

# DESKCYCLES IN THE CLASSROOM



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## **12:30-1:30 (PE-105) Desk Cycles!**

**Room A**

Would you like to increase movement time in the classroom and keep students engaged at your school? Emerging research suggests that physical activity enhances student learning, behavior and fitness. This session will introduce Desk Cycles as classroom tools in elementary through college classrooms. Recent data on the effect of Desk Cycles on student engagement and perceptions will be shared. Desk Cycles will be available to try during the session.

**Presenter:** Dr. Lynn Pantuosco-Hensch, Associate Professor, Westfield State University; Director of the Coaching Minor

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**PHIT AMERICA**

A MOVEMENT FOR A **FIT** AND HEALTHY AMERICA

ABOUT   Inactivity Pandemic   Activity for Better Health   Activity for Better Academics   PE In School PHIT KIDS   GOI Grants Other Programs   Videos & Documentary   The PHIT Act PE Legislation

The cost of inactivity in the USA this year keeps rising ↗ **\$164,859,985,139**

## 10+ RESEARCH PROJECTS...

### "Physical Activity Results In Improved Academic Performance"

- // [University of Illinois](#) – "Physically Fit Kids Have Beefier Brains"
- // [University of Illinois Urbana](#) – "How Exercise Can Boost Young Brains"
- // [Dartmouth](#) – "12 minutes of exercise improves attention and reading comprehension"
- // [Purdue University](#) – "Kids working out get better grades"
- // [Medical University of South Carolina](#) – "P.E. actually helps academic scores"
- // [University of Hindenburg](#) – "More physical activity improved school performance"

**!** INACTIVITY PANDEMIC REPORT 2016 - FREQUENT PARTICIPANTS DOWN DRAMATICALLY [MORE NEWS](#)

## PHYSICAL ACTIVITY IMPROVES ACADEMICS

- Aerobic exercise = *Miracle Grow* for the brain
- Aerobic exercise ↑
  - Oxygen, blood flow & glucose to the brain
- Aerobic exercise ↑ brain-derived neurotrophic factor (BDNF)
  - BDNF ↑ healthy cellular growth in the brain & ↑ brain plasticity
  - Cognition, memory & recall

## PHYSICAL ACTIVITY GUIDELINES FOR CLASSROOMS

FREQUENCY	INTENSITY	TIME	TYPE
3-5 DAYS IN SCHOOL PER WEEK	60% - 85% MAXHR	<ul style="list-style-type: none"> <li>• 10-30+ MINUTES</li> <li>• INCLUDING 3-5 MINUTE MOVEMENT BREAKS</li> <li>• EARLY MORNING BOUT</li> <li>• INTERVALS</li> </ul>	AEROBIC EXERCISE IS OPTIMAL FOR BRAIN DEVELOPMENT

## ACTIVE CLASSROOMS INCREASE DAILY PA

- MOVEMENT = Part of the CLASSROOM CULTURE
  - Needs to be purposeful, organized physical activity in the classroom

## ACTIVE CLASSROOM CULTURE

- Physical activity should become an expectation in the classroom for students, rather than a special occasion
- Researchers suggest that learning is optimal in the period of time immediately following aerobic exercise



## THE NEXT CYCLE IN ACTIVE CLASSROOMS



## DESKCYCLE RESEARCH



GRADE 2 CLASSROOM SET



GRADES 2-5; 2-4 CYCLES



COLLEGE CLASSROOM



## GRADE 2 CLASSROOM SET

### SUBJECTS

- TX: 19, 2<sup>nd</sup> grade students
  - 13 boys, 6 girls
- Control: 19, 2<sup>nd</sup> grade students
  - 12 boys, 7 girls

## METHODS

- PROTOCOL
  - TX: Structured morning cycling, structured breaks, unstructured use on demand
  - Control: Movement breaks/standard classroom
- DATA COLLECTION
  - AIMSweb, FitnessGram PACER
  - Student Journals
  - Observations: Teacher, Principal, Researchers
- DATA ANALYSES
  - Comparison of TX group test scores to Control group test scores

## CLASSROOM RESEARCH PROTOCOL

- Morning bout of cycling
  - 5+ minutes
- Scheduled cycling breaks
  - 3-4 minute breaks (x 3-4 times per day)
  - +/- 20 accumulated structured minutes
- Continuous use as desired by students
- DeskCycle for teacher
- DeskCycles are part of the classroom culture, integrated into academics

## MORNING CYCLE ROUTINE

- 5+ minutes every morning
- Set to video
- Set to music
- Designed to get in target heart rate zone
- Followed by heart rate self-check
- Followed by stretching
- Transition to morning routine/special subjects



## STRUCTURED DESKCYCLE BREAKS

- Before Writer's Workshop
- Before Reader's Workshop
- Before Math



## UNSTRUCTURED DESKCYCLE USE

- Encouraged throughout the day

## DESKCYCLE AND...

- memorization of information
- quick recall of information
- vocabulary
- spelling
- math facts
- subject matter facts (e.g., states & capitals)

## DATA COLLECTION

- Physical = PACER/FitnessGram
  - September/January
- Cognitive = AIMSweb (literacy/math)
  - October/January
- Affective = Journals
  - Student Journals
- Observations
  - Teacher
  - Researchers




<p>impact your <b>THINKING?</b></p>	 	
<p>How did the desk cycle impact your <b>MOOD?</b></p>	  	
<p>How did the desk cycle impact your <b>BODY?</b></p>	 	

Date \_\_\_\_\_

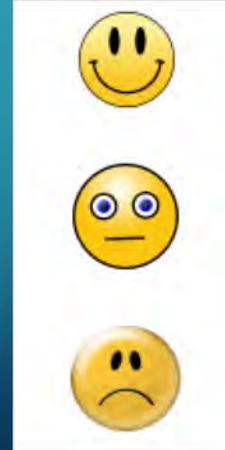
When Did You Use The Desk Cycle? Circle all the times you used it this week.	How Do You Feel When You Use the Desk Cycle	Comments: Why do you like it? Why do you not like it? Does it help you focus? Does it distract you? Is it hard to use?
<u>Fundations</u> Writer's Workshop Reader's Workshop Math WIN Science/S.S.	    	

## DATA ANALYSES

- Pre/Post
- Descriptive statistics
- No significant differences on AIMSweb or PACER

## STUDENT JOURNAL THEMES

- Sporadic student journals
  - Emojis and narrative do not always correspond
- More reaction/enthusiasm in early journals
  - Novelty wore off?
  - Usage appears as teacher describes
- Generally positive
  - Body, Thinking, Mood



GRADES 2-5  
2-4 CYCLES

## METHODS

- PROTOCOL

- Tx: 14 classrooms across grades 2-5
- Each teacher was given 2-4 DeskCycles
- Teachers were encouraged to use DeskCycles in their preferred manner
- Teachers were asked to make observations about usage

- DATA COLLECTION

- Teachers were interviewed in small focus groups by grade level

## FINDINGS: 2<sup>ND</sup> – 5<sup>TH</sup> GRADES

- ✓ General findings showed perceived benefits for fidgety, anxious, or busy students
- ✓ Teachers reported that students were more attentive, better-focused, or calmer in the classroom after DeskCycle use
- ✓ Classroom usage patterns depended on the comfort level with movement in the classroom and routine of each teacher

## FINDINGS: 2<sup>ND</sup> – 5<sup>TH</sup> GRADES

DeskCycle usage depends on:

- Investment of the teachers
- Attitudes of the students

## FINDINGS: 2<sup>ND</sup> – 5<sup>TH</sup> GRADES

DeskCycles assimilated into the classrooms and  
were utilized like any other classroom tool

(which, interestingly, the principal predicted ;-)

## FINDINGS: 2<sup>ND</sup> – 5<sup>TH</sup> GRADES

The minimal negatives included:

- 1) some need for repairs
- 2) the available options for classroom desks or tables

## FINDINGS: 2<sup>ND</sup> – 5<sup>TH</sup> GRADES

1. DeskCycles are used more if/when teachers encourage or remind students of the option to use them
2. Individual students tend to benefit more from the DeskCycles when a teacher suggests the DeskCycle to a specific student



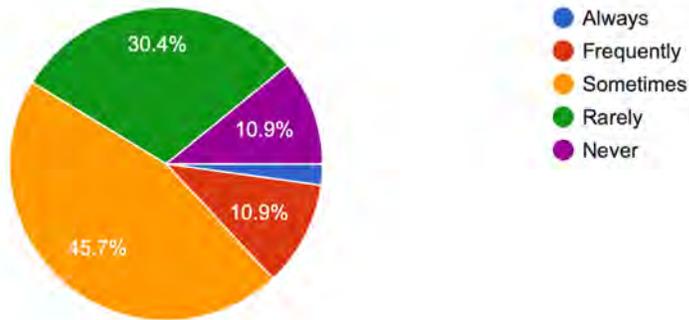
## METHODS

- **PROTOCOL**
  - Tx: 80 students (4 classes, 20 students in each)
  - Students shared DeskCycles (set of 12)
  - Students were encouraged to use DeskCycles and share half way through class 2-3x/week for 8 weeks
- **DATA COLLECTION**
  - Students completed a DeskCycle Feedback Survey

## FINDINGS: COLLEGE CLASSROOMS

How frequently do you use the DeskCycle in class?

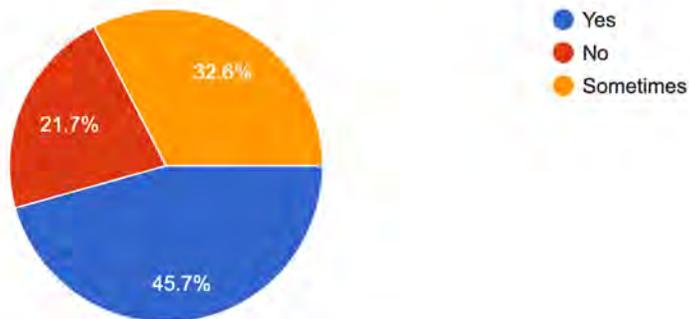
46 responses



## FINDINGS: COLLEGE CLASSROOMS

Do you enjoy using the DeskCycle?

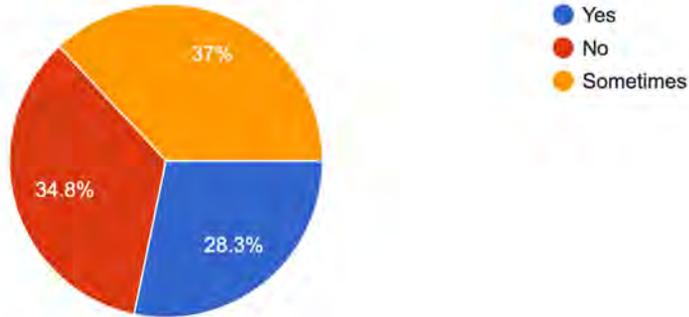
46 responses



## FINDINGS: COLLEGE CLASSROOMS

Does using the DeskCycle increase your focus (attention) in class?

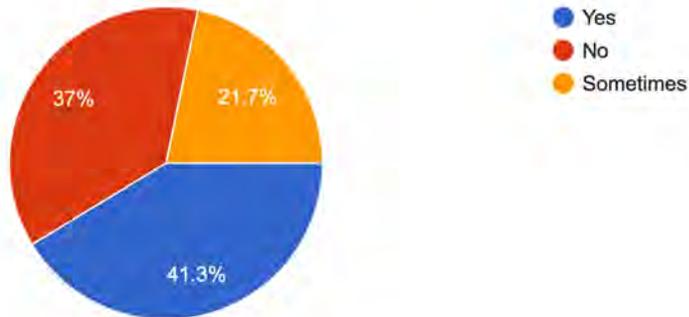
46 responses



## FINDINGS: COLLEGE CLASSROOMS

Does using the DeskCycle make you feel more engaged (involved) in class?

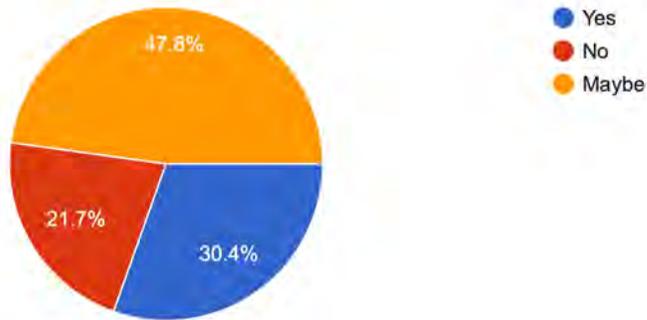
46 responses



## FINDINGS: COLLEGE CLASSROOMS

Do you think using a DeskCycle will improve your learning in class?

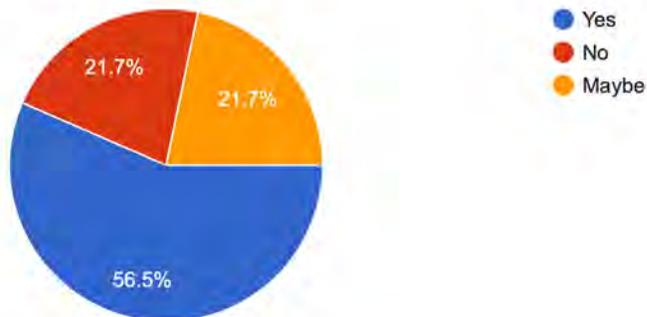
46 responses



## FINDINGS: COLLEGE CLASSROOMS

Would you like a DeskCycle in future college classrooms?

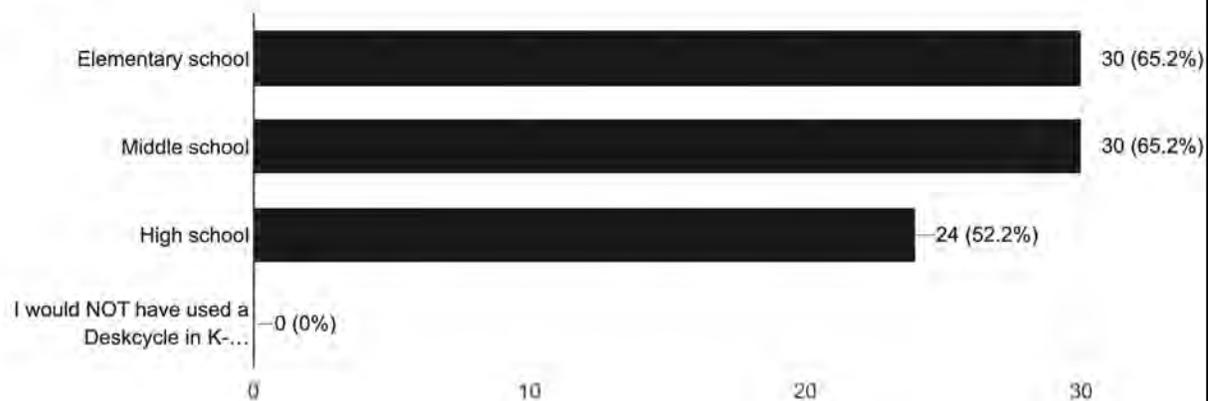
46 responses



## FINDINGS: COLLEGE CLASSROOMS

When do you think you would have used a DeskCycle as a younger student? Check ALL that apply:

46 responses



THANK YOU

