic illustrates the 'INTERGENERATIONAL CYCLE' of physical inactivity across three stages: EARLY CHILDHOOD, ADOLESCENCE, and ADULTHOOD.

- EARLY CHILDHOOD:**
 - PHYSICALLY INACTIVE CHILDREN
 - 30% of children obese^{1*}
 - Misses school 2 days higher than average^{2*}
 - Lower fitness associated with lower test scores^{3*}
 - Earns less at work^{4*}
 - \$2,741/yr higher health care costs^{5*}
 - 1 week/yr of extra sick days taken^{6*}
 - 5.3 million premature deaths/yr. due to inactivity^{7*}
 - MAY LIVE UP TO 5 YEARS LESS^{8*}
- ADOLESCENCE:**
 - Girls: 51% more likely to be held back a year in school^{9*}
 - Boys: 46% more likely to see themselves as poor students^{10*}
- ADULTHOOD:**
 - 2x AS LIKELY TO BE OBESE AS ADULTS^{11*}
 - Preschoolers with inactive parents are far less likely to be active^{12*}

DRAINS ECONOMIES

Evolution of the expectations



7

A great responsibility

- “Physical education is the most effective means of providing all children and youth with the skills, attitudes, values, knowledge and understanding for lifelong participation in society.”

United Nations
Educational, Scientific and
Cultural Organization

MINEPS V

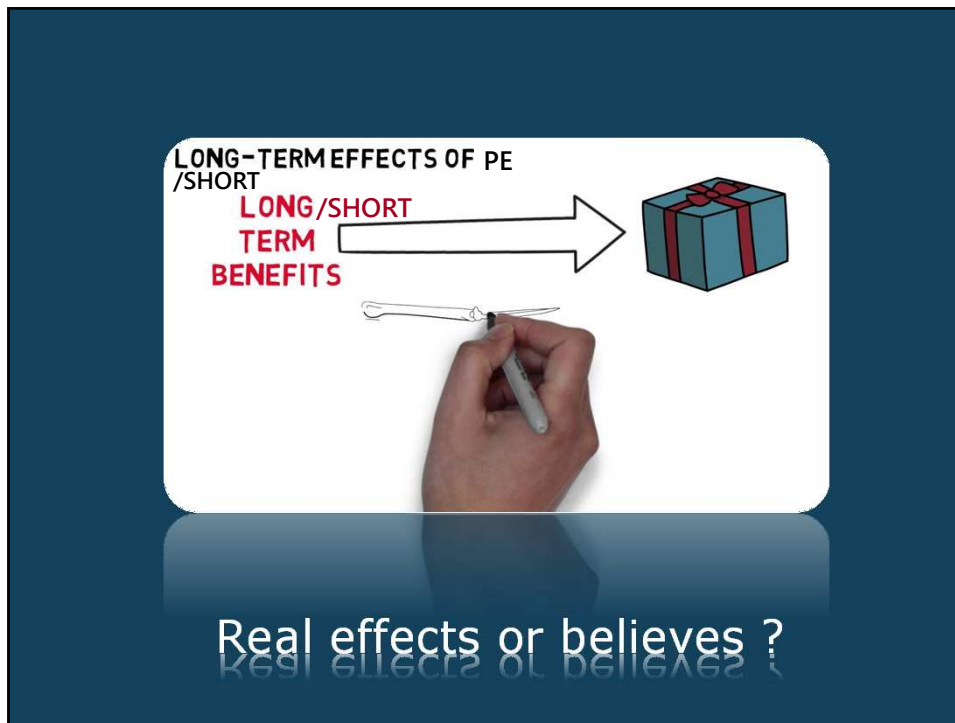
5th International Conference of
Ministers and Senior Officials
Responsible for Physical Education
and Sport

https://www.unesco.de/fileadmin/medien/Dokumente/Bildung/MINEPS_V_-_Declaration_of_Berlin__Original_English_Final_-_4_02.pdf

DECLARATION OF BERLIN

The Ministers meeting at the 5th International Conference of Ministers and Senior Officials Responsible for Physical Education and Sport (MINEPS V), held in Berlin (28-30 May 2013),

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What kind of effects?

- Very short term (during the lesson)
 - ☞ Excitement, enjoyment, energy expenditure
 - ☞ Muscular soreness, frustration, boredom
- Short term (next days)
 - ☞ Feeling of well-being, speak about the lesson with friends, family, interest in PA topics
 - ☞ Critics about the lesson to others, fatigue, DOMS
- Middle term (next weeks, months)
 - ☞ Positive reactions towards PE, curiosity towards PA, involvement in PA
 - ☞ PE avoidance (medical excuses), sedentary lifestyle

What kind of effects?

- Long term (until the end of schooling)
 - ☞ Sustain PA, speak positively about PE
 - ☞ Regular sedentary lifestyle, recall negative events
- Very long term (during the whole life)
 - ☞ Remain physically active, encourage ones' children to be active
 - ☞ Resistance to PA promotion, denigrate PE

'Usually, the main satisfaction of one PE teacher: student decision to become physically active outside of the school'

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A PE worldwide crisis

- Serious concerns (Hardman, 2005)
 - ☞ Decline and marginalization of PE
 - ☞ Curriculum time allocation, subject status, material, human and financial resources, inadequacies in facility and equipment supply, low remuneration of teachers



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What's the PE impact ?

- Half full?



- Half empty?

13

Half empty

- ◆ Achievement of the PE objectives in Flanders
 - Too rarely in 57% of 182 adults and 49% of 1730 students
- Development of a physically fit and healthy lifestyle
 - Too rarely in 48.1% of students
- Development of self-image and social functioning
 - Too rarely in 45.1% of students
- Development of motor competencies
 - Too rarely in 43.1% of students

Huts et al. (2004)

14

Half empty

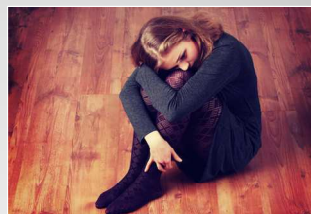
- ◆ 7 group interviews with 5 to 6 15-year-old girls + individual follow up interviews at 21 → They ...
 - Did not see the real purpose of PE
 - Criticized the choice of the activities (generation gap, mainly team sports)
 - Blamed the lack of physical challenge (number of students, length of the lessons)
 - Considered that PE failed helping skill development

Flintoff & Scraton (2001)

15

Half empty

- ◆ 7 group interviews with 5 to 6 15-year-old girls + individual follow up interviews at 21 → They ...
 - Reproached for teachers' attitudes and expectations
 - Criticized clothing
 - Regreted mixity



Flintoff & Scraton (2001)

16

Half empty

- ◆ Interviews of 46 9th graders (USA)
 - Only the 19 athletes planned to continue to do sport

Portman (2003)
- ◆ Questions to students at the end of secondary school (Wallonia)
 - Only 2.3% totally agree that school motivated them to be physically active lifelong

Cloes et al. (2009b)

17

Half empty

- ◆ PA declines within people entering in higher education

Bodson (1997)
Gomez-Lopez et al. (2010)
Kwan & Faulkner (2011)
- ◆ Long term effect
 - Negative testimonies

Rue89



03/11/2012 à 10h30
Hommage aux humbles
Renée Greusard

Le sport à l'école, école de l'humiliation ?

18

Half empty

- ◆ Long term effect: from school to adulthood
 - A real doubt is highlighted against practitioners' usual believes

Sport, Education and Society, 2014
Vol. 19, No. 4, 357–375, <http://dx.doi.org/10.1080/13573322.2012.683781>

Routledge
Taylor & Francis Group

Mission impossible? Reflecting upon the relationship between physical education, youth sport and lifelong participation

Ken Green*

University of Chester, UK; Norwegian School of Sport Sciences, Norway

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Half empty

- ◆ Long term effect
 - The explanation could be found in the PE teachers' action (matches, drills without challenge)

2004, Vol.10, No. 2, pp. 17 - 23



Développer le goût de l'activité physique et l'enseignement de l'éducation physique à l'école secondaire : un rendez-vous manqué

Pierre Boudreau
Université d'Ottawa

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Half full

van Sluijs et al. (2007)

- ◆ Interventions on PE are effective
 - Meta-analysis based on 57 papers
 - During PE: Positive changes on PA when increasing the lesson number, improving the teachers' education and providing equipment
 - Overall PA level: Few modifications
 - Mediation by the students' involvement and other variables (socio-ecological model)

21

Half full

Cale et Harris (2006, p. 415)

- Specific school interventions

Conclusion

The evidence reviewed here has revealed that school-based physical activity interventions can be effective and achieve a range of positive outcomes, suggesting that teachers' efforts to promote physical activity through PE programmes can indeed be worthwhile. Further, and despite limitations in the existing literature precluding definitive guidelines for schools to be made, consideration of the key trends and issues concerning the physical activity interventions clearly has implications for practice and has been used to inform a number of recommendations for the future direction of formal and informal physical activity programmes, initiatives and interventions. Until a stronger evidence base becomes available, schools and teachers should be encouraged to plan, implement and evaluate programmes and draw on such recommendations to inform their practice.

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Half full

Demetriou & Höner (2012)

- 129 papers (interventions in PE and/or other dimensions of school PA)
- Categories of objectives
 - ☞ Health and fitness
 - ☞ Behaviours (PA)
 - ☞ Psychological determinants
- Positive impact on :
 - ☞ BMI - 28%
 - ☞ Motor performance – 69.7%
 - ☞ Physical activity – 56.8%
 - ☞ Knowledge - 87.5%
 - ☞ Self-esteem - 30%; Attitudes - 43.8%



23

Half full

Dudley et al. (2011)

- Effectiveness of PE (and school sport) about 3 main outcomes (23/27,410 papers)
 - ☞ Promoting high levels of physical activity participation
 - ☞ Movement skill instruction and practice
 - ☞ Active learning strategies with an emphasis on enjoyment
- Positive impact in :
 - ☞ 79% of the studies focused on PA in the lesson
 - ☞ 100% of the studies focused on motor skill
 - ☞ 43% of the studies focused on enjoyment

Methodological weaknesses



24

Half full

Lonsdale et al. (2013)

- Meta-analysis
 - ☞ Implementation of a project aiming to MVPA during PE
 - ☞ 14 papers
- Positive impact :
 - ☞ PE-based interventions can increase students' MVPA during lessons by about 24% compared with usual practice
 - ☞ Professional learning focused on teacher pedagogy and behavior offers considerable potential for increasing physical activity in youth
- But...
 - ☞ Long term effects of these modifications is not yet documented

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To summary

- Sallis & McKenzie (1991)
 - ☞ PE teachers should adopt a new role
 - ☞ Need of QPE

Prepare youth for a lifetime of PA



Provide them with PA during PE classes



SPARK
CATCH
TAAG
LEAP

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To summary

- Sallis et al. (2012)
 - ☞ The gym is half full (↗ support of PE; ↗ systematic analysis)
 - ☞ The gym is half empty (↘ PE time; no consensus about QPE; lack of implementation)

Research Quarterly for Exercise and Sport
 ©2012 by the American Alliance for Health,
 Physical Education, Recreation and Dance
 Vol. 83, No. 2, pp. 125-135

***Health Optimizing PE**

Physical Education's Role in Public Health: Steps Forward and Backward Over 20 Years and HOPE* for the Future

James F. Sallis, Thomas L. McKenzie, Michael W. Beets, Aaron Beighle, Heather Erwin, and Sarah Lee

Mainly focused on ↗ MVPA

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PE is identified as one key element

Heath et al. (2012)

④ ↗ Physical Activity 3

Evidence-based intervention in physical activity: lessons from around the world



Gregory W. Heath, Diana C. Parra, Olga L. Sarmiento, Lars Bo Andersen, Neville Owen, Shifalika Goenka, Felipe Montes, Ross C. Brownson, for the Lancet Physical Activity Series Working Group*



Comprehensive school-based strategies encompassing PE, classroom activities, after-school sports, and active transport can increase physical activity in young people

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To be a PA promotor means ...

The PE teacher should be the corner stone of PA promotion ...

JOURNAL OF TEACHING IN PHYSICAL EDUCATION, 2004, 23, 281-299
© 2004 HUMAN KINETICS PUBLISHERS, INC.

The PE teacher is THE specialist of PA



Physical Education: A Cornerstone for Physically Active Lifestyles

Marlene K. Tappe
Purdue University

Charlene R. Burgeson
National Association for Sport and Physical Education

What changes since 1991?

- Grow of a first concept
 - ☞ **Physical literacy** (Whitehead, 2007; Mandigo et al., 2009)
 - ☞ PE for what?
- Physical literacy
 - ☞ is linked to the acquisition by the youth of knowledge, skills and attitude that will make them **physically educated persons** for their whole life (NASPE, 2004)
 - ☞ means that PE has a concrete mission to follow learning objectives that are useful and usable **outside the school walls**

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What changes since 1991?

- Grow of a second concept
 - ☞ **Accountability**
 - ☞ PE for what?
 - ☞ Underlining the concrete effects
- PE = Developmental activity
 - ☞ Motor dimension
 - ☞ Physical dimension
 - ☞ Cognitive dimension
 - ☞ Affective dimension
 - ☞ Social dimension



Acquisition of a healthy lifestyle

Collecting data ?

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What changes since 1991?

- Grow of a third concept
 - ☞ Emphasis on **Quality Physical Education**
- AIESEP Specialist Seminar in Jyväskylä (2013)
 - ☞ QPE reaches the objectives for all students
 - ☞ Objectives should reflect the specific cultural contexts
 - ☞ QPE classes should allow students to have positive individual and collective learning experiences where they develop knowledge, skills and dispositions that allow them to be autonomous and responsible decision makers relative to engagement in PA and sport in their lives

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The PAMIA principles

- **P** - Foster play/pleasure: *give meaningfulness and increase pleasure*
- **A** - Foster achievement and learning: *70-80% («delicious uncertainty») through individualizing (levels +1 et -1; individual goals)*
- **M** - Foster movement: *propose activities situations that lead students to move, to expand energy*
- **I** - Foster interactions: *increase contact with others and with the environment*
- **A** - Foster autonomy: *give students opportunities to make decisions*



SDT
Achievement goals
Perception of competence

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What does it mean?

- PE should be focused on current society needs and requirements
- Sports and cultural physical activities → Tools for general aims and not final objectives

Pühse et al. (2010)

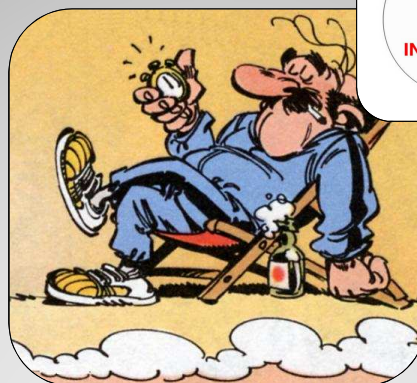
- PE teachers have to show what they are doing
- Development of a Pedagogical Model for Health-Based Physical Education

Haerens et al. (2011)



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Never again: Utopia?



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The specific role of PE teacher

- **Basic role** of PE in the promotion of an active lifestyle (Cloes, 2010)
 - ☞ Fight against inactivity (representations)
 - ☞ Water safety; basic life support; automated external defibrillation
 - ☞ Warming up; cooling down; stretching; fitness
 - ☞ Ergonomic principles, respiratory control; relaxation
 - ☞ Selection of ones working intensity; heart beats checking; muscles and body functioning
 - ☞ Improvement of motor skills (balance, manipulative skills, work in high situation, running ...)
 - ☞ ...
 - ☞ And – of course – learning of sport activities !

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The specific role of PE teacher

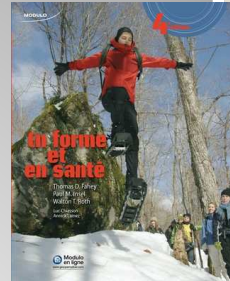
- **Specific actions** of PE in the promotion of an active lifestyle (Cloes et al., 2009a)
 - ☞ Diversified activities
 - ☞ Students' notebook/portfolio
 - ☞ Out of school's sport activities
 - ☞ Initiation into unusual sports



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The specific role of PE teacher

- Other examples
 - ☞ Students' projects ... (pentathlon)
 - ☞ Collaboration with other teachers/ partners
 - ☞ PE book
 - ☞ Using technology (HRM, computers, video, iPad ...)



Fahey et al. (2007)

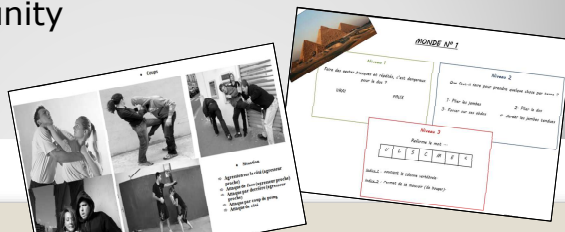


Castelli (2013)

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The specific role of PE teacher

- Other examples
 - ☞ Transposition to students' level of notions of physiology, anatomy, biomechanics ...
 - ☞ Production of written material that will be useful for the students (and the school community)
 - ☞ Dissemination of extracurricular 'ready to use' examples of PA
 - ☞ Information about PA opportunities available in the community



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The specific role of PE teacher

- **Newer role** of PE in the promotion of a healthy lifestyle (Cloes, 2010)

- ☞ Nutrition (hydration, sport dietetics ...)

- ☞ Sleep

Hartman, et al. (2015)

- ☞ Stress (relaxation in daily life situations ...)



→ Health and Physical Education ??

- ☞ Smoking, alcohol, drugs, medicine

- ☞ Sex, risk behaviours (driving)

- ☞ Hygiene

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Other activities

- **Collaboration with the classroom teachers**

- ☞ Interdisciplinary lessons (Lamon et al., 1999a,b)

- ☞ PA breaks in classroom lessons

- ☞ Development of projects (video – sequences)

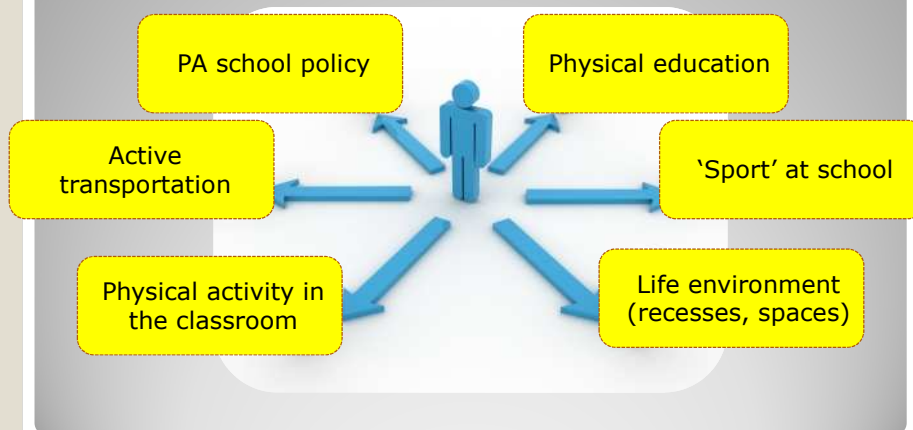


Improvement of the PE teacher's status

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Other activities

6 dimensions of PA at school (Snyers et al., 2014)



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Other activities

- **Implementing PA projects**

- ☞ Involvement in the school policy
- ☞ Regular analysis of the PA level of the school
- ☞ Increase of the marketing towards the other actors of the school environment (colleagues, parents ...)
- ☞ Development of the relationships with the community
- ☞ Creation of networks with other PE teachers (communities of practice) in order to produce and disseminate good practices

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Five management axes

- **Be a model**
 - ☞ Show that it is possible to adopt an active lifestyle
- **Update one's knowledge**
 - ☞ Be curious about PA and its promotion
- **Create a network**
 - ☞ Develop collaboration, get support
- **Become a project manager**
 - ☞ Analyze, plan, implement, coordinate, assess
- **Behave like a professional**
 - ☞ Assume the central role

Ciotto & Fede (2014)

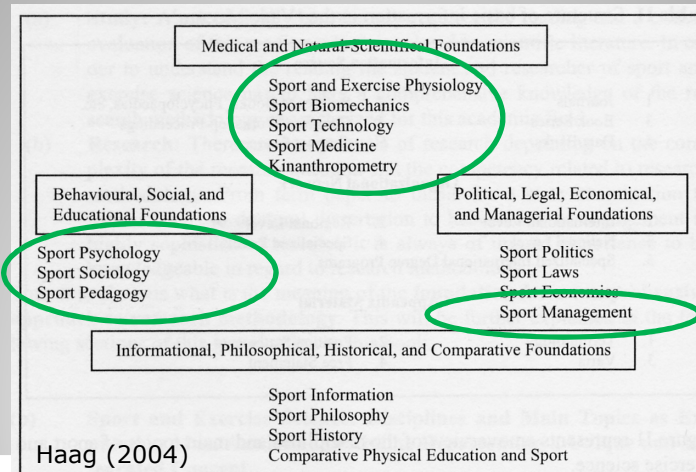
Erwin et al. (2014)

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New competences, new preparation

The PE teacher has the current required competences



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The PE teacher has the current required competences

- He just has to learn to use them
 - Emphasis on the societal anchoring of the course
 - Action research during teaching field practices
 - Reflective practice



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The PE teacher has the current required competences

- He just has to learn to use them
 - Papers' writing

Charlotte LAURENT, Alexandre MOUTON & Marc CLOES

Exploitation du concept de « physical literacy » dans le cadre d'une séance d'ergonomie et de manutention

Monia MASROUKI & Marc CLOES

TRAVAIL DE DIFFERENTES DISCIPLINES COLLECTIVES SOUS FORME DE CIRCUIT

Gilles DUBRU & Marc CLOES

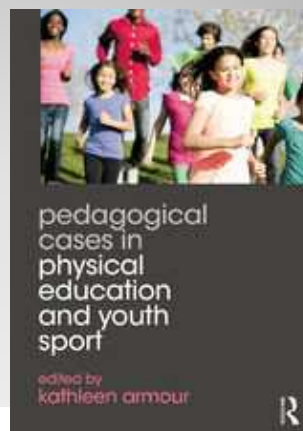
Séance de renforcement musculaire utilisant des objets du quotidien

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How to prepare teachers now?

- **New approach** of PETE (Armour, 2014)
- Pedagogical cases
 - ☞ Scenarios
 - ☞ Sport science experts
 - ☞ Sport pedagogy expert

Pre and in-service teaching



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How to prepare teachers now?

- One-day training (Aelterman et al., 2013)
 - Theoretical background principles SDT
 - Overview of motivating/need-supportive teaching strategies illustrated by case studies and video images
 - Application exercise



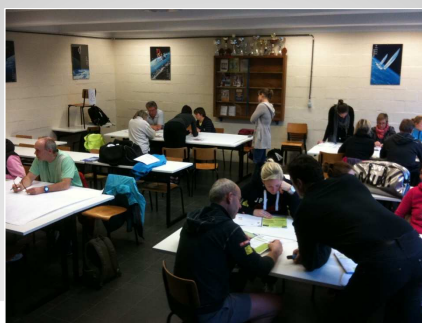
Development and evaluation of a training on need-supportive teaching in physical education: Qualitative and quantitative findings

N. Aelterman^{a,c,*}, M. Vansteenkiste^a, H. Van Keer^b, J. De Meyer^c, L. Van den Berghe^d, L. Haerens^{d,e}

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How to prepare teachers now?

- And the inservice teachers
 - Specific sessions
 - Mentors-PE students
 - Online resources



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And for those who want to read more

- Corbin (2002): What every PE educator should know about promoting lifelong PA
- Cale & Harris (2006): Guidelines to implement PA promotion at school
- Hodges Kulinna et al. (2012) : Changing school physical activity
- Erwin et al. (2013) : Comprehensive school-based PA promotion. A review

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**Take
home message*

HOWS WE DOING

Four key messages for PETE

- PE teachers should become the real cornerstones of the PA promotion at school
- They have to be involved in PE as well as in the other dimension of PA at school
- They have to collaborate (they are not alone)
- Pre service and inservice PETE have to be adapted to show the way and change the mentalities

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Three key messages for researchers

- Studies focusing on long term effects of PE are needed
- Implementation of new teaching approaches in the schools should be more documented
- Need of evidence-based teaching resources

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<http://orbi.ulg.ac.be/handle/2268/188875>



Many thanks for your interest

Marc.Cloes@ulg.ac.be

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