634 Board #2 8:00 AM - 10:00 AM

Incorporating Movement And Technology Into Academic Lessons To Improve Physical Activity And Reduce Childhood Obesity

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Recommendations to increase school-based physical activity, reduce childhood obesity, and promote academic success advise incorporating movement into traditional classroom lessons.

PURPOSE: The purpose of this pilot study was to develop strategies and evaluate the feasibility of integrating physical activity into a science curriculum.

METHODS: A small science class of mixed 5th/6th grade Hispanic girls (n=9) (BMI 23.9+/-3.5) enrolled in an urban school serving economically disadvantaged students participated. Students experienced hands-on data collection during "activity experiments" by wearing digital monitoring devices (e.g., HR monitor, pedometer, accelerometer) while performing a variety of fitness activities (e.g., hike, nature walk, dance class). Following the activity experiments, students and teacher uploaded data from devices to an interactive website that provided inquiry-based exploratory learning on science concepts. Eight lessons were developed using frameworks of established educational materials and delivered over a 6-week teaching unit (e.g., 1-2X/week) during 90-min classes.

RESULTS: Results showed heart rate (132+/-13 bpm); maximal heart rate (194+/-12 bpm); time (34+/-3.9 mins); steps (3,754+/-1596); calories (237+/-1.1 kcal); and distance (1.9+/-0.08 miles) while performing the activity portion of the science classes were consistent with national recommendations for accumulating school-based physical activity. Qualitative data demonstrated favorable response by students, teachers and administrators on device usability; interest/engagement; and classroom time management.

CONCLUSION: We conclude the use of digital monitoring devices blended with fun fitness activities can be successfully integrated into a standard school-based curriculum for middle-school students, including those from lower socioeconomic and racially/ethnically diverse communities. This approach has potential to positively impact childhood obesity and academic performance by increasing school-based physical activity. Future research needs to be focused on integrating movement into school curriculum in a variety of school settings.

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635 Board #3 8:00 AM - 10:00 AM

The Kid Fitness™ School Program: Effects on Daily Physical Activity

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(S.A. Underwood: Contracted Research; Kid Fitness, Inc. through United Way of Chattanooga.)

INTRODUCTION: To address the need for increased physical activity (PA) among school-aged children, Kid Fitness Inc. developed the Kid Fitness™ Television and School Program. The School Program is a classroom-based, PA and healthy eating promotion program that integrates activity into the elementary school academic curriculum. Seven-minute PA sessions integrated throughout the class day substitute for seated activity and provide content-specific fun routines.

PURPOSE: An evaluation of the program was conducted to assess daily PA level using pedometry among first and second grade students.

METHODS: A total of nine (9) classrooms were recruited (3 intervention and 6 control). The length of the intervention period was 8 weeks. The Kid Fitness™ modules consisted of DVD activity sessions and lesson plans. All teachers participated in onsite trainings prior to the intervention period. The final sample of participants with complete pre-post data consisted of students from the control classrooms (n = 78) and students from the intervention classrooms (n = 57). The pre-post intervention data were analyzed using SPSS, v17. Descriptive statistics, independent t-tests, and ANCOVA were performed.

RESULTS: Independent t-test results showed a significant difference in the baseline average number of steps between the two groups (**t**[133] = 3.631; **p =** .001). ANCOVA was used to control baseline scores and to provide unbiased estimates of the program effects. After controlling for differences in baseline scores, there was a significant difference in post-program average number of steps (**F**[1,132] = 46.07, **p** < .001). The Kid Fitness™ exposed group students walked more steps (3077 steps) than control classroom students (2320 steps).

CONCLUSION: The results of this evaluation suggest that incorporating a fun activity break such as Kid Fitness™ in a lower elementary grade classroom setting demonstrates an increase in children's in-school PA levels. The structured components of this program with focused PA, health context messages, and activities provide a positive environment where students are more likely to engage in greater amounts of PA compared to students exposed to a more traditional curriculum.

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636 Board #4 8:00 AM - 10:00 AM

Role of the Playground Environment and Weight Status on Levels of Physical Activity in Low Socioeconomic Elementary School Students

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Recess periods during the school day offer opportunities for children to be active, yet the influence of the playground environment on levels of physical activity (PA) has not been well established.