Teaching and Teacher Education 66 (2017) 88–95

Contents lists available at ScienceDirect

Teaching and Teacher Education

journal homepage: www.elsevier.com/locate/tate

Classroom teachers' experiences implementing a movement integration program: Barriers, facilitators, and continuance

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HIGHLIGHTS

- An overcrowded schedule is a pertinent barrier to classroom movement integration.
- Developing competencies through experience facilitate movement integration.
- Scheduling movement integration into weekly routines promote program continuance.

ARTICLE INFO

Article history:
Received 4 July 2016
Received in revised form
21 February 2017
Accepted 8 April 2017

Keywords:
Elementary school
Activity breaks

ABSTRACT

This study was designed to qualitatively examine fifteen classroom teachers' experiences in implementing a movement integration (MI) program, TAKE 10!®, using the comprehensive school physical activity program framework. Data were collected through observations, semi-structured interviews, and questionnaires. Barriers to MI implementation included time and space constraints, whilst facilitators were gaining knowledge during training and developing competencies through experience. Reasons for program continuance included scheduling MI into weekly routines, children's request for the program, and collaboration among teachers. Suggestions for teachers' professional development related to MI are provided in view of the study's findings.

1. Introduction

Since the launch of the Let's Move! Active Schools campaign in 2013, teachers and administrators have been called upon to help youth become more physically educated and active in school. Increasing physical activity (PA) and aerobic fitness have been found to positively impact childhood cognitive and brain health (Khan & Hillman, 2014). As schools are attended by over 95% of youths, the school environment is a natural venue for promoting PA (National Association for Sport and Physical Education, 2008). Identifying school-based PA opportunities is imperative to promote PA in this population for achieving optimal health and well-being outcomes (Troiano et al., 2008).

One strategy to increase PA during the school day is through movement integration (MI) programs. MI is defined as infusing PA at any level of intensity during normal classroom time in general education classrooms, and often involves providing short (i.e., approximately 10 min) physical movement activities either between or during instruction in academic subjects (Webster, Russ, Vazou, Goh, & Erwin, 2015). MI programs have been found to be beneficial in improving elementary school children's mathematics and reading scores (Mullender-Wijnsma et al., 2015), as well as their attitude toward mathematics (Riley, Lubans, Holmes, & Morgan, 2016). Moreover, students are more on-task in the classroom after participation in MI programs (Goh, Hannon, Webster, Podlog, & Newton, 2016; Grieco, Jowers, & Bartholomew, 2009; Mahar et al., 2006; Riley et al., 2016; Riley, Lubans, Morgan, & Young, 2015), which may support subsequent learning and facilitate enhanced academic performance. Effectively delivered MI provides a rich pedagogical environment that enhances

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http://dx.doi.org/10.1016/j.tate.2017.04.003
0742-051X/

engagement, motivation, and PA among children.

1.1. The movement integration program

The MI program used in this study was the TAKE 10!® program developed by the International Life Sciences Institute Center for Health Promotion (ILSI CHP). The TAKE 10!® program consists of a variety of 10-min physical activities that are integrated into academic lessons, specifically language arts, math, science, social studies, and general health. TAKE 10!® was chosen for this study because the program integrates grade-specific academic learning objectives with age-appropriate PA and is available through the 5th grade. Examples of activities from the TAKE 10!® program can be found from http//www.take10.net.

In previous research on TAKE 10!®, teachers who experienced implementing the program believed in the importance and value of MI to increase students' PA levels in schools (Kohl, Moore, Sutton, Kibbe, & Schneider, 2001; Tsai, Boonpleng, McElmurry, Park, & McCreary, 2009). Teachers who were initially reluctant to implement MI were more receptive to the idea after they had experienced the effectiveness of MI on their students' in-class concentration (Tsai et al., 2009). Although teachers reported lack of time as a main barrier to implementing the TAKE 10!® program (Tsai et al., 2009), factors that facilitate the implementation and continuation of the program are relatively unknown. To expand upon this research, the purpose of the present study was to examine classroom teachers' perceived barriers and facilitators to implementing and continuing the TAKE 10!® program. Building a robust understanding of classroom teachers' perspectives related to MI program implementation and continuance is critical to the design and delivery of interventions and professional development aimed at increasing children's school-based PA.

1.2. Conceptual framework

The comprehensive school physical activity program (CSPAP) conceptual framework was used in this study to inform the research questions and data analysis (Erwin, Beighle, Carson, & Castelli, 2013). Based on a social ecological perspective, the CSPAP framework depicts a wheel, in which daily PA behavior is placed in the epicenter followed by four concentric levels of influence (Carson, Castelli, Beighle, & Erwin, 2014). At the micro level are the CSPAP components, which include: (a) physical education, (b) PA during school, (c) PA before and after school, (d) staff involvement, and (e) family and community engagement. These five components provide a guide for increasing PA opportunities before, during, and after school with an emphasis on helping youth meet the current national guideline of 60 or more minutes of PA each day. The meso level includes five CSPAP facilitators: knowledge (i.e., understanding), skills (i.e., competencies), and dispositions (i.e., attitudes, values, and self-efficacy beliefs) of school personnel, resources (i.e., operating personnel, financial and political support, time and space allocation, access to equipment and facilities, physical/built environmental structures, and transportation considerations), and safety considerations (i.e., physical, social, and emotional) that impact PA promotion in schools (Carson et al., 2014). Three leaders, including the CSPAP champion – a school personnel, usually physical education teacher with expertise in PA promotion and access to the necessary PA resources and facilities; the CSPAP committee (e.g., a group of school and local personnel comprised of classroom teachers, school nurse, parents, community members, and students); and a supportive school administration, are identified at the exo level as having either direct or indirect influence on the implementation of the CSPAP. Finally, at the macrosystem level, the CSPAP culture can be influenced through policies such as mandated minutes of PA for children in schools aimed at improving PA for youth and/or normative behavior/beliefs shared by the CSPAP community. Collectively, these levels work together to influence daily PA behavior at the epicenter of the framework. In the present study, we focused on one component at the micro level of the CSPAP model–PA during school–through the use of a MI program. The five CSPAP facilitators at the meso level were used to identify barriers and facilitators experienced by classroom teachers who implemented the TAKE 10!® program. Additionally, influences at the exo and macrosystem levels were used to identify factors important to program continuance after the intervention.

To date, one study (McMullen, Martin, Jones, & Murtagh, 2016) has used the CSPAP framework to investigate teachers' experiences (i.e., benefits, barriers and support) implementing MI in an Irish school setting. Despite barriers such as time and space constraints of the classroom reported in the study, teachers were supportive of MI programs because of the perceived benefits for children, as well as student enjoyment of the program (McMullen et al., 2016). Most previous research (Cothran, Kulinna, & Garn, 2010; Gately, Curtis, & Hardaker, 2013; McMullen, Kulinna, & Cothran, 2014; McMullen et al., 2016) focused on understanding teachers' experiences of the implementation of MI programs during the intervention. However, it remains unknown if teachers will continue to implement the program after the research intervention has ceased. Most importantly, factors that facilitate the continuing implementation of the program would inform future interventions of MI programs, particularly in teachers' professional learning.

Therefore, this study aimed to answer three research questions: 1) What are key barriers in the implementation of TAKE 10!®?, 2) What are facilitators in the implementation of TAKE 10!®?, and 3) What are key factors associated with teachers' continued use of TAKE 10!®? In addressing these questions, the present study has several important conceptual and practical implications. First, results from this study can provide greater understanding of teachers' knowledge, competencies, and beliefs regarding the value of MI, as well as the resources needed for successful MI implementation. If teachers fail to see the value of MI, then removal of other barriers is unlikely to increase MI in the classroom. Second, despite evidence that MI leads to increased PA for children, it is also clear that numerous factors affect the extent to which classroom teachers use MI. This study can help to increase our understanding of key factors that should be targeted when working with classroom teachers to help them integrate movement into their classroom routines. Findings from the current investigation may shed light on key factors facilitating the long-term maintenance of MI and a greater likelihood of students' habitual exercise practices.

2. Methods

2.1. Participants and setting

Fifteen classroom teachers from two elementary schools within the same school district in the Southwestern United States participated in the study. Six teachers were from the first school including two 3rd grade, one 4th grade, and three 5th grade teachers, four of whom were female and two of whom were male. Additionally, nine teachers (seven females, two males) were from the second school, specifically, three 3rd grade, three 4th grade, and three 5th grade teachers. Participants' teaching experience ranged from one to 38 years. Grades 3, 4, and 5 were targeted for this study because students participate in high stakes standardized testing at these grade levels. Therefore, it is important to examine barriers and facilitators in implementing and continuing the program at grades where activity levels may decrease. The teachers were trained to use the program and subsequently implemented it in