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PEDAGOGY

Learning to Integrate Movement in Elementary Classrooms: Field Experiences of Preservice Classroom Teachers

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Abstract

Given that preparing preservice classroom teachers (PCTs) for movement integration (MI) has gained traction in recent years as a focus of policy and research related to children's school-based physical activity (PA) promotion, the purpose of this study was to examine PCTs' field experiences of learning to integrate movement in elementary classrooms. PCTs (N = 23) who enrolled in a university course focused on school PA promotion participated in the study. Participants' MI-related field experiences were investigated through focus group interviews, PCT reflections, researcher field notes from observations, and PCT-developed MI plans. Data were qualitatively analyzed for themes pertaining to challenges, successes, and lessons learned. Findings show challenges with planning and preparation, lack of experience, and classroom management. Successes were characterized by positive elementary pupil responses and learning from experience. Lessons learned included to plan extensively and that MI is easy to learn and beneficial. This study highlights the value of field experiences

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in PCTs' learning to integrate movement and identifies aspects of such experiences that should be considered in preservice training.

While it is recommended that children participate in at least 60 min of physical activity (PA) each day, many fall short of meeting this guideline (Troiano et al., 2008). PA is important to children's health as it can help to build and maintain healthy bones and muscles, reduce the risk of the development of chronic diseases such as diabetes and cardiovascular disease, and promote psychological well-being (U.S. Department of Health and Human Services, 2008). Furthermore, PA can enhance children's school performance, including on-task behavior in the classroom and academic achievement (Centers for Disease Control and Prevention, 2010).

Schools are identified as a natural point of intervention in the promotion of children's daily PA (Institute of Medicine, 2013). Children typically spend more than half of their waking hours at school, and the school infrastructure contains numerous resources (e.g., space, facilities, equipment, teachers) that can be harnessed to foster a supportive environment for children's PA. Also, given the positive role of PA in children's academics, schools can benefit from promoting children's PA amid increased pressures to produce high test scores. Unfortunately, instead of promoting PA, many schools limit children's PA to provide more time for academic instruction. For example, only 4% of elementary schools provide daily physical education (Lee, Burgeson, Fulton, & Spain, 2007) and less than half of U.S. schools offer recess (Lee, Miller, Fulton, Borgogna, & Zavacky, 2013).

Movement Integration

One strategy that can be effective in helping children to meet PA and academic goals is movement integration (MI), which involves the incorporation of PA into general education classrooms during normal classroom time (Webster, Russ, Vazou, Goh, & Erwin, 2015). Recommended approaches to MI generally include providing PA breaks between academic lessons (e.g., taking 5 to 10 min to lead students through an exercise routine) or infusing PA into academic lessons (e.g., having students jump the answers to addition problems). MI is not in itself a curriculum, but rather a concept that has spurred the development and implementation of a wide range of

"prepackaged" programs (e.g., Energizers, Take 10, ABC for Fitness) containing activity breaks and/or active lessons. Intervention studies in which teachers have used such programs or developed their own MI activities or lessons have generally resulted in positive student outcomes, including increased PA; reduced sedentary time; and improvements in fitness, classroom behavior, cognitive function, effort in the classroom, and academic test scores (Webster, Russ, et al., 2015).

MI is viewed as an essential part of multifaceted and coordinated efforts that schools use to increase children's PA (Institute of Medicine, 2013). A leading conceptual model to guide such efforts is the Comprehensive School Physical Activity Program (CSPAP), which identifies numerous PA opportunities before, during, and after school (Centers for Disease Control and Prevention, 2013). Physical education is positioned as the cornerstone component of the model, given its central focus on developing the knowledge, skills, and dispositions of youth for long-term engagement in PA and on maximizing youth PA during scheduled lessons. Ideally, MI can not only extend children's PA opportunities during the school day but also build on the educational and health-enhancing value of a quality physical education program by bridging body and mind in the development of the whole child.

Despite the benefits of MI, teachers may face challenges with respect to incorporating it into their classroom routines. In previous research, classroom teachers perceived numerous barriers to using MI, such as limited space and time constraints related to other responsibilities with instruction, academic testing, supervision, and extracurricular duties (Cothran, Kulinna, & Garn, 2010; Gately, Curtis, & Hardaker, 2013). However, these challenges are not insurmountable. Several factors may help to facilitate classroom teachers' use of MI (Michael et al., 2015). Prominent among such factors are teachers' MI-related beliefs and perceptions. Teachers' self-reported MI was positively and directly correlated with their perceptions of personal MI competence (Webster, Buchan, et al., 2015), self-efficacy beliefs with respect to using MI (Parks, Solmon, & Lee, 2007), and perceived attributes of using MI, including its compatibility with the teachers' educational skills and philosophy, its

simplicity of use, and its observable benefits (Webster, Caputi, et al., 2013).

Importance of Learning to Integrate Movement During Preservice Education

Fostering adaptive beliefs and perceptions toward MI among classroom teachers should be a focus of professional training for inservice and preservice teachers. According to the U.S. National Physical Activity Plan, requiring preservice and continuing education in MI for elementary classroom teachers constitutes a key tactic for providing children with access to high-quality, comprehensive school PA programming (National Physical Activity Plan, 2016). Preservice education presents an important context for intervention, because teachers' notions about teaching and learning, as well as their habits of instructional practice, may be more pliable and dynamic at earlier versus later career stages. Preparing preservice classroom teachers (PCT) with knowledge and skills for MI might help to establish dispositions and behavioral patterns that prioritize and help to secure MI as part of routine classroom practices in schools.

Previous studies with PCTs support the value of preservice education in promoting positive beliefs and perceptions about MI. PCTs who had taken university coursework in school-based PA promotion reported higher perceived competence for MI than PCTs who had not taken such coursework (Webster, Monsma, & Erwin, 2010). Additionally, when PCTs were trained to use MI, positive changes were found in participants' attitudes toward MI, perceived competence for MI (Webster, 2011), feelings of empowerment to implement MI (Goh et al., 2013), efficacy beliefs related to MI, perceived barriers to MI, and willingness to integrate MI (Webster, Erwin, & Parks, 2013). While these results are promising, further insight into PCTs' MI learning experiences could elucidate specific aspects of learning to integrate movement that either present challenges for PCTs or facilitate early MI planning and implementation efforts and support growth toward MI competency. Such information can inform best practice recommendations for preservice training related to MI.

Role of Field Experiences in Learning to Integrate Movement

Field experiences have long been considered a critical element in preservice teacher preparation (Cruickshank & Armaline,

1986). The teacher education literature offers various conceptualizations of field experiences in terms of when the experience occurs in a teacher education program (e.g., early field experiences, student teaching), the purpose of the experience (e.g., to experiment with progressive educational approaches, to apply technical skills of instruction and management), the setting for the experience (e.g., professional schools or clinical laboratories based at the university, P–12 public schools), and the types of responsibilities involved for the preservice teacher (e.g., classroom observation, tutoring, whole-class instruction; McIntyre, Byrd, & Fox, 1996). However, an underlying assumption common to the design of most field experiences is that they present an unparalleled opportunity for preservice teachers to apply educational theory learned in the university setting to teaching practice within the real-world environment of P–12 schools (Allsopp, DeMarie, Alvarez-McHatton, & Doone, 2006).

To date, no studies have investigated field experiences as a possible mechanism to facilitate PCTs' learning about MI. Examining PCTs' MI planning and implementation experiences in elementary classrooms can yield new and valuable insights about the pedagogies and processes involved with learning to integrate movement. For instance, while the goal of field experiences is usually the promotion of the educational philosophies, dispositions, and skills that the university program espouses, learning about teaching while situated in field placements can reinforce dominant policies and practices within the school culture that oppose the program agenda (Feiman-Nemser & Buchmann, 1985). Thus, while field experiences offer a unique and powerful platform for learning to teach, it is vital to understand preservice teachers' learning experiences within, and in relation to, formal assignments conducted in schools so that teacher education programs can develop evidence-based approaches to preservice training. Field experiences may be critical to helping PCTs identify effective strategies to implement movement in elementary school classrooms, despite facing possible challenges related to the learning process and the existing school culture. The purpose of this study, therefore, was to examine PCTs' field experiences in K–5 general education classrooms. Specifically, a qualitative single case study design, in which one class of PCTs enrolled in a school PA promotion course was treated as the case, was used to answer three

research questions: (a) What challenges do PCTs experience related to group-based planning and implementing of MI in elementary school classrooms, (b) what successes do PCTs experience related to group-based planning and implementation of MI in elementary school classrooms, and (c) what do PCTs identify as the major lessons learned from group-based planning and implementation of MI in elementary school classrooms?

Method

Participants

Participants in this study were 23 PCTs (M_{age} = 20.70, 22 female) enrolled in a 15-week university course (Fall 2014 academic semester) that had as a focus on school-based PA promotion for classroom teachers. The course is required for all preservice teachers majoring in early childhood education (leading to certification for teaching prekindergarten to Grade 3) and elementary education (leading to certification for teaching Grades 2 to 6) at the researchers' university. Undergraduate PCTs in their sophomore, junior, and senior years, and graduate PCTs in their first and second years of a 2-year master's degree program are eligible to enroll in the course. Participants included 12 early childhood education majors and 11 elementary education majors, including 11 sophomores, 11 juniors, and one senior. Three of the PCTs had taken or were simultaneously taking other educational coursework related to children and PA. On average, participants had 24 hr of experience conducting observations in schools, 3 hr of experience tutoring or teaching small groups of children, and 3 hr of experience teaching whole classes of children, before taking the course. Fourteen participants indicated they had "very little experience" with lesson planning, and nine participants indicated they had "a moderate amount of experience."

Description of the University Course

The course in which participants were enrolled consisted of a university-based component and a field-based component. The university-based component involved class meetings at the university campus, during which PCTs were taught about the importance of schools as a setting for PA promotion, especially in regard to comprehensive approaches that include MI (e.g., CSPAPs). Class meetings

also focused on practical ideas for school-based PA promotion, with particular emphasis on MI strategies (e.g., implementing movement breaks, teaching academic lessons that incorporate PA) and resources (e.g., websites, online activity cards or lesson plans). Readings, lectures, discussions, instructor demonstrations, and PCT presentations (e.g., peer teaching) with instructor and peer feedback were the primary instructional formats used in the university-based component of the course.

The course instructor attempted to guide the PCTs in their construction of personally meaningful understandings of MI. During class discussions, the instructor used inquiry-based teaching to draw out the PCTs' existing knowledge and experiences related to MI, then introduced PCTs to prevailing PA discourses (e.g., policies, recommendations, guidelines, research) and symbols (e.g., CSPAP model) employed at the intersection of the education and public health fields. When introducing new content, the instructor highlighted and explained areas of overlap and divergence when juxtaposing the students' current understandings with established conceptualizations in the literature. In this manner, the instructor intertwined the multiple truths underpinning each class discussion and scaffolded students' reflective thinking as well as the social context for the class.

The field-based component consisted of field experiences in which PCTs were asked to apply content learned in the university classroom setting to actual elementary school classrooms. Four local public schools (two urban and two suburban) from the Greater Columbia, South Carolina, area agreed to host the field experiences, based on having an established relationship with either the course instructor or one or more of the PCTs in the class (therefore, some PCTs already had experience and familiarity with the schools or classrooms they went to for the field experiences, while others did not). School characteristics were diverse across sites. School enrollment ranged from 394 to 719, student–teacher ratio in general education classrooms ranged from 17.5:1 to 21.1:1, the percentage of students served by gifted and talented programs ranged from 6.5% to 20.9%, the percentage of students receiving free and reduced lunch ranged from 12.46% to 80.24%, and the percentage of students with disabilities ranged from 12.6% to 17.0%. The breakdown for student race/ethnicity ranged from 14.5% to 73.5% African American, 0%

to 0.01% American Indian, 0.01% to 13.0% Asian/Hawaiian/Pacific Islander, 0.02% to 22.8% Hispanic, and 19.2% to 77.7% White. MI field experiences were completed in six classrooms, one in each grade (K–5).

Each PCT participated in four MI field experiences. In groups of three to five, the PCTs planned and implemented two movement breaks and two active lessons. The movement break assignments required PCTs either to select or to design a 5- to 10-min developmentally appropriate PA opportunity for children to be presented before or after an academic lesson. The PCTs could use movement breaks to review academic content or simply to transition from one classroom task or lesson to another. The active lesson assignments required PCTs to develop a 15-min academic lesson with infused PA opportunities. Active lessons were to be aligned with the state standards and grade-level performance indicators in health and safety education, based on state legislation requiring elementary classroom teachers to teach at least one health and safety lesson each week. PCTs were provided with a structured lesson plan template to guide their planning for the active lessons. The course instructor allocated class time for group planning and provided PCTs with feedback on their plans before they implemented the movement breaks and active lessons.

To plan and implement the movement breaks and active lessons, PCTs participated in collaborative learning through group work, which was a major emphasis in the course design. The purpose of having students work in groups was to enable students to develop a shared understanding of MI as the basis for constructing appropriate movement opportunities and applying these opportunities to elementary classrooms. A key aim of having students work in groups was to build PCTs' collective efficacy; it was expected that if the PCTs overcame MI challenges together and shared the experience of professional growth in planning and implementing MI, they would gain confidence in their ability as a professional group in schools (i.e., classroom teachers) to provide movement opportunities effectively and affect children positively. In previous research, PCTs perceived fewer barriers to MI, with their collective efficacy increasing during a semester-long school PA promotion course (Webster, Erwin, & Parks, 2013).

Each group of PCTs implemented two movement breaks and two active lessons in one classroom across two visits (one movement break and one active lesson per visit). PCTs either self-selected (with their groups) a classroom or were assigned a classroom for the field experiences. During the 15-week semester, PCTs made their first school visit in Weeks 9 and 10 and their second visit in Weeks 12 and 13. Implementations were scheduled on various days and times, based on the schedules of the PCTs and the cooperating classroom teachers. The researchers took turns conducting live observations of the implementations when possible (due to the wide range of implementation times and limited resources to conduct the study, not all school visits could be observed). Seven observations were conducted in all, with each group of PCTs being observed during at least one full visit (i.e., during both the movement break and the active lesson). During observations, field notes were taken to document and reflect on aspects of the classroom environment (e.g., number of students, physical layout of furniture or materials), the activities or lesson content presented, the PCTs' presentation skills (e.g., clarity of instruction, classroom management), and the responses of the students (e.g., level of enjoyment, level of PA) and the cooperating teacher (e.g., level of support or engagement). Field notes were expanded directly after each observation, with detail and insight added about the field experiences.

PCTs individually completed two written reflections (one for the movement break and one for the active lesson) following each classroom visit. For the movement break reflection, PCTs were asked to summarize the activity presented, identify what went well and what could be improved, discuss unexpected circumstances, and suggest modifications for implementing the activity with older or younger children. For the active lesson reflection, PCTs were asked to discuss the "things that worked" and the "things that did not work," offer explanations for these outcomes, identify the most and least enjoyable aspects of the experience, consider areas for improvement, and discuss aspects of planning and implementing MI they felt confident leading in the future as an inservice teacher. PCTs were prompted in their reflection assignments to focus on the planning and implementation phases of their MI field experiences. PCTs' reflections were graded by the course instructor, based on the level of thoroughness

and insight in the response to each question. In addition to completing the written reflections, PCTs were prompted to share and reflect on their implementation experiences during class discussions following each school visit.

At the end of the semester, each PCT group participated in a focus group interview about their MI field experiences. The purpose of the interview was to understand the PCTs' perspectives on their experiences collaboratively planning for and implementing MI in elementary classrooms. The researchers worked in pairs to conduct the interviews, with one researcher serving as moderator and the other serving as note taker and assistant as needed (Bertini, 2012). A semistructured interview protocol was used. The protocol included preplanned questions but allowed for flexibility in the order in which the questions were asked and also allowed for the possibility of exploring related topics of interest if they emerged during the interview. Interview questions both paralleled and extended those asked in the reflection assignments. Questions focused on the PCTs' successes, challenges, and lessons learned in relation to the MI planning and implementation assignments. Specifically, PCTs were asked general questions about their experiences (e.g., "What are the major success stories from your perspective?"), followed by more specific prompts (e.g., "What enabled you to be successful in these situations [school environment, team membership, available resources, etc.]?"). Additional questions were also used with the aim of extending the breadth and depth of the PCTs' responses. These questions focused on what PCTs liked and disliked about their MI planning and implementation experiences (e.g., working in groups), suggested areas for improvement (e.g., instructor guidance and support), asked about their willingness to use MI in the future as an inservice teacher, and inquired about their feelings about the role of classroom teachers in school-based PA promotion. Interviews lasted 27.16 to 44.25 min. All interviews were audiotaped and later transcribed verbatim for analysis. The interview factored into the PCTs overall course grade; however, the grade for the interview was based solely on attendance. PCTs were informed that their comments during the interview would not be a factor in their grade and were encouraged to speak candidly about their MI planning and implementation experiences.

Sources of Data and Issues Related to Power Dynamics

Multiple sources of evidence were used in this study. Permission was obtained from the researchers' university ethics committee to use the PCTs' course assignments and focus group interviews as data sources. Data sources included six focus group interview transcripts (one per teaching group), 92 written reflections, seven sets of expanded field notes, and 24 written implementation plans.

Because the data were collected from PCTs in the context of a required course within their academic program, issues related to power dynamics in this study must be critically examined. Of particular note is the issue of dominance (Brinkmann & Kvale, 2005). The researchers had a clear motive to learn about the PCTs' experiences in the course, and they set the study's agenda, designed the interview questions, and led the interviews. Furthermore, their stance toward MI was transparent, given their interest in conducting the study and their published work on the topic. The PCTs likely perceived the researchers as authorities on MI. Thus, a researcher-dominated power structure was established with the participants (Brinkmann & Kvale, 2005). This asymmetrical balance of power might have pressured the PCTs to craft responses they felt would align with the researchers' priorities or divulge information they were not comfortable sharing, particularly in light of the research experiences being situated within the course requirements. Alternatively, the PCTs might have shifted the power relations by choosing to withhold information during the interviews (Brinkmann & Kvale, 2005). The researchers attempted to address the issue of dominance by using strategies to build rapport and mutual trust with the participants before conducting the interviews. Specifically, the researchers spent the first few minutes of each interview learning the PCTs' names, asking the PCTs questions about their other courses, making small talk, and trying to make the participants feel comfortable.

Data Analysis and Trustworthiness

Data analysis was guided by established constant comparison procedures (Dey, 1993; Goetz & LeCompte, 1981) and involved an iterative process of reducing and triangulating the data to draw out themes in the PCTs' MI field experiences. Data sources were evenly divided and distributed across the four researchers. Each researcher

read through his or her assigned interview transcripts, reflections, field notes, and implementation plans several times to inductively identify and summarize (i.e., code) excerpts (i.e., data bits) from the text that seemed useful in answering the research questions. For example, the excerpts "kids are talking over the PCTs" and "no protocols for noise level" (identified in the field notes from one of the observations) were viewed as relevant to the first research question ("What challenges do PCTs experience related to group-based planning and implementation of MI in elementary school classrooms?") and was coded as "lack of activity protocols." The researchers individually compiled a list of the codes and then met as a group to cross-check each other's work (i.e., trace another researcher's identified codes to their source in the raw data); discuss and reach consensus about codes that should be retained, revised, or eliminated; and organize and synthesize the codes for each research question according to their salient conceptual features. This latter step served to categorize and conceptualize meaningful chunks of the data for further analysis. For example, the researchers created a category labeled "establishing and maintaining classroom order" to group the code used in the example above with similar codes such as "some of the kids are off task," "trouble keeping kids' energy under control," and "losing control of the class." They then compared and refined categories by searching for underlying consistencies and commonalities in the data. This process allowed the researchers to identify themes in the PCTs' field experiences relative to each research question.

Trustworthiness was addressed in several ways, based on prevailing recommendations (Lincoln & Guba, 1985). First, the use of multiple data sources allowed the researchers to triangulate the data to increase the credibility of the findings. Second, the data were collected at multiple points across most of an academic semester (~10 weeks), thereby helping to ensure that the findings thoroughly and accurately reflect the participants' views about challenges and successes involved with planning and implementing MI. Third, researcher triangulation increased the confirmability of the findings (i.e., reduced the chances that the findings are based on any one researcher's biases). Fourth, detail was provided about the nature of participants, the course, and the school contexts, which allows readers to make an informed judgment about the transferability of the

findings of this study to other contexts or settings. Finally, the data collection procedures and protocols are reported in detail, which allows for replication of the study and thus increases its dependability.

Results

Overall, seven major themes in the PCTs' field-based MI learning experiences were identified from data analysis. Specifically, three themes were identified for challenges (Planning and Preparation, Classroom Management, and Lack of Experience), two themes were identified for successes (Elementary Pupils and Learning From Experience), and two themes were identified for lessons learned (Plan Extensively, and MI Is Easy to Learn and Beneficial). This section discusses the themes for each research question in more detail. Citations for supporting examples are organized as follows: data source (IT, interview transcript; MBR, movement break reflection; ALR, active lesson reflection; EFN, expanded field notes), followed by an assigned number for the data source (1 or 2) and a participant and/or group identifier. For example, a quote by PCT6 in Group 2 derived from the second movement break reflection assignment would be cited as MBR2, PCT6, Group 2. Within quotes, "fillers" (e.g., like, um) were removed for brevity and several grammatical and mechanical errors were corrected for clarity.

Challenges

Planning and preparation. Many of the challenges PCTs experienced revolved around issues with planning and preparation. In particular, PCTs' implementation plans for the first movement break and active lesson were underdeveloped. One of the main problems was being underprepared for the elementary pupils' questions and current level of understanding related to the academic content. This problem was evidenced by statements the PCTs made, such as "We were not prepared for some of the in-depth questions that we received" (ALR1, PCT1, Group 1) and "Another reason the activity didn't run as smoothly as anticipated was that we, as guest teachers, did not know how much the students had already covered on the subject" (ALR1, PCT2, Group 1). The PCTs gave little consideration to the array of resources available (including the classroom teacher) for selecting appropriate activities and academic content.

Another planning and preparation issue was the lack of detail the PCTs provided in their plans. Despite the structure provided in the active lesson plan template, few details were evident in the plans with respect to classroom management (e.g., start/stop signals for activities, protocols for using materials, explicit directions for transitions), instruction (e.g., communication strategies, content development), or selected/designed activities. Regarding classroom management, one researcher observed, "The group had to ask the teacher when they were supposed to finish" (EFN3, Group 6), and one PCT admitted, "Looking back on it we should have done a practice run to make sure the students understood where to go and how to move" (ALR1, PCT18, Group 5). The lack of detail related to the physical activities led to time management issues and limited PA for students. One PCT indicated,

> We did not necessarily plan out the different types [of actions] and when it came time to give the students a new physical action, we started to run out towards the end. It could have transitioned better if we would have had ten different physical actions set up ahead of time. (ALR1, PCT21, Group 6)

Another PCT stated, "Some of the poems did not have much action in them; this prevented the students from doing actions during the poems" (ALR1, PCT15, Group 4). Researcher observations confirmed that limited PA was an issue: "Little activity by students—group member read the poem very quickly and no students marched. There was limited activity" (EFN, Group 4).

Part of the challenge of adequate planning and preparation for the implementations concerned working effectively as a peer group. The PCTs did not collaborate with their group mates enough before doing their implementations. The field notes reflected this issue: "Group stood in main office [of school] and talked a little bit about what they were going to do (e.g., who would present first, what standard they were supposed to be teaching to). They were confused about the standard" (EFN7, Group 6). The struggle to collaborate traced in part to PCTs not feeling that they could depend on their group mates to do assigned work. One participant indicated, "It is hard depending on each other to know that everyone gets [the assignment] in on time and planning it all together to work" (IT4, PCT12, Group 4).

Collaboration also demanded coordination among group members, which proved to be a challenge, as evidenced in statements such as "As much as we worked well together, it is stressful to plan a lesson and implement it between four people" (IT1, PCT2, Group 1); "To me the hardest part was coordinating with everyone" (ALR1, PCT11, Group 4); and "I thought it was a challenge with essentially four teachers because we all had to look at each other constantly to make sure we were all on the same page" (ALR1, PCT4, Group 1).

Classroom management. PCTs' lack of ability to anticipate challenges made it difficult for them to solve problems during implementations. This was most prominently evidenced in PCTs' struggle to manage the classroom environment when implementing their movement breaks and active lessons. Classroom management challenges were likely related to the other themes for this research question (planning/preparation and lack of experience). The biggest challenge for PCTs was dealing with students' high energy and excitement. According to one participant,

> One thing we did not anticipate was how rowdy the students would get. They were running wild and getting a little aggressive during the game. I think that if there were more boundaries set in place for the game that this rowdiness would be able to be controlled. (MBR1, PCT4, Group 1)

Similarly, another PCT stated, "Management of the movement lesson was tricky. We had a very excited group of third graders and they were very active" (ALR1, PCT22, Group 6).

Other management issues had to do with the organization of space, students, materials, and time. For example, the researchers observed, "They could have moved tables to create more space . . . no management system established . . . no protocol for noise level" (EFN4, Group 1); "There was not a clear signal to get the students attention" (EFN6, Group 6); and "Group didn't have students raise hands or ensure each student had a chance to answer" (EFN7, Group 6). These management issues appeared to be related to the PCTs' lack of success dealing with the elementary pupils' high energy level. During their visits, as PCTs progressed with their movement breaks and active lessons, the pupils became increasingly energetic and rowdy. One PCT mentioned, "As we kept going it took longer

and longer for us to get the children's attention so we could tell them the next activity" (MBR1, PCT7, Group 2). Another group had to cut their activity short due to the rising noise level of the pupils, because academic testing was going on in some of the neighboring classrooms.

Lack of experience. PCTs had limited experience with MI, and in some cases classroom teaching in general, and this presented challenges in the planning and implementation of the movement break and active classroom lesson assignments, particularly with respect to the first school visit. Some of the PCTs had limited to no experience planning a classroom lesson. One participant stated, "The lesson plan was kind of different because I never did a lesson plan before" (IT3, PCT8, Group 3). For other PCTs, the challenge had more to do with a lack of teaching experience, as shown in the following quote: "It was a nerve-racking experience because I had never done it [teach] before" (ALR1, PCT23, Group 6). The novelty of not only teaching a lesson but also integrating PA into the lesson proved challenging for a number of PCTs. For example, participants made comments such as

> It was hard . . . just [being] thrown into a class teaching a lesson that we had no idea about . . . that was our first time teaching a lesson to a class and it was kinda difficult not only teaching a lesson to a class the first time but also adding in physical activity. (IT6, PCT21, Group 6)

Successes

Elementary pupils. Children were eager to participate in MI lessons and activities and enjoyed the opportunity to learn from the PCTs. While student excitement contributed to PCTs' challenges with classroom management, positive student responses also played an important role in the PCTs' successes with the MI field experiences. Some of the PCTs perceived that the children were not only excited but also well behaved and on task, and this contributed to the PCTs' enjoyment of the implementation experiences. One participant said,

> I definitely think the kids in the classroom played a really big part [in our success] because they were a great group of

> kids, they were so well behaved and listening to everything we said; they were so excited about everything. (IT6, PCT20, Group 6)

Similarly, another PCT stated, "Our class rocked. They were just so well behaved and excited about everything we wanted to do and say, and that made it really enjoyable" (IT2, PCT5, Group 2).

PCTs noticed that the elementary children were receptive to the new activities. This perspective was apparent in comments such as "The students were extremely receptive and they were willing to move and be active and have fun with it" (ALR1, PCT11, Group 4) and "The children were very excited about having a new group of people teach them and also excited since it was in game form" (ALR1, PCT9, Group 3). In their observations, the researchers also indicated the children's enthusiam with comments such as "Kids seemed to have a good time" (EFN3, Group 6) and "A team member asked the students if they liked the activity. I only heard positive remarks from the students—'Yes, a lot, fun' was an example of things I heard" (EFN5, Group 4). Several of the PCTs were pleasantly surprised by the enthusiastic response they received from the elementary students, as evidenced in statements such as

> I really enjoyed when we went back, when we first came in they all cheered they were so excited and then we told them to get up and that we were going to do another movement break and they were like, oh, that was so fun the last time. They're just so excited about it. (IT1, PCT1, Group 1)

It was particularly encouraging that the children not only enjoyed the activities but also seemed to favor the activities over their usual classroom routines or lesson formats. One participant stated, "[The children] seemed to enjoy getting up and being active as opposed to sitting and learning the lesson" (ALR2, PCT3, Group 1). Another participant commented,

> At the end of the activity, we asked the students what they had learned and if they preferred an active lesson to a sedentary lesson. The students quickly responded that they really enjoyed the lesson and wished there were even more

movements incorporated into the poems. (ALR1, PCT13, Group 4)

Concurrent with PCTs' learning to integrate classroom movement opportunities, elementary children developed an appreciation for such opportunities.

Learning from experience. Gaining real-world experience planning and implementing the first movement break and active lesson with their groups facilitated a more successful second MI field experience for PCTs. Experience planning the first implementation assignments enabled PCTs to approach planning the second implementation assignments with more confidence and competence. One participant indicated,

> I struggled with the first lesson plan. I was like, I don't know how to do this; I don't know how to take a lesson and how to think of an activity for that lesson. But by the second one I was able to think of one. (IT3, PCT8, Group 3)

PCTs capitalized on their increased understanding of the classroom context to plan and implement more successful MI. For example, one participant said, "We already had a feel of how the students act, [which] made the game run smoothly as well" (MBR2, PCT5, Group 2), while another participant commented, "I believe the lesson went a lot smoother the last time because we knew the space we had to work with and were more prepared on the information of the lesson we were teaching" (ALR2, PCT3, Group 1). Developing an awareness of the classroom context informed PCTs' approach to classroom management. A researcher observed, "There was a clear signal to get the students' attention" (EFN6, Group 5). Additionally, one PCT mentioned,

> The second time the directions were clear and detailed. Based on our first experience, we made sure we had them in groups by table so there would be no confusion. I think it helped going [again], and learning from the mistakes we made in the first one. (IT5, PCT17, Group 5)

Experience taught the PCTs about the importance of collaboration during the planning phase of their assignments. One participant

claimed, "We were more prepared this time. We had a better idea of how in depth we had to go. Our team met up beforehand to go over everything so that we were more prepared" (ALR2, PCT1, Group 1), while another participant commented, "The active classroom lesson definitely went much better than the last . . . I definitely think it was because we were much more prepared . . . we all took time to know our part beforehand" (ALR2, PCT14, Group 4). Ultimately, recognizing that they had learned from and improved upon their first implementations helped the PCTs to feel more competent and confident in their ability to use MI. This was evidenced in statements such as "I feel comfortable with all aspects of planning and implementing active lessons like this in my own classroom" (ALR2, PCT14, Group 4) and

> I feel confident that I can effectively lead a class in a physically active lesson that would be enjoyable for the students. I think I can lead an activity that gets students moving and also makes them learn. I know I can effectively connect an activity with a topic to make the active lesson truly matter. (ALR2, PCT4, Group 1)

Lessons Learned

Plan extensively. The importance of thoughtful and extensive planning for MI surfaced as a key lesson for PCTs during the semester. Specifically, PCTs learned that attention to detail and planning for contingencies are critical to successful classroom teaching experiences, including MI. PCTs discussed the necessity of extensive planning, as shown in the following quote: "After actually going into the classroom, I realized how much more planning we should have done in order to make sure we knew when exactly we were going to do everything" (ALR1, PCT23, Group 6). At the same time, the participants realized that part of effective planning also involves preparing for things to turn out differently than expected. For example, PCTs made comments such as

> Everyone just thinks that teachers just walk into the classroom and open the book, but clearly after our experience you have to plan a lot, I mean you have to plan for what if this happens, what if that happens. So it is not just one strict lesson plan,

> you have to have all of these things just in case something crazy happens. (IT6, PCT21, Group 6)

In some cases, the participants geared their comments toward the specific aspects of the classroom environment that need to be attended to with flexibility when planning for MI. For instance, one PCT focused on the elementary students, stating,

> [You have to plan for] distractions, different energy levels because your students aren't going to have the same energy every day—some days you're gonna be more rambunctious than others. I think just planning for everything [is important] so that when something goes offbeat you can find your way back pretty easily, [it is] planning to be spontaneous. (IT1, PCT2, Group 1)

Another PCT focused on planned activities, commenting, "It is so important to fully write out a lesson plan before implementing it into the classroom. Teachers should also have backup activities in case problems arise" (ALR2, PCT13, Group 4).

MI is easy to learn and beneficial. At the end of the semester, PCTs expressed adaptive beliefs about MI. PCTs indicated that MI is easy to learn and beneficial, as illustrated in the following quote:

> It's not that hard to incorporate [physical activities] into a lesson. I know a lot of teachers think it will take away from what they're teaching and distract students, but I think it really helps the students overall . . . At first I did [think it would be hard] 'cause I didn't understand how to even incorporate [physical activities]. But after doing a few of them, now I think it would be simple. (IT2, PCT5, Group 2)

PCTs felt that MI can be part of everyday classroom routines without disrupting the academic focus of the classroom environment. One participant stated, "I don't think it took any more time than it would've if we didn't [use MI] . . . maybe a couple of minutes longer but not like enough to where it would overall affect [students] negatively" (IT2, PCT7, Group 2). Participants realized the feasibility of reconceptualizing classroom teaching as part of elementary children's PA promotion. One participant noted,

> It doesn't have to all be sit-down education. I think that practicing and learning about the importance [of MI] and really how easy it is, there's misconceptions about that fact that oh, it's so much extra effort to get my kids active, but this class showed me I can do that pretty easily. (IT5, PCT16, Group 5)

Similarly, another PCT said, "I have thoroughly enjoyed being able to incorporate physical activity into academic lessons in the classroom. This whole experience has given me a different outlook on how things in the classroom can be done" (ALR2, PCT21, Group 6).

While PCTs recognized numerous benefits of MI, the findings in this theme tended to focus on the benefits of MI for elementary children. Participants discussed the advantages of providing children with MI during regular classroom time. One PCT commented,

> I think [MI] makes it more exciting for [children] . . . It gets them excited and makes them more eager to learn stuff than if they're just sitting there and listening to the teacher talk, or doing a worksheet, or drawing on a piece of paper. (IT2, PCT6, Group 2)

Another PCT said,

> It was a big difference, 'cause I watched the class and watched the teacher just make them sit at the table versus what we did [and] it was a whole new perspective on how they acted—the ones that had problems, I never thought that they would get up and actually talk. (IT4, PCT12, Group 4)

One participant recounted seeing the increasing restlessness in the children after too long a period of inactivity and contrasted this to the positive effects that MI had on the children's classroom engagement:

> We saw them in that midafternoon part of the day when they were starting to drag and lunch was over and they were waiting for recess—they were just really getting impatient. So I think it was really good for us to see how much more into the lesson they became when it was physically active. (IT1, PCT3, Group 1)

Finally, the PCTs learned that MI can have advantages in terms of obesity prevention and health promotion, as shown in the following quote:

> I think overall that movement and being physically active is really important in schools and with obesity and stuff and it being more common and younger kids getting diabetes and being diagnosed with these illnesses, it's really important to incorporate movement in schools and just keep kids active to prevent that kind of stuff from happening. (IT2, PCT6, Group 2)

Discussion

While field experiences are generally deemed to be an indispensable part of preservice teacher education, authors have cautioned against the potential of such experiences to negate and even subjugate the educational ideas and practices taught in university classrooms as part of teacher education programs (Feiman-Nemser & Buchmann, 1985). This study examined field experiences of PCTs learning to integrate movement in elementary school classrooms. Although the findings reveal several challenges for PCTs learning to integrate movement in elementary classrooms, it seems that the field experiences enabled PCTs to persevere in their efforts to provide classroom-based PA opportunities, improve their approach to planning and implementing MI, and learn to appreciate the feasibility and advantages of MI.

The PCTs initially struggled to prepare adequately for their movement break and active lesson assignments. They lacked experience teaching in real-world elementary classrooms and were therefore unable to mentally construct contextually rich representations of such an environment that would enable them to anticipate problems and adequately plan for an optimal implementation experience (Putnam & Borko, 2000). Moreover, although the intention was for PCTs to work in groups to plan and implement the assignments, the extent of group interaction and collaboration was minimal. This lack of group cohesion and peer support seemed to be foundational to, or to exacerbate, the other challenges identified in this study (e.g., classroom management, lack of experience).

Constructivist learning theory would suggest that learning is enhanced through opportunities for students to co-construct meaning relative to real-world contexts (Beck & Kosnik, 2006). Interactions with peers of varying experience and skill levels strengthen students' ability to critically examine learning experiences and develop strategies to negotiate contextual demands successfully (Vygotsky, 1978). Therefore, in limiting their collaboration with other group members, the PCTs might have neglected using a critical resource (i.e., their peers) in their initial approach to the MI assignments. Future efforts to foster group collaboration with PCTs learning to use MI should include opportunities for working groups to conduct initial observations of the classrooms where they will implement MI. Group-based observations would allow PCTs to extend their classroom-based interactions to the field setting, get to know one another through a shared classroom-based experience, and approach planning with an intersubjective understanding (Rogoff, 1990) of contextual affordances and constraints. More structure may also be needed to guide and support PCTs' in their approach to working in groups. For example, the course instructor could assign specific MI planning and implementation roles to different group members (Rau & Heyl, 1990). This might increase each group member's perceptions that he or she is integral to the success of the whole group.

After completing the first implementations, the PCTs learned to adopt a more collaborative approach to complete the second movement break and active lesson assignments. Again, from a constructivist perspective, this latter approach may have helped to generate more positive learning experiences for the PCTs, enabling PCTs to take advantage of each other's interpretations and insights and socially construct effective strategies to improve MI planning and implementation (Beck & Kosnik, 2006). Through collaborative learning, the field experiences promoted positive beliefs about MI, particularly that it is feasible and important for children from a number of perspectives. Ultimately, the field experiences supported, rather than antagonized, the goals underpinning the PA promotion course in which the PCTs were enrolled.

There may also be other reasons for the apparent effectiveness of the field experiences in reinforcing PCT learning toward course goals. First, PCTs' rapid growth in MI competency may have

fostered favorable attitudes toward MI. The findings show that PCTs made improvements in their MI planning and implementation in just two classroom visits and felt afterward that learning to integrate movement is easy. These findings may be related to PCTs' positive dispositions about using MI and their advocating for MI at the end of the course. In line with diffusion of innovations theory, a previous study (Webster, Caputi, et al., 2013) showed that perceived simplicity of MI was positively associated with self-reported frequency of using MI in a sample of elementary classroom teachers. Furthermore, McMullen, Kulinna, and Cothran (2014) found that elementary and high school classroom teachers preferred MI activities that were easy to manage.

Second, seeing the benefits of MI for children firsthand could have facilitated the desired learning outcomes for the PCTs. Data from this study emphasized the importance of positive student responses in the success of PCTs' MI field experiences. In an MI intervention with inservice classroom teachers, Cothran et al. (2010) and Kulinna (2012) reported results that indicated that adaptive changes in teachers' beliefs were based on the teachers first trying new educational practices (e.g., as part of an intervention program) and then observing positive changes in their students' learning. In another intervention, classroom teachers identified positive student responses as one factor that influenced the extent to which they used MI (Naylor, Macdonald, Zebedee, Reed, & McKay, 2006). More recently, McMullen et al. (2014) also reported findings that support the key role of student reactions in classroom teachers' use of MI. According to the authors, "Whether the students enjoyed the activities had a strong influence on the teachers' decision to use the break again or not" (p. 520). The apparent influence of the PCTs' learning experiences on elementary children's learning experiences in the present study also emphasizes the constructivist-aligned idea that changes in one learner are inextricably tied to changes in other learners within a shared learning environment (Richardson, 1997).

Third, it is possible that the reflection assignments aided in the promotion of intended outcomes for the PCTs. Guided reflection is a recommended tool in constructivist-based student learning (Beck & Kosnik, 2006). Moreover, the teacher education literature highlights the key role of reflection in successful field experiences (McIntyre

et al., 1996). The reflection questions used in this study directed PCTs' attention to aspects of their own and their group's teaching (e.g., instruction and management decisions), the MI activities they used (e.g., developmental appropriateness for children), and their beliefs about MI (e.g., whether classroom teachers should be involved in school-based PA promotion). These questions were designed to guide and challenge PCTs' thinking about MI and schools through various reflective approaches (e.g., descriptive, explanatory, evaluative, hypothetical, critical) and may have served to strengthen PCTs' metacognition (Parsons & Stephenson, 2005) and, ultimately, assimilation of core values and recommended practices taught in the course.

Finally, the positive outcomes of the MI field experiences in this study may be a function of the relatively short length of the experiences, which afforded PCTs enough time to try MI, improve their MI planning and implementation skills, and see the benefits of MI. However, longer term field engagements, such as student teaching, may result in different outcomes for PCTs. Such engagements would situate PCTs more squarely in the day-to-day routines and politics of schools, which could introduce new pressures that undermine PCTs' efforts to use MI. For example, in previous studies, researchers found that factors such as lack of administrative support and time devoted to other responsibilities and commitments at school can act as barriers to classroom teachers' MI (Webster, Russ, et al., 2015).

This study has several limitations. First, the study was conducted in the context of an academic course in which PCTs' work was graded, and this may have influenced their reflections, classroom behaviors, and interview responses. Although PCTs were encouraged to be honest and candid in expressing their views and were told their beliefs and opinions would not be a factor in their grades, the possibility remains that the data reflect social desirability. Second, due to limited resources, all classroom visits could not be observed. Additional data collected from more classroom visits may have enriched, expanded, or altered the findings of this study. Third, data were analyzed after the course was finished, which made exploring and pursuing negative cases in the data unfeasible. Fourth, the study was conducted with only one class of PCTs working with a small number of classrooms. Future research should examine learning

experiences of a larger sample of PCTs working in diverse classroom settings. Finally, this study was limited to investigating only two field experiences. Further investigation could enhance understanding of the challenges and successes of PCTs asked to integrate movement on a more frequent schedule throughout the semester or during longer term field placements, such as student teaching.

In conclusion, this study adds to the developing line of research that examines preservice preparation for MI, based on evidence that MI is beneficial to children's health and education and on recommendations to incorporate MI into preservice training for classroom teachers. Overall, the findings suggest that elementary classroom-based field experiences can facilitate learning to integrate movement. Additionally, the findings point to constructivism as a suitable theoretical framework to explore in future research on preservice preparation for MI. Constructivist-based learning experiences, such as having opportunities to reflect on MI-related field experiences, as well as collaborating in peer groups to plan and implement MI, may be important elements of instructional design in university coursework aimed at preparing future elementary classroom teachers for school-based PA promotion. Additionally, seeing the benefits of MI for elementary students firsthand and discovering that MI is easy to learn may be powerful motivators for PCTs to want to adopt and continue using MI.

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