Integrating Arts and Movement into Elementary Level Nutrition and Physical Activity Curriculum

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Background

Childhood obesity continues to be an increasingly prevalent issue, particularly in under-resourced, underserved communities. In 2009, 23.5% of children in Pawtucket, Rhode Island were living below the poverty line. Last year, Pawtucket was one of six cities in the state cited for having populations at highest risk of being overweight or obese. This study, *Kaleidoscopic and Kinesthetic Classroom Care,* sought to take an existing nutrition and physical activity program at Elizabeth Baldwin Elementary School in Pawtucket and adapt the curriculum to a wider range of learning styles. The goals were to evaluate the children's response to material taught with an emphasis on art and movement as well as to compare the efficacy of the program to past curriculum.

Methods

Visual art and movement-based learning activities were incorporated into twelve lessons, piloted in a 5-week summer course in 2014. Lessons were enriched with activities in which students would create visual representations of healthy eating habits that they could bring home to share with their families. This included creating their own balanced meals with paper plates and construction paper, drawing healthy desserts made of only fruit, and other projects. The new curriculum also made an effort to integrate a multicultural approach to food. For example, a separate lesson on beans and grains was added in order to recognize the importance of these foods as staples in many of the cultures represented in the class. This lesson, which included physical samples, both dried and canned, gave students an opportunity to see and feel different kinds of grains as well as to explore the different ways they could prepare them at home. In addition to emphasizing a broader range of learning styles by appealing to visual and tactile senses, each lesson involved an outdoor activity. These activities reinforced the importance of daily exercise, accommodated the incorporation of class material through games, and provided a platform for discussing healthy ways to cope with stress.

Results

A substantial goal in the new curriculum was to define health as being physical, mental, and emotional. Students were able to practice yoga, learn about meditation, and brainstorm about ways in which they could work on being healthy. In order to assess changes in health knowledge and behaviors, pre-course and post-course surveys were administered to 24 students. Throughout the course, quizzes helped to qualitatively assess student retention of content from the previous lesson. Results of the surveys showed that after the summer course, more children answered nutrition knowledge questions correctly and reported positive health behaviors in all categories. Also, a statistically significant change of greater than 50% ($p<0.05$) was seen in self-reports of increased exercise, increased fruit and vegetable consumption, and decreased soda intake. The new curriculum yielded more positive change than the past curriculum. In the fall of 2012, the children in the previous nutrition and physical activity program reported a decline in healthy exercise and eating habits.

Conclusion

This study demonstrated that a new curriculum that incorporates art and movement yielded a greater improvement in health and knowledge behaviors. Limitations of this study included self-reported data as well as the longer lessons that were possible during the summer course. While it continues to be difficult to measure the long-term impact of lessons, future interviews of study participants could provide qualitative data on the long-term impacts of the pilot curriculum. Future studies on childhood obesity are needed to evaluate the impact of family involvement in elementary school-based nutrition curriculum.

Summer 2014 Pilot