Development of educational info capsules proposing instructional strategies aiming to deal with overweight and obese students

Marc Cloes, Marie-Christine Lebrethon, & Isaline Feron

Department of Sport and Rehabilitation Sciences
University of Liege, Belgium

2014 AIESEP World Congress
‘Educating for active healthy citizens’
Auckland, New Zealand – February 10-13, 2014
Overweight and obesity

- An escalating global epidemic
  - “Globesity”

Key facts
- Worldwide obesity has nearly doubled since 1980.
- In 2008, more than 1.4 billion adults, 20 and older, were overweight. Of these over 200 million men and nearly 300 million women were obese.
- 35% of adults aged 20 and over were overweight in 2008, and 11% were obese.
- 66% of the world’s population live in countries where overweight and obesity severely affect more people than underweight.
- More than 40 million children under the age of five were overweight in 2011.
- Obesity is preventable.

WHO (2013)

Overweight and obesity

- The role of school is emphasized
  - All children
  - Much time
  - Professional structures

- School-based obesity-prevention strategies
  - Curriculum
  - Parent/Family
  - School environment/Policy

Fridlund Dunton et al. (2011)
What about PE?
- Worldwide PE crisis
- Evolution of the teaching principles
  - (Physical) literacy
  - Accountability
- Change of the PE teachers’ mission
  - From sport educator to physical activity promoter
  - Towards one PE-Health Education worldwide?

'Pedagogy of obesity’ is missing (Haerens, 2012)
A debate between two conceptions
- Specific approaches focusing on overweight students
- Integrated PE (and Health) Education
Overweight and obesity

- What about PE?

PE is a solution to fight against obesity crisis (Tappe & Burgeson, 2004)

PE has a public relations problem in regard to how obese students are treated (Irwin et al., 2003)

Some PE teachers develop an ‘antifat’ attitude (Greenleaf & Weiller, 2005)

PE trainees consider that they are ready (Martinez et al, 2010)

PE teachers can create environments of inclusion (Rukavina et al., 2010; Li & Rukavina, 2012)

What are the models
Pedagogical Model for Health-Based Physical Education
Haerens et al. (2011)

- Self-determination theory
  - Learning goals
  - Subject matter
  - Teaching strategies
  - MBP: Planning for teaching

Social ecological constraint model
Li & Rukavina (2012)
The PE solution

Prusak et al. (2013)

- View physical education as a public health tool
  - Each PE lesson getting kids to become highly active
  - Helping them to achieve success
  - Ensuring that the class will be a lot of fun
  - Health club model of PE in the school
- PETE must prepare teachers to meet the new demands
- Develop an accountability system

University of Liege


A series of studies
Main findings

- PE teachers do not know what to do or consider that they do not need to work specifically with overweight/obese students
- They underline the lack of specific preparation and/or documentation
- Website, inservice session, educational info capsules (leaflets) are identified as the Top 3 supports that PE teachers would prefer
A part of a multiple step research

- To illustrate how we developed and validated pedagogical supports designed to help PE teachers to deal with overweight/obese students in their classes.
1. Identification of the topics
   ◦ Online survey (513 PE teachers)
   ◦ Representations about the constraints (overweight and obese students) and interest for information about these constraints
     Cloes et al. (2014)

2. Preparation of the content
   ◦ Screening of the literature: Internet, scientific and professional journals, books, attending to seminars, meetings with stakeholders
   ◦ Validation of the corpus by an expert (physician)

3. Choice of the support
   ◦ Online survey (513 PE teachers)
   ◦ Preference to receive the information
     Cloes et al. (2014)

4. Development of the support
   ◦ Analysis about the recommendations of use
   ◦ Support of professionals (graphic designer; publicist)
   ◦ Elaboration of one assessment grid
## Validation of the support

- 11 experts

<table>
<thead>
<tr>
<th>Psychologists</th>
<th>Health</th>
<th>Health educ</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>P 1 Physican</td>
<td>Physcan (M1)</td>
<td>PA prom (S1)</td>
<td>PE teacher 1</td>
</tr>
<tr>
<td>P 2 Nurse</td>
<td>Health prom (S2)</td>
<td>PE teacher 2</td>
<td></td>
</tr>
<tr>
<td>P 3 Physio.</td>
<td>PE teacher 3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Written assessment (n=8)
- Face to face talk (n=3)
Six steps

6. Edition of the support
   ◦ Modification of the initial version of the support
   ◦ Analysis of the comments
   ◦ Analysis of the validation process

Results and discussions
Identification of the topics

Students' lack of awareness about risks
Lack of specific literature
Students' lack of awareness of PA/PE
Lack of parents' awareness of PA/PE role
Medical certificate
Synergy PE teacher-Health actors
Low motor development/performance
Students' health status determination
Assessment of overweight students
Self image
Knowledge about overweight
Stigmatization of the difference when individualizing
Overweight students' fear of pain
Look of others
Interest #1 of the PE teachers
Ranked 2d among the constraints
Importance of students’ representations for any project
Students’ lack of awareness of PA/PE role
Medical certificate
Synergy PE teacher-Health actors
Low motor development/performance
Students' health status determination
Assessment of overweight students
Students' avoidance behaviors about physical
Self image
Knowledge about overweight
Interest of the PE teachers (score/4)

Interest of the PE teachers (score/4)
### Identification of the topics

#### Students’ lack of awareness about risks
- Lack of specific literature: 3.25
- Students’ lack of awareness of PA/PE: 3.24

#### Lack of parents’ awareness of PA/PE role
- Medical certificate: 3.12
- Students’ lack of awareness of PA/PE: 3.14

- Ranked 4th among the interests and 5th among the constraints
- Intervention on determining actors for the success of PA promotion

#### Low motor development/ performance
- Students’ health status determination: 3.04
- Students’ avoidance behaviors about physical activity: 2.94

- Constraint #1 pointed out by the PE teachers for which some support seems necessary
- Starting point of most of the difficulties encountered in the gym

---

**Table:**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students’ lack of awareness about risks</td>
<td>3.27</td>
</tr>
<tr>
<td>Lack of specific literature</td>
<td>3.25</td>
</tr>
<tr>
<td>Students’ lack of awareness of PA/PE</td>
<td>3.24</td>
</tr>
<tr>
<td>Lack of parents’ awareness of PA/PE role</td>
<td>3.14</td>
</tr>
<tr>
<td>Medical certificate</td>
<td>3.12</td>
</tr>
<tr>
<td>Students’ health status determination</td>
<td>3.04</td>
</tr>
<tr>
<td>Students’ avoidance behaviors about physical activity</td>
<td>2.94</td>
</tr>
<tr>
<td>Knowledge about overweight</td>
<td>2.93</td>
</tr>
<tr>
<td>Self image</td>
<td>2.92</td>
</tr>
<tr>
<td>Stigmatization of the difference when individualizing</td>
<td>2.91</td>
</tr>
<tr>
<td>Look of others</td>
<td>2.90</td>
</tr>
<tr>
<td>Overweight students’ fear of pain</td>
<td>2.89</td>
</tr>
<tr>
<td>Contact between PE teacher and parents</td>
<td>2.88</td>
</tr>
<tr>
<td>Dialogue PE teacher-Overweight students</td>
<td>2.75</td>
</tr>
<tr>
<td>Determination of overweight/obesity</td>
<td>2.74</td>
</tr>
<tr>
<td>Dialogue PE teacher-Other students</td>
<td>2.71</td>
</tr>
<tr>
<td>Management of teasing</td>
<td>2.64</td>
</tr>
</tbody>
</table>

**Constraints:**

- Management of teasing
- Low motor development/performance
- Students’ health status determination
- Students’ avoidance behaviors about physical activity
- Knowledge about overweight
- Self image
- Stigmatization of the difference when individualizing
- Look of others
- Overweight students’ fear of pain
- Contact between PE teacher and parents
- Dialogue PE teacher-Overweight students
- Determination of overweight/obesity
- Dialogue PE teacher-Other students
- Management of teasing
Choice of the support

1) Web: modern support; used by the subjects in the inquiry
2) Inservice session: usual approach (! Availability)
3) Leaflet: easy to disseminate ➔ info capsule!

Validation by the experts (col.)

Positive aspects about the content and about the presentation

Negative aspects about the content and about the presentation

CAPSULES, LES ELEVES NE SONT PAS CONSCIENTS DES RISQUES LIES AU SURPoids ET AU L’OBESITE.
Validation by the experts

- Students’ lack of awareness about risks
  - Appropriateness of the content (M1, M2, P2, PE1, PE2)
  - Modification of some parts (M1, M2, P1, P2, S1, S2, PE1, PE2)
  - Opposite opinions for an aspect as the density (negative FB from M3, P1, S1, S2; positive FB from the three PE teachers!)
  - Request for more concrete actions (S2, PE1)

  - ‘The density of the content is probably a negative point serving a positive one’ (P1)

- Lack of parents’ awareness of PA/PE role
  - Appropriateness of the content (all experts)
  - Critics about the design (M1, M3, P2, P3, S1, S2) ➔ modifications aiming to emphasize several ideas
  - S2 is the only one who consider that PE teachers will not be able to use technological tools in their classes

  - ‘Need to adapt the available info according to the local context of the class!!!’
Validation by the experts

- Low motor development/performance
  - Motivate to read (using verbs to attract the reader)
  - S1 considers this capsule as the best one
  - Improvements of some information has been requested (M1, M3, P2, P3, S1, S2, PE1)
  - Critics about the lack of coherence of the design with the other capsules (P1, PE3)

  • ‘No change as the design of this capsule was praised by most of the experts’ (P1)

Students’ lack of awareness about risks
Lack of parents’ awareness of PA/PE role

Low motor development/performance
Conclusions

There is a need to provide support to PE teachers in order to help them to respond more easily to a health based PE.

- 3 info capsules proposing theoretical and practical information
Take home message

- Unanimity about the interest of the support and about the content
- PE teachers proposed generally less critics

The next steps?

- Developing additional info capsules focusing on more constraints (12 are now ready)
The next steps?

- Disseminating the 12 info capsules
- Analyzing how PE teachers use them

Many thanks for your interest


• Li, W., Rukavina, P. (2012). Including overweight or obese students in physical education: A social ecological constraint model. Research Quarterly for Exercise and Sport, 83, 4, 570-578.


