A multicompontent healthy eating and physical activity intervention intervention for 3-11 year old children in primary schools

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How to PREVENT Child Obesity and its Negative Health Effects?

- Balance Calories In and Calories Out

- Increase Daily Consumption of Fruit and Vegetables, Decrease Intake Sugar and Fat and

- Increase Daily Physical Activity
Food Dudes Healthy Eating Programme for Primary Schools: Key “3Rs” Behaviour Change Principles

- Role Modelling
- Repeated Tasting
- Rewards
Food Dudes Role Models
Meet the Junk Punks

GENERAL
JUNK

MISS DE MEENA

THE
GRUESOME
TWOSOME
Impacts of Food Dudes Whole School Programme for 5- to 11-year-olds

• Successfully delivered to more than 750,000 children: Ireland (national); UK (regional). Trials in Italy and U.S.
• Large increases in children’s FV consumption, especially “poorest eaters”
• Effects remain 6 years after taking part – independent evaluation of Ireland rollout by research team at University College Dublin
• Generalise to home: parents, family
• Displaces unhealthy snacks from children’s diets
• Versions for 3-4 year olds in nursery classes and in special schools also very successful.
Food Dudes Early Years Programme: Designed for 2 – 4 Year Old Children
Commissioners in England (Midlands) and Scotland have delivered this intervention successfully in 200+ Nurseries so far.
And so to Targeting Children’s Physical Activity at School!
Known benefits to children’s health and wellbeing

• Training of Fundamental Movement Skills in children results in:
  • Increased levels of daily activity
  • Improved cardiorespiratory fitness
  • Improved weight status
  • Increased bone density and muscle development
  • Reduction of health inequalities
  • Increase in children’s activity in turn related to improved: Cognitive, Academic, Physical; Social, Emotional skills and Mental health
Dynamic Dudes Research Team:

Primary School Programmes

• Principal Investigator: Professor Pauline Horne
• Researchers 2013-2015 studies:
  • Sophie Mitchell, Ellen Dolan, Orla Flannery, Christie Culleton, Shona Whitaker, Rebecca Steer, Kelly Mackintosh
• Catherine Sharp PhD student
• Dr. Catherine Sharp, Co-Investigator & Impact Officer 2017 in ESRC IAA study (3 months)
Dynamic Dudes for Primary Schools: Development of the Evidence Base

- Dynamic Dudes for 5-11 year olds
  - Controlled trials completed in 13 schools (5 controls) over the past 4 years

- Dynamic Dudes for 3-4 year olds
  - Initial feasibility trials just completed
  - Dr Catherine Sharp, PhD programme
  - See Catherine’s Poster for details
Key Behavioural Principles

- Peer modelling
- Praise for effort & technique
- Physical skills practice opportunities
- Partnership between child & teacher
- Personal monitoring of skills progression
Super Dynamic Dudes Programme

• 3 core components now developed:
  1. In-class exercise DVDs
  2. Dynamic Dudes Playground Activity Stations
  3. P.E. Teacher-training DVD

• Aims:
  ➢ Increase FMS skills & activity levels
  ➢ Improve cardiorespiratory fitness
  ➢ Positively impact BMI and waist circumference
1. Dynamic Dudes
Classroom Exercise DVD

• Each character’s video shows them performing their signature activity skills:
  – Rocco: Football
  – Charlie: Martial Arts
  – Tom: Gymnastics
  – Razz: Dance

• Children watch each video, copying up to 10 repetitions of the character’s skills sequences
• Then record repetitions completed in their Dynamic Dudes Activity Logs
# Dynamic Dudes Activity Log

**Year Group**

**Dynamic Dudes Activity Log**

**Child’s Name**

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="" /></td>
<td><img src="image2" alt="" /></td>
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<td><img src="image5" alt="" /></td>
<td><img src="image6" alt="" /></td>
<td><img src="image7" alt="" /></td>
<td><img src="image8" alt="" /></td>
</tr>
<tr>
<td><strong>Great Work Dudes!</strong></td>
<td><strong>Level</strong></td>
<td><strong>Woohoo Dudes!</strong></td>
<td><strong>Level</strong></td>
</tr>
<tr>
<td>Day 5</td>
<td>Day 6</td>
<td>Day 7</td>
<td>Day 8</td>
</tr>
<tr>
<td><img src="image9" alt="" /></td>
<td><img src="image10" alt="" /></td>
<td><img src="image11" alt="" /></td>
<td><img src="image12" alt="" /></td>
</tr>
<tr>
<td><strong>Star</strong></td>
<td><strong>Amazing Skills!</strong></td>
<td><strong>Really Going For It!</strong></td>
<td><strong>Level</strong></td>
</tr>
<tr>
<td>Day 9</td>
<td>Day 10</td>
<td>Day 11</td>
<td>Day 12</td>
</tr>
<tr>
<td><img src="image13" alt="" /></td>
<td><img src="image14" alt="" /></td>
<td><img src="image15" alt="" /></td>
<td><img src="image16" alt="" /></td>
</tr>
<tr>
<td><strong>Keep Going Dudes!</strong></td>
<td><strong>Level</strong></td>
<td><strong>Peak Dynamic Skills!</strong></td>
<td><strong>Level</strong></td>
</tr>
<tr>
<td>Day 13</td>
<td>Day 14</td>
<td>Day 15</td>
<td>Day 16</td>
</tr>
<tr>
<td><img src="image17" alt="" /></td>
<td><img src="image18" alt="" /></td>
<td><img src="image19" alt="" /></td>
<td><img src="image20" alt="" /></td>
</tr>
<tr>
<td><strong>Star</strong></td>
<td><strong>Immense Moves Dudes!</strong></td>
<td><strong>Get Moving Dudes!</strong></td>
<td><strong>Level</strong></td>
</tr>
</tbody>
</table>

![Image of children exercising](image21)

![Image of children exercising](image22)

![Image of children exercising](image23)

![Image of children exercising](image24)
Individual Rewards: 3 Medals per Class (for “best effort”)
Levels 1 – 10

Charlie: Martial Arts Moves

Tom: Gymnastics Moves

Rocco: Football Moves

Razz: Dance Moves

Return to Main Menu
2. Dynamic Dudes Playground

- Choice of interactive activity stations
- Tailored to the Dynamic Dudes theme
- Stations promote skills progression
- Increase physical activity levels and help develop physical literacy
- Next slides show 3 of the 6 activity stations.....
Football

General Junk

Promotes object-control skills & dynamic balance
Dance

Coordination, creativity, movement, body and spatial awareness

Outdoor speaker

“Mirror Me” markings

Mirrors
Walk & Talk Circuit

Rocco: high knees promote coordination

Tom: 5-point star to engage in activity

Razz: swirl to promote balance

Charlie: footprints to engage in activity
3. Dynamic Dudes P.E. Teacher Training DVD

- Staff training to build teacher confidence in delivering high quality PE lessons
- Wider range of FMS can be taught in playground
- Dynamic Dudes activity stations used in a circuit-based format:
- Class split into groups moving from station to station every 10 mins:
  - 3 aerobic: Skip/run lanes, Walk & Talk, Dance
  - 3 ball-based: Basketball, Football, Tennis
Study Design: Controlled Trial of Playground Equipment and Classroom Exercise DVDs

**Baseline Measures:** Fitbit, Shuttle Run, Anthropometric

**Intervention**
- 2 Intervention Schools
  - Markings Removal
  - Playground Installation
  - Daily In-class exercise DVD

**Control**
- 2 Control Schools
  - No Intervention

**P1: Pedometer Measures**
- In-class DVD: Beginner
  - 9 Week FU Measures: Fitbit, Shuttle Run, Anthropometric

**P1: Pedometer Measures**
- In-class DVD: Advanced
  - 17 Week FU Measures: Fitbit, Shuttle Run, Anthropometric

2 Intervention Schools
- In-class exercise DVD
- PE Video Instruction

2 Control Schools
- No intervention
Pedometer Steps during In-class DVD

<table>
<thead>
<tr>
<th>Stage of the DVD</th>
<th>Intervention</th>
<th>Control</th>
</tr>
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<tbody>
<tr>
<td>Beginner</td>
<td>189</td>
<td>62</td>
</tr>
<tr>
<td>Football</td>
<td>349</td>
<td>47</td>
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<tr>
<td>Dance</td>
<td>350</td>
<td>43</td>
</tr>
<tr>
<td>Martial Arts</td>
<td>338</td>
<td>42</td>
</tr>
<tr>
<td>Gymnastics Advanced</td>
<td>666</td>
<td>30</td>
</tr>
<tr>
<td>Football Advanced</td>
<td>522</td>
<td>41</td>
</tr>
<tr>
<td>Dance</td>
<td>600</td>
<td>41</td>
</tr>
</tbody>
</table>
Shuttle Run Fitness Results

Planned contrasts analysis:

1. Baseline: No significant difference between conditions; \( p = .48 \)

2. Follow Up 1 [after Beginner’s exercise DVD] no significant difference between conditions; \( p = .22 \)

3. Follow Up 2 [after Advanced exercise DVD] significant difference between conditions; \( p = .03 \)
FitBit Accelerometer Results: Weekday Physical Activity levels

Mean Number of Steps Taken

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Follow Up 1</th>
<th>Follow Up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Planned contrasts analysis:

1. Baseline: No significant difference between conditions; $p > .05$

2. Follow Up 1: significantly more steps in intervention condition than control; $p = .001$

3. Follow Up 2 significantly more steps in intervention condition than control $p = .009$
New Project: ESRC IAA funded

- **Objectives**: A Co-production with Physical Literacy specialists within GNWM network.
- New Dynamic Dudes Classroom Exercise DVDs.
- Higher intensity and increased variety of skills
- Welsh and English versions produced; Welsh versions trialled in 3 local primary schools.
- **Outcomes** after only 4 weeks of new classroom DVD:
  - Children’s Fitness significantly greater in intervention school than control school ($p = .03$);
  - Waist Circumference increased in control school but not Dynamic Dudes school. [For full details, see our ESRC IAA Poster Presentation]
Conclusions

• The Dynamic Dudes Classroom DVD intervention is:
  • Simple - performed in children’s school clothes, easy to run
  • Short -15 minutes
  • Weather independent
  • Fun for all: versions for 5-11 year olds and 3-4 year olds
  • Trains new Fundamental Movement Skills
  • Evokes large increases in children’s daily moderate
Want to run Dynamic Dudes too?

• Please help us to bring Dynamic Dudes/Dudes Dynamig to all North Wales schools
• For 5-11 year olds and 3-4 year olds
• For mainstream and special schools
• Let’s Do it Dudes!!!!
Thank you for listening!
Proof of Principles Publications


- (See caer@bangor.ac.uk)