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**MOVEMENT EDUCATION:
PRESERVICE TEACHERS' PERCEPTIONS OF ITS BENEFITS AND
THEIR COMPETENCE IN INTEGRATING IT ACROSS THE
CURRICULUM**

A Dissertation in
Curriculum and Instruction

by

Serap Sevimli Celik

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The dissertation of Serap Sevimli Celik was reviewed and approved* by the following:

James E. Johnson
Professor of Education
Dissertation Advisor
Chair of Committee

James F. Nolan
Henry J Hermanowicz Professor of Teacher Education

Jawaid Haider
Professor of Architecture

Melissa Bopp
Assistant Professor of Health and Human Development

Rose Mary Zbiek
Director of Graduate Program
Department of Curriculum and Instruction

*Signatures are on file in the Graduate School.

ABSTRACT

The purpose of this study was to examine the pre-service teachers' (PT) perceptions about movement education, perceived benefits from participating in a 12-week movement education module, and confidence and competency to incorporate movement into curriculum after experiencing the module. The data were generated through pre and post open-ended questionnaire, weekly movement activity reflections, microteaching reflections, and focus group interviews. The study findings suggested a deeper understanding of movement education and resulted in PTs appreciating the module as a worthwhile experience in terms of performing body expressions, exploring movement skills, creating social interactions, teaching variety of subjects, building new understanding, and improving professional growth. In addition, the focus group interviews indicated that PTs had opportunities to plan, implement, and reflect on their current and future teaching practices in such a way that they competently incorporate movement across curriculum. Lastly, responses to the post open-ended questionnaire clarified the changes in their perceptions toward their pre-set beliefs about movement that was perceived before as teacher-centered, competition-based, and less playful. The module is recommended as a useful education tool to foster positive beliefs, attitudes, and skills in PTs.

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DEDICATION

This dissertation is dedicated to my loving and supportive husband, Huseyin

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CHAPTER ONE

STATEMENT OF THE PROBLEM

Through my research studies and professional experiences as both physical education teacher and graduate instructor over the past seven years, I have had an opportunity to work with parents, school administrators, in-service and pre-service teachers both in the private and public school settings. Based upon these experiences, the support given to the movement education can be considered as multidimensional and dynamic. Providing appropriate movement experiences to increase children's physical activity levels mainly depends on (a) understanding of how young children develop physically, (b) having enough competency and confidence to implement movement activities, and (c) having proper infrastructure (e.g. space) for these activities.

In a previous study, we examined the perceptions of parents and school administrators regarding preschool movement education. Considering them as an accountability mechanism over young children's physical activity participation, the study aimed to find both groups of participants' perceptions and their effect on the implementation of movement activities in schools. Unfortunately, the findings indicated having a very limited knowledge for both groups. The majority of the activities stated as "movement" were sport-specific and developmentally inappropriate for preschoolers. Children's participation in organized sport activities was valued more as an extracurricular activity by administrators and parents. Moreover, limited indoor/outdoor spaces for movement activities found

to be among the limiting factors for these activities (Sevimli-Celik, Kirazci, & Ince, 2011).

In addition to the parental and administrative support, teacher encouragement has a strong and prolonged effect on children's physical activity participation (Brady, Gibb, Henshall, & Lewis, 2008). Teachers who value physical activity were more likely to encourage children to go outside and engage them in active play (Brady et al., 2008; Cashmore & Sandra, 2008; Huang, Sallis, Patrick, 2009; Temple & Naylor, 2010). In a needs assessment study (Sevimli-Celik & Johnson, 2013) with a total of 149 participants, the majority of the in-service teachers (n=101) pointed out the importance of physical activities in early years in terms of obesity prevention, cognitive development, physical health, and social development. Although they did believe the benefits of these activities, 66 percent of them did not feel competent to teach it. The ones who felt competent gave reference to their physical education (PE) classes taken at the college level or in-service training in their schools where they work. When teachers have enough knowledge and practice, they might feel more confident to implement those activities. In the same study, only 21.4 percent of the teachers (n=149) reported themselves as confident to teach physical activities because of the professional development activities they had during in-service trainings. They were also asked about their pre-service experience in physical education or movement. Unfortunately, only 28.8 percent of them had taken a course on health, physical education, music, or movement. The majority of others (61.2 %)

who felt incompetent to teach physical activities gave some reasons for not taking such courses as *'not interested'* or *'not offered'*.

Teachers need to understand and value the curricular outcomes of physical activities and must have resources, training, and confidence as well. Recently, Copeland, Sherman, Kendeigh, Saelens, and Kalkwarf (2011) investigated teachers' perceptions of the benefits and barriers to children's physical activity in child-care centers. Results from nine focus group interviews with 49 teachers and responses to 11 semi-structured questions showed that teachers noted physical and social-emotional benefits of physical activity, particular for preschoolers (e.g. gross motor skill development, self confidence, improved mood, and attention). They also mentioned several barriers including their own personal attitudes (e.g. low self-efficacy) and preferences to avoid outdoors (e.g. don't like hot/cold weather, getting dirty, and chaos at playground). These researchers suggest that children could have very different gross motor and outdoor play experiences even within the same facility, based on the beliefs, creativity, level of engagement, and health status of their teachers.

In a similar study of preschool teachers' health-related physical activities in the classrooms, Obeng (2010) found that seventy-one percent of the teachers incorporated physical activity into their classrooms. The teachers stated their concerns about the decline of physical activity levels of children. Therefore, most of them integrated indoor and outdoor physical activities into class schedule for children's health development as well as for preparation for later schooling. On the other hand, twenty-nine of them did not incorporate physical activities

because of inadequate training, liability issues, lack of supervision, lack of personnel shortages, and a belief that activities are the parents' responsibilities, not the teachers'. Other studies also identified such barriers as personal (e.g., health limitations), programming (e.g., difficulty in offering age appropriate physical activities), financial (e.g., limited money for equipment), parental (e.g., inappropriate clothing), motivational and physical environment (Copeland et al., 2009; Fees et al., 2009; Josyula & Lyle, 2011).

As stated in the literature, several factors influence individuals' participation or encouragement for movement activities. Particularly, teachers' engagement or support can be related to their perceived self-efficacy levels which is defined as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (Bandura, 1994). The teacher's effort for a healthy physical development is more likely to be successful when these factors could be addressed at the same time.

Theoretical Rationale

According to Bandura's social cognitive theory (SCT), behavioral, environmental, and personal are all three critical factors on the development of attitudes and beliefs which determine how people feel, think, motivate themselves and behave (1997). When we look at the behavior and the development of teacher's attitudes from social framework, we can see the profound impact of teachers for active and healthy lifestyles in classrooms.

Teachers' perceived self-efficacy, as stated by Bandura (1997), could be considered as one of the effective ways to promote healthy behaviors:

Lifestyle habits can enhance or impair health. This enables people to exert behavioral influence over their vitality and quality of health. Perceived self-efficacy affects every phase of personal change--whether people even consider changing their health habits; whether they enlist the motivation and perseverance needed to succeed should they choose to do so; and how well they maintain the habit changes they have achieved. The stronger the perceived self-regulatory efficacy the more successful people are in reducing health impairing habits and adopting and integrating health-promoting habits into their regular lifestyle. Comprehensive community programs designed to prevent cardiovascular disease by altering risk-related habits reduce the rate of morbidity and mortality (p.7).

Stokols (1996) also explains multiple perspectives on health promotion: behavioral, social, and physical-environmental factors. The person, according to him, should be motivated to adopt or perform the improved health practices. However, he adds, that motivation per se cannot help the individual to enact the desired behavior. Social (e.g. support from family, peers, spouse, school or community organizations) and physical-environmental factors (e.g. availability or access to sport facilities, safety, building design) also have an impact on the physical activity participants of individuals. Teacher's support or resistance for physical activity participation can also be considered from this point of view (see Figure 1).

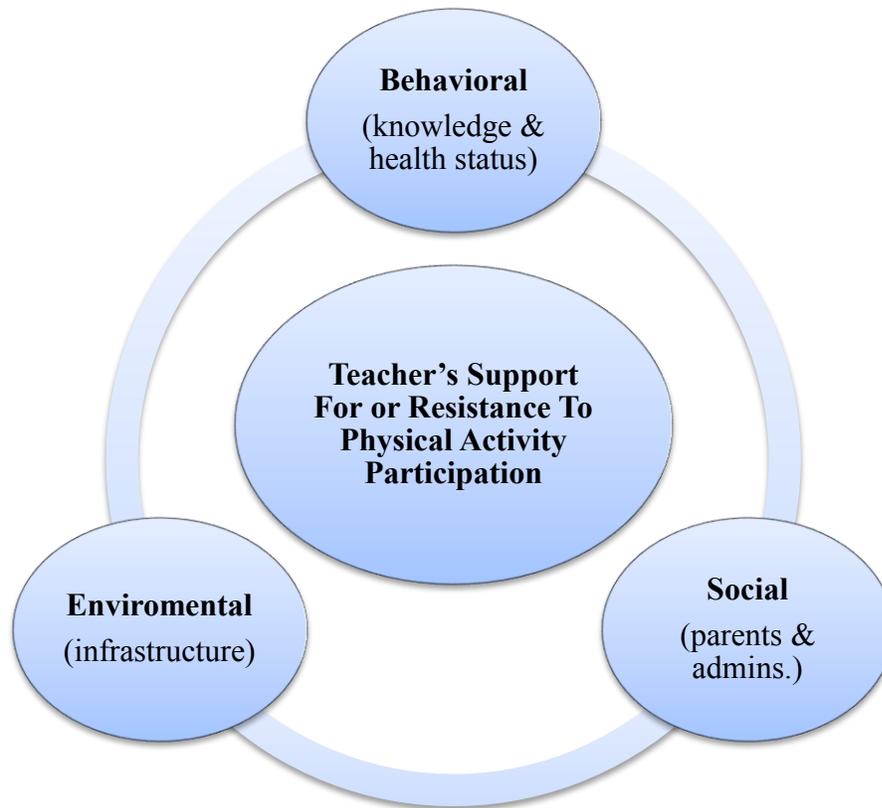


Figure 1: Teacher's support for or resistance to physical participation

As seen in the Figure 1, behavioral, social, and environmental factors are posited to increase or decrease the teacher's likelihood to support physical activity participation. For a teacher, to incorporate these activities he/she needs to be both knowledgeable enough about basic movement skills and capable to perform necessary skills. Having these characteristics at the individual level will enable the teacher to (a) believe in his/her capabilities, (b) build a positive attitude, and (c) boost self efficacy and belief that participating in such activities will bring positive outcomes (Bandura, 1977). In addition to the behavioral characteristics, the teacher also needs support from parents and school

administrators for providing time and resources and being a good role model and cautious about appropriate clothing for physical activities. From my experiences as a physical education teacher, I can say that, without a doubt, clothing can be a serious barrier for a child to participate physical activities. For example, children who wear slippers during physical education classes have difficulty in running, jumping or climbing which is decreasing the quality of the skill.

Also, a child's life-long participation to these activities requires parents to become physically active role models. Recently, Zecevic et al. (2010) explored parental influence on children's physical activity. The results indicated that children who received greater parental support for physical activity were six times more likely to be highly active. The study suggested that parents can promote physical activity of preschoolers, not only by limiting TV time but also by being highly supportive of their children's play. Lastly, physical-environmental factors such as having appropriate infrastructure and safe playscapes are posited to increase the likelihood of teachers' support for these activities and the time for outdoor play. When safety is a concern, the teachers' practices can range from monitoring to facilitating play, but rarely participation. Some studies show that teachers usually report their role as a caregiver and supervisor during outdoor play which can decrease the quality play time with their students (Jarvis, 2007; Maynard & Waters, 2007; Sandberg & Pramling-Samuelsson, 2005).

Moreover, teachers need to have play spaces that provide ways for children to actively use their bodies during day. According to Athey (2007), through movement children can secure information about themselves, the environment,

and the topological properties of objects, and can understand shape, form, and movement. In other words, children relate to the world through their bodies by moving and doing (Olds, 2000). It is, therefore, essential to design environments where children are supported to be physically active. Schools play critical roles to design such environments where children are encouraged to be physically active and are challenged to discover different ways of moving through enjoyable and non-competitive play opportunities. All together, these factors seem very influential for a teacher to incorporate movement activities into the daily curriculum. As stated by Rodriguez (2005), “preschool teachers’ beliefs are important because these beliefs may determine, to a great extent, what the teacher will teach as well as the factors that may be preventing her/him from teaching any area including movement education”.

In addition to the factors mentioned earlier, teachers also need to know about the dynamic qualities of movement. Rudolf Laban’s theory of Movement Analysis provides a basic framework for understanding this interaction. According to his theory, human movement can be understood by studying four main components: (1) *body* -what is the body capable of doing, (2) *effort* –how can the body move, (3) *space* –where can the body move, and (4) *shape* –what forms the body makes. Through these components, we are becoming aware of our movement which is contributing to our health and well-being. It helps us to understand the movement patterns of others as well. According to Kaylo (2003), founder of Laban and Somatic Studies International, “our movement effects (sic) our interaction with people and things, and how people and things move, effects

our perceptions of other, as well as our sense of self in the environment and in our interactions” (p.3).

In her article entitled “The Body in Phenomenology”, Kaylo (2003) also explains relational actions as a direct link to perceptual processing between the body and the environment and she adds:

‘Kinesthetic sensations’ form an essential part of the constitution of our spatiality, occurring as a result of—and continuously impacted by-- our physical experience and our conscious and unconscious interpretation of that experience. This fundamental phenomenological view arises from within the conviction that bodily consciousness is our most primordial, underlying awareness of existence; and is known through the intentionality inherent in our systems of perception. From within a vast field of intercorporeality, our perceiving bodies ‘appropriate’ finite aspects which become objects of our consciousness, and this we do as a result of our particular disposition within the ‘embrace’ of the material world (p.2).

Through these sensory motor interactions we are beginning to shape an understanding of our bodies’ interactions with its physical environment where intellectual skills are acquired as well (Alibali & Nathan, 2011). Recently, many scholars explain this relationship in terms of an embodied cognitive perspective which is defined as an “enactment of knowledge and concepts through the activity of our bodies” (Lindgren & Johnson-Glenberg, 2013). Similarly, Alibali and Nathan (2011) consider the sensory and motor interactions as an important factor for enhancing the intellectual:

Cognitive and linguistic structures and processes—including basic ways of thinking, representations of knowledge, and methods of organizing and expressing information—are influenced and constrained by the particularities of human perceptual systems and human bodies. Put simply, cognition is shaped by the possibilities and limitations of the human body (p.4).

Additionally, Alibali and Nathan (2011) provided theoretical arguments and illustrative examples on using gestures while teaching mathematical concepts. Three ways were identified for both teachers and students to improve teaching and learning in class:

- (a) Pointing gestures reflect the grounding of cognition in the physical environment,
- (b) Representational (i.e., iconic and metaphoric) gestures manifest mental simulations of action and perception, and
- (c) Some metaphoric gestures reflect body-based conceptual metaphors.

Alibali and Nathan (2011) also bemoaned the limited use of body-related activities in teacher education method courses and recommended including more “body-based resources”. In doing so, teacher education programs will have a profound effect on PTs’ perceived self-efficacy and competency to integrate movement across curriculum.

Purpose of the Study

When addressing children's physical developmental needs it is necessary to address prospective teachers' theoretical and pedagogical knowledge. Furthermore, their perceptions and competencies in relation to movement education are very important as well. Teacher education programs play an essential role in accommodating these needs through providing high quality body knowledge and extensive practical experiences that are necessary to understand the complex nature of teaching. However, to our knowledge, there are very few attempts to investigate PTs' content and pedagogical knowledge in regard to movement education in early years. Therefore, this current study primarily aims to examine PTs' perceptions of movement education, perceived benefits of movement, and competency to integrate movement across curriculum after participating in a 12-week movement education module embedded in a three-credit play course.

Research Questions

Following research questions guided the study:

1. What are the prospective teachers' perceptions about movement education?
2. What are the prospective teachers' perceptions of the benefits of participating in a 12-week movement education module?

3. What are the prospective teachers' perceptions of the competence incorporating movement into the curriculum?
4. What are the strengths and weaknesses of the module in supporting prospective teachers as they construct an understanding of movement education?

Glossary of Key Terms

Movement Education: It's an approach to teach the basic movement skills in learned-centered, non-competitive, and playful ways.

Movement Education Module: Weekly movement activities that were lasted 30 minutes over a 12-week period.

Fundamental Movement Skills (FMS): FMS are locomotor (e.g., walking, running, jumping), non-locomotor (e.g., turning, twisting) and manipulative (e.g., throwing, catching, dribbling)—all of which are skills basic to the physical domain.

Prospective Teacher (PT): Prospective teachers are individuals in an education major who have not yet completed training to be a teacher.

Embodied Learning: It is a whole-body approach using mind and body connection in learning.

Kinesthetic Learning: Learning occurs as a result of movement activities.

CHAPTER TWO

LITERATURE REVIEW

Introduction

The early childhood years (0-8) are essential to support young children's development in cognitive, social-emotional, and physical domains. According to Gabbard (2000), these years have been recognized as the critical time in which building blocks for all future development are shaped. Thus, it is necessary to support children's development in all domains (National Association for the Education of Young Children 2009). Children are born to be physically active and naturally are ready to discover different ways of moving. Movement education is most successful when it taps into this natural aptitude, so movement activities that are success-oriented, child-centered, and non-competitive are the best support for physical development (Pica 2011; Robinson & Goodway 2009; Valentini & Rudisill 2004).

To be able to understand the benefits of engaging movement activities for healthy lifestyles, this section will focus four main areas: (1) the rationale for focusing on movement in early years, (2) the decrease of outdoor play and its impact on children's physical health, (3) the effects of indoor and outdoor play space design in promoting movement/physical activities, and (4) specific considerations in planning professional learning activities movement education at the in-service and pre-service teacher education level.

Why Movement in the Early Years?

Fundamental Movement Skills (FMS) including locomotor, non-locomotor, and manipulative skills could be considered as the ABC's of movement (Vidoni & Ignico, 2010). Locomotor skills such as walking, running, jumping, hopping, and skipping allow children to move in space. While moving in variety of different ways, children may need to shift from one gait to another that make them to be aware of the movement capabilities of their bodies. Non-locomotor skills, on the other hand, comprise mostly upper body movements performed while feet stay firmly on the ground. Swinging, swaying, dodging, bending, stretching, twisting, pushing, and pulling are examples of non-locomotor skills helping children to develop balance and flexibility. Manipulative skills e.g., throwing, catching, kicking, bouncing, dribbling, and striking help children to improve eye, hand, and body coordination.

Preschools are ideal settings for the development of FMS and strong predictors of children's physical activity levels. Children in preschools with supportive environmental elements participate more in moderate to vigorous physical activities and spend less time in sedentary activities compared to the ones with less supportive environmental elements (Bower et al., 2008; Dowda et al., 2009). To increase physical activity levels of preschool children, Williams et al. (2009) evaluated the effects of *Animal Trackers*, a physical education program designed to increase physical activity levels of children. 32 teachers and 270 children aged 3 to 5 year-olds from 9 preschools in New Mexico participated in the study. 10-minute daily classroom activities such as morning walks or

afternoon dances were performed with children. The results of the study showed improvements in children's gross motor skills and enjoyment during those activities.

In her recent article in the *Young Children* (2011), movement specialist Rae Pica pointed out to the need of keeping preschoolers active and practicing gross motor skills:

Preschool educators can teach children where their elbows and shoulders are, about the space immediately surrounding their bodies, how to stop and start, and the ways in which it's possible to move. Otherwise, some children will arrive in elementary school not knowing much about their body parts and movement skills. They may be unable to line up without getting too close to someone else or unable to come to a timely halt when faced with an obstacle. Such children may lack confidence in their ability to play active games like other children (p.56).

As clearly stated by Rae Pica, movement opportunities during early years support children in becoming proficient of their bodies and help them to develop a positive attitude toward themselves. It also helps them to form such social skills as communication, cooperation, friendship, responsibility for themselves and others, self-regulation, and self-confidence. According to Harrison and Naraya (2003), the time spent with friends during physical activities is very important for the social-emotional development of children. They are not only learning how to communicate and respect to each other in physical activity settings but also learning how to solve problems in a socially accepted manner. In their study on investigating the influence of creative movement teaching on children's self-

esteem, Theodorakou and Zervas (2003) found this method as the most effective in improving the cognitive, social, and physical areas of self-esteem, as well as the general self-esteem.

Similarly, Cheung (2010) examined creative movement teaching to promote children's creativity in three Hong Kong kindergartens. Researcher had prepared movement activities based on four aspects: (1) introduction of the theme; (2) acquirement and exploration of the movement skills; (3) creation and expression; and (4) performance and appreciation. In the first phase, children were given a theme (e.g., my body), and then asked to use different body parts to show postures. When children pass into the second phase, they were asked to move freely, make different postures, and freeze. In the third phase, children created a group sculpture by connecting to each other with different parts of their bodies and moving in different ways. And in the last phase, children performed the sculptures as a group. Torrance's test of creative thinking including fluency, flexibility, originality, and elaboration was used to measure children's creativity in the study. Also semi-structured interviews with class teachers were conducted to explore teachers' perceptions of children's creativity. The results indicated the movement activities developed for this study as one of the effective ways to promote children's creativity. Teachers reported that those activities provide many opportunities for creative thinking which made children feel interested and challenged.

Incorporating movement activities into the daily school curriculum is also an effective way to increase children's thinking through an active and enjoyable

way. According to Henniger (2009), movement activities provide wonderful opportunities for children to engage in an integrated curriculum. Trost, Fees, and Dziewaltowski (2008) examined the feasibility and efficacy of ‘*move and learn*’ physical activity curriculum for preschool children. Movement experiences e.g., hopping, marching, skipping, running, and galloping were integrated into all aspects of the daily preschool curriculum including math, science, and art. Children, for example, count how many balloons they have kicked in 1-minute or march around a circle of letters and name the letters they have been standing when the music stops. After an 8-week implementation of the program, a significant improvement was observed in children’s physical activity levels. Children who have completed the ‘*move and learn*’ curriculum showed higher levels of moderate-to-vigorous physical activity than children who have completed *usual* curriculum. Moreover, teachers reported that the ‘*move and learn*’ curriculum was not disruptive to the learning environment. Instead, it helped to improve children’s attention and both physical and verbal self-regulation.

It is evident from the aforementioned studies that movement offers numerous advantages on preschool children’s future physical, social-emotional, and cognitive skills. It is especially important in the fight against the obesity epidemic. The Center for Disease Control (CDC, 2009), however, characterized most preschoolers as being physically inactive. According to the report, obesity prevalence among low-income preschool children has increased gradually from 12.4% in 1998 to 14.5% in 2003 and 14.6% in 2008. This alarming rate of

increase has received attention by recent researchers. In their longitudinal study, Taylor et al. (2009) reported an increase in screen time and a decrease in physical activity especially for 4 and 5 year-olds. Similarly, Dwyer et al. (2008) pointed out that free and creative active play is being lost and have been alternated increasingly by activities which are sedentary and mostly focusing on intellectual skills.

Although three developmental domains as cognitive, social-emotional, and psychomotor are equally important for the development of children; cognitive area might have more allocation and conversely psychomotor has less. As stated by Pica (1997) “many parents, educators, and caregivers think the needs of mind should take priority over those of the body; thus they devote little time to physical activity”. For instance, however, the study results by Graham et al. (2002) showed that reducing the time spent for PE, art, and music to concentrate more on tested subjects in the standards of learning does not impact on test scores. Even, as a result of a meta analysis study, Sibley and Etnier (2003) found a positive correlation between physical activity and cognitive performance in children. According to the researchers, the study refuted the argument that PE programs should be cut in an effort to increase academic productivity and, rather, showed its potential to increase perceptual skills, verbal achievements, and academic readiness.

Clearly, movement opportunities to increase physical activity among preschoolers are necessary. Although teachers and caregivers traditionally have not considered movement as a major element of the curriculum, growing

evidence indicates that they should encourage young children to be more active (Henniger, 2009). Several documents provide administrators and practitioners with summary statements about early physical development, as well as guidance on how to apply it in program settings. *National Association for Sport and Physical Education* (NASPE, 2009) developed specific guidelines for the physical activity of children from birth to age 5 to inform educators, caregivers, and parents about the physical activity needs of young children during the first years of life. The position paper states “all children from birth to age 5 should engage daily in physical activity that promotes movement skillfulness and foundations of health-related fitness”, and then the guidelines developed for each age group was described. The five guidelines discussed for preschoolers concentrate on (a) the kind of activity, (b) the type of environment, and (c) the individuals in charge of facilitating the activity:

- Guideline 1.** Preschoolers should accumulate at least 60 minutes of structured physical activity each day.
- Guideline 2.** Preschoolers should engage in at least 60 minutes and up to several hours of unstructured physical activity each day, and should not be sedentary for more than 60 minutes at a time, except when sleeping.
- Guideline 3.** Preschoolers should be encouraged to develop competence in fundamental motor skills that will serve as the building blocks for future motor skillfulness and physical activity.
- Guideline 4.** Preschoolers should have access to indoor and outdoor areas that meet or exceed recommended safety standards for performing large-muscle activities.
- Guideline 5.** Caregivers and parents in charge of preschoolers’ health and well-being are responsible for understanding the importance of physical activity and for promoting movement skills by providing opportunities for structured and unstructured physical activity.

These guidelines help teachers and practitioners to realize the daily physical activity needs of preschoolers. Unfortunately, researchers have found that many preschool-aged children do not engage with 60 minutes of structured and 60 minutes of un-structured physical activities as recommended by the guidelines. McWilliams et al. (2009) examined the physical activity and playtime practices and policies in 96 centers in North Carolina. The *Nutrition and Physical Activity Self-assessment for Child Care* (NAPSACC) was developed to assess the environment, policies, and practices that had been thought to influence the nutrition and physical activity behaviors of children. The results of the study indicated that few offerings mentioned in the guidelines were accomplished by the majority of the 96 North Carolina childcare centers participated in the study. That is, only 13.7 percent of childcare centers in North Carolina offered 120 minutes of active playtime during a school day.

In addition to the school policies on physical activity guidelines, how active children are in preschools was determined by several other factors such as physical layout and design of environment, opportunities for self-directed activity, free access to outside and most importantly support and from teachers. In a recent study of preschool teachers' health-related physical activities in the classrooms, Obeng (2010) found that seventy-one percent of the teachers incorporated physical activity into their classrooms. The teachers stated their concerns about the decline of physical activity levels of children. Therefore, most of them integrated indoor and outdoor physical activities into class schedule for children's health development as well as for preparation for later schooling. On

the other hand, twenty-nine of them did not incorporate physical activities because of inadequate training, liability issues, lack of supervision, lack of personnel shortages, and a belief that activities are the parents' responsibilities, not the teachers'. Other studies also identified such barriers as personal (e.g., health limitations), programming (e.g., difficulty in offering age appropriate physical activities), financial (e.g., limited money for equipment), parental (e.g., inappropriate clothing), motivational and physical environment (Fees et al., 2009; Copeland et al., 2009; Josyula & Lyle, 2011).

Similar concerns have emerged in a recent study (Sevimli-Celik & Johnson, 2013) investigating preschool teachers' attitudes in relation to their background education and physical activity practices in classrooms. The study was conducted with a total of 149 preschool teachers from Central Region of Pennsylvania. Online survey consisted of three parts was sent to the teachers via Survey Monkey. First part of the survey was about demographic information of the participants (gender, age, years of experience, types of school they work, education levels, and area of specialization). Second part consisted of a four-item Likert inventory and a set of questions that ranged from strongly agree to strongly disagree. Third part included both closed and open-ended questions that aimed to understand teachers' physical activity practices in classroom settings.

Survey results indicated that teachers believe on the importance physical activities in terms of obesity prevention, cognitive development, physical development, and social development. Majority of them ($n=101$) strongly agreed that schools should play an important role in promoting physical activity for

children. Thirty-six percent ($n=53$) of them disagreed to the idea that children need a daily 60-minute period of structured physical education, while 33.6% ($n=49$) agreed and 21.9% ($n=32$) strongly agreed to this statement. Fifty percent ($n=73$) of the teachers felt that daily recess or period of unsupervised play is not enough for young children. However, 20.7% ($n=30$) of them felt that free play is enough for children. Moreover, they ($n=90$) felt the need for some kind of curriculum guide for physical education. Fifty-five percent ($n=81$) of them agreed that it is important to take in-service training in this area. Survey results also clearly indicated the influence of PE background on teachers' attitudes. Majority of them (91.2%) answered 'yes' to the question of "Do you think that your background has an influence on your attitude toward physical education for young children?" Below are some of the excerpts:

If you grew up with an active lifestyle, you know the importance of physical education. At the same time, if you did not grow up with an active lifestyle, you also know the importance because you might not be as physically-healthy (t-47).

I think my experience as a child has influenced my attitude toward physical education for young children. I was raised by active people who value health and well being and I try to do my best to bring that to the children I serve (t-45).

Absolutely, I think that being involved in sports, I enjoyed teaching these sports to my kids, and therefore when we are on playground, I am not sedentary but rather running with them and getting my own exercise (t-92).

Although most of the teachers talked about the importance of physical activity in children's life, 66% percent of them did not feel competent on teaching it. Others who said being competent gave reference to their PE classes taken at

the college level or in-service training in the schools. Sixty percent ($n=96$) of them did not take PE courses in the teacher education programs. Majority of them also did not take any PE courses in the in-service programs and 28.8% ($n=43$) took some form of physical education courses such as music and movement. One of the teachers stated the benefit gained through in-service training: “I feel confident to teach it since I know the importance of it and took a course related with music and movement. I know how to get children involved in activities that will promote fine and gross motor skills” (t-35).

Teachers were also asked to list indoor and outdoor physical activities implemented in the classrooms. Due to lack of enough space, teachers listed indoor activities that are limited to games with rules ($n=118$), dance and music ($n=83$), and obstacle course ($n=39$). Some of the comments presented below:

We do what we can, but we're really limited by space. We do movement songs, movement cards, and occasionally aerobics (t-48).

Usually (because of limited space) it is not cardio as much as small muscle development, we more a lot hide and seek, Simon says (t-69).

Limited space for physical games-balls, hula-hoops, relay and movement games (t-121).

In comparison to the indoor activities, teachers mainly listed outdoor activities as running ($n=84$), climbing ($n=71$), riding bicycles ($n=38$), jumping ($n=33$), swinging ($n=24$), kicking ($n=22$), nature walks ($n=20$), free play ($n=14$), and others ($n=20$). As obviously seen from the responses, children mostly engage in gross motor activities enhancing locomotor skills that are difficult to develop through indoor activities. At the end of the survey, majority of the

teachers ($n=129$) listed their additional comments about the topic. Some of them ($n=55$) mentioned about the importance of the topic and stated that in-service training would be beneficial for them. They especially want to learn about physical activities that are appropriate for mixed-age groups. They also stated the importance of knowing different kinds of physical activities for outdoor play.

Some others ($n=27$) think that educating parents about the topic is also necessary for teaching the ways to get the kids to understand the importance of being physically active. Some of the excerpts can be seen below:

This topic is as important as other subjects and teachers should be well educated so they can be confident to teach it. Also families need education about this topic since children are inactive at home and always video playing (t-11).

This is really important topic but neglected most time and we can see the consequences. Our kids getting obese and just eating and sitting, playing video games, they are not moving. Parents should be trained about this topic (t-15).

Not having a unified curriculum was another comment stated by the teachers. Some of them ($n=19$) thought that schools should have a unified and mandatory physical education curriculum including nutrition:

With the focus on child obesity in the US being newsworthy almost daily, it is important to be sure that a unified program of physical education is initiated in preschool programs and continued throughout every child's school career (t-38).

It needs to be stressed to early care educators how important this topic is and make it mandatory to include it in their curriculum. Also teach parents about getting involved in physical activities with their children (t-59).

The results evidently indicated that the teachers participated in this study were supportive of preschoolers' participation in physical activities in terms of physical, social-emotional, and intellectual development. However, most of them stated such concerns as limited space and lack of training/knowledge, which were also mentioned in some other recent studies (Fees et al., 2009; Tucker et al., 2011).

Researchers investigating preschoolers' physical activity participation in relation to teacher practices and barriers are also attempting to prepare programs for teachers to be used in the classrooms. In addition to the successful intervention studies mentioned above such as *Animal Tracking, Move & Learn, Creative Movement Teaching*, Schilling and McOmber (2006) at the University of North Carolina created '*Tots in Action*'. Pre-K teachers were trained to provide direct (large group) and center-based (activity and grouping choices) physical activity instructions for preschoolers during outdoor play. In large group activities, for instance, children experienced movement skills such as throwing and catching the ball, jumping into the hula-hoop, balancing, marching and galloping around hula-hoop. They also practiced the movement concepts (directions and levels) via verbal explanation (in, out, high, low, beside, behind).

After participating large group activities, children were allowed to choose their own activities from either obstacle course center, hula-hoop exploration, ribbon stick center, balancing act, or jolly jump up. Children were free to choose where they want to go and play and whom they want to play with. At the end of the program, activity levels of children increased both in school and at home. The

program also indicated the physical activities as a natural part of life, not just as a playground activity. According to the authors “by showing children the natural connections between all areas of learning and development and the activities they do at school and at home, the Tots in Action helps young children see themselves as learners and movers”.

In response to the barriers and challenges that preschool teachers hold, Breslin et al. (2008) conducted a study demonstrated how a group of teachers found an exciting approach to promote physical activity and motor skills development. Instead of offering a program that had already prepared by outside researchers, Pumpkin Center teachers in North Carolina developed their own innovative physical activity program for their kindergartners. At the beginning of the study, teachers contacted both with their physical education teacher and Department of Kinesiology where they were provided various resources and materials to develop a quality and age-appropriate physical activity program. They also searched the ideas using internet and print resources. Based on each *NASPE* standards, teachers designed lesson plans fostering children’s (1) fundamental movement skills, (2) movement concepts, principles, and strategies, (3) physical activity lifestyles, (4) health-related fitness, and (5) value given to physical activities. For instance, to develop children’s movement vocabulary teachers asked questions to children: “What animals are *fast runners* or *slow runners*? What is the purpose of *running*? What is the difference between *running* and *walking*?” They also discussed variety of physical activity opportunities helping children to learn their movement preferences (walking the

dog, riding a bike, taking stairs). To promote children's fundamental movement skills, teachers designed lesson plans emphasizing object control, and body management skills. At the end of the study, teachers reported a better understanding of the foundation of physical development (e.g., motor skills, body management, self-management behaviors) and how to facilitate appropriate physical activities for the children they teach.

In addition to all those studies targeted to improve children's physical activity levels either through intervention or case studies, some university-based instructional programs were also designed to (1) engage preschoolers in physical activity and (2) assist classroom teachers to include FMS in daily lessons (Vidoni & Ignico, 2010). Recently, Vidoni and Ignico worked with *Head Start* children who were transported to *Ball State University* campus to participate in 60 minutes of physical activity once a week for 10 weeks. Children, for instance, practiced FMS through self-tossing and catching a scarf or throwing different types of balls and equipment (bean bag, balloon, scarves). They also practiced space awareness (personal and general) by moving and dancing in different pathways. Classroom teachers participated in the study were also informed about the importance of developing FMS and *NASPE* guidelines. With the help of demonstrations and practice sessions, teachers were able to include more structured physical activities into their daily lessons. They also reported positive changes in children's social behaviors and improvements in FMS.

All those initiations aimed to help teachers to increase the physical activity implementations in classrooms are very promising. Most of the research,

however, was conducted at the in-service teacher education level. Few of them directed attention to pre-service teacher education which is an integral part of the development of the beliefs, attitudes, skills, and motivation to teach movement. Therefore, attention should also be given to teacher preparation within a framework of the curriculum involving body management, locomotor, non-locomotor, and manipulative activities through practical and hands-on experiences.

Collaboration of early childhood educators with other departments such as Kinesiology, Psychology, or Architecture is also necessary to inform them about the contemporary issues and trends or challenges they are facing during physical activities. Through this collaboration, early childhood educators can overcome those challenges (e.g., movement education knowledge, self confidence to teach movement, limited space for movement, and etc.) while promoting better high-quality programs for preschoolers and families. For example, in long-term, with the interaction of people from the architecture department, environmental barriers could be reduced through movement friendly classrooms or school playgrounds. Similarly, physical and fitness knowledge, and self efficacy of teachers and parents could be increased through community sport or recreation programs offered by Kinesiology departments. All these possible collaborations among various departments would contribute to programs that influence children's levels of physical activity participation.

Overall, implementing appropriate programs to increase children's physical activity levels mainly depends on teachers' understanding how

preschoolers develop physically, having a proper infrastructure (e.g. space), and having enough competencies to implement those activities. To increase physical activity levels of preschoolers such further interventions are needed: (1) increasing teachers' knowledge through pre-service and in-service trainings, (2) creating play areas that allow children to move and play safely, (3) developing teachers' self-efficacy through health-related fitness activities, and (4) encouraging parent involvement by informing them about their roles in children's physical activity behaviors.

What Happened to 'Go Outside & Play?'

During outdoor playtime, children develop both small and large muscles while engaging running, jumping, climbing, hopping, throwing, catching, pulling, and pushing. Through the interactions with the environment, children begin to gain more control over their bodies (Gallahue & Ozmun, 1998). It helps them to develop active and healthy bodies, and that is especially important in fighting against obesity epidemic. In an exploratory study, Brady, Gibb, Henshall, and Lewis (2009) investigated physically active play in three early childhood settings in an inner London borough. The researchers made observations on children at play, and semi-structured interviews with parents and school staff. A series of 15-minute observations were carried out with 19 children across the settings to collect quantitative and qualitative data. The observations were recorded whether children engaged in physically active play at any point within one-minute periods. The results of the study demonstrated that children were more physically active

while they were outside and performing vigorous activities such as cycling, climbing, and running occurred when outside than inside.

As compared to indoors, outdoors offers to children colors in nature, trees, woodlands, shifting topography, shaded areas, meadows, places for climbing, construction, and challenging places to exploring and experiencing (Fjortoft, 2001). The outdoors offers children spaces to run around freely which gives the sense of freedom. Children are in control of their action to start and finish. The connection of the outdoors and freedom was emphasized in Kernan and Devine's findings (2010). They emphasized that freedom was the most prevalent attribute given to the outdoors. "Moving about freely in the outdoors was construed as natural and necessary part of being a child" (Kernan & Devine, 2010). Similar findings were mentioned in the study conducted by Veitch, Salmon, and Ball (2007). They examined children's perceptions of the use of public open spaces for active free-play. One hundred thirty two children between the ages of six to twelve participated in the study. Focus group interviews with children were conducted to find out the role and use of public open spaces. The results showed that children like to be outside because they enjoy active play. Children also emphasized that outdoors offers freedom from adult supervision.

Certain physical movements that children perform during outdoor play help to increase body's natural motivators, and make them feel good about themselves (Filer, 2008). Therefore, most children find outdoors as exciting, engaging, and fun. Garrick, Bath, Dunn, Maconochie, Willis and Wolstenholme (2010) examined the children's perspectives on their experience in a range of

early-years settings. The main research questions of the study were: (a) to what extent and in what manner is children's experience in early years settings based around play and how enjoyable are those experiences? (b) to what extent do children's experience in early-years settings include physical activity, comprising outdoors physical activity? (c) how well does children's experience in early-years settings meet individual children's needs and interests?, and (d) to what extent do children's views inform planning and delivery of the *Early Years Foundation Stage* (EYFS) by practitioners? Researchers selected 15 case study settings in the northern part of England. Research activities, based on the EYFS themes, were designed to incorporate a variety of strategies for promoting talk between researchers and children to explore unique child, positive relations, enabling environments, and learning and development. According to study results, a high proportion of children enjoyed active outdoor play. In some settings, using movable materials and resources such as blocks, planks, and tires gave children physically and mentally challenging play experience. Children in the study also liked to have free and continuous access to outdoor space. Children mentioned in their comments that they do not want to wait for a particular time of the day for outdoor activities.

Outdoors gives children plenty of opportunity that indoors does not. When children are let to move freely outside, they express themselves differently compared to indoors. Stephenson (2002), observing the children indoors and outdoors over a period of five months in New Zealand childcare, identified four broad dimensions of differences seen indoor and outdoor play spaces. The first

one is freedom and controlled dimension. She noted that children were free and less controlled outside when compared to inside. Children participated more in open-ended activities by moving the equipment from one place to another. The second dimension she noted is the difference in interaction between adults and children. While playing outside, children drew adults' attention to what they were physically doing. This is what Stephenson called as '*look at me*'. When they are inside, however, they drew adults' attention on what they made –'*look what I have made*'-. The third dimension of the differences is the changing and steady environment. In other words, outside alters more than inside. According to her, "outside was a space of change in terms of temperature, light, movement, color, smell, texture". The last dimension of the differences is open versus encompassing nature of outside and inside environments respectively. Outdoors offers children to work together in large groups of mix of older and younger ones.

The time spent outdoors is also closely related to children's sense of community while creating their places for play and exploring their local neighborhood (Clements, 2004). Recently, Beunderman (2010) examined the impact of staffed play provision on children, families, and local community. Observations and semi-structured interviews were conducted with children aged between 8 and 13 years old, parents, play staff, and key policy stakeholders. The data indicated such skills as sharing, looking out for another one, and asking for help acquired by children through play. According to Beunderman, "these experiences, it would seem, can change children's perception of their neighborhood, transforming it into a trusted place in which they feel welcome,

know their peers and others, and consider themselves at home. In other words, providing ‘somewhere to go, something to do’ has an impact on these youngsters’ positive perception of the places where they live”.

Outdoors also offer great learning opportunities for children. It gives opportunities to use their imagination which helps to promote original thinking and ability to generate multiple solutions to a problem (Filer, 2008). According to a recent study conducted by Coyle (2010) with 1,878 educators, the children who spend regular time in outdoor play are more creative, better able to concentrate and solve problems in the classroom. The results are consistent with the Maller’s findings on educators’ perceptions about the benefits of contact with nature for children’s mental, emotional, and social health. Children’s contacts with nature help them to improve their imagination, creativity, and intellectual skills (Maller, 2009).

The link between outdoors and children’s learning has been well recognized within the Scandinavian countries. Forest Kindergartens are great examples for engaging children with the nature within educational settings. In Forest Kindergartens -also called as ‘Rain or Shine’ or ‘Nature Kindergartens’- children spend most of their time in nature while interacting and engaging variety of activities. In her visit to Sweden to conduct a case study about outdoor technologies for children, Juliet Robertson (2008) had the opportunity to see the first hand established forest kindergartens. During her visit, she observed noticeable differences on children’s health and behavior and pointed them out:

Firstly, in all the forest schools there were no obese children (or adults). Their physical coordination was amazing. The children hopped and skipped over uneven surfaces, climbed trees proficiently and balanced confidently on fallen down logs. The high level of creative play with only natural materials to hand was interesting to watch. The children played typical child games, but the interactions were positive. There was little adult intervention required for inappropriate behavior (p.8).

Forest Kindergartens, compared to traditional settings, contribute to children's motivation and concentration, language and communication, health and well-being, knowledge and understanding, confidence and self-esteem, and social skills (Robertson, Martin, Borradaile & Alker; 2009). Just because of these benefits, Forestry Commission Scotland is trying to expand the use of Forest Kindergartens through conducting case studies, parent and teacher surveys, and field observations. Robertson et al. (2009) conducted a study on the feasibility of Forest Kindergartens. The study aims to find out the factors explaining the under-use of local woodlands and to recommend solutions to overcome barriers that would enable Forest Kindergartens to move forward within Scotland. During the study, children were taken to local woodlands each week of a 10-week period in all weather conditions. According to researchers, this provided children with natural learning opportunities to experience and explore in all weather conditions. For instance, while exploring the natural environment, the children observed and explored dragonflies. This gave children a unique opportunity to find solutions while observing and tracking the dragonflies avoiding harming them. Children also developed interest and caring attitude toward plants, wildlife, and insects resulting in '*Responsible Citizens*' with a promoted sense of belonging (Robertson et al., 2009).

The benefits of Forest Kindergartens set a good example of developing alternative learning environments in the nature. The *Healthy, Active and Outside* (HAO) program is one of the examples based in a small woodland area in the ground of a primary school in northern Bristol, England. The program, targeted children aged 3 to 5 years old, gives children regular opportunities for free exploration of the environment as an integral part of their education. The program took place one a 30-week session and children were withdrawn from their usual school to attend. The aim was to teach children positive interaction skills, communication skills, problem solving strategies, anger management, and appropriate school behavior, and to promote their self-esteem and general social competencies through outdoor adventure and environmental activities. Although observation was the main method to keep the record of the program, video footages, children's drawings, case studies, and teacher/parent interviews were compiled both during and after the program.

At the end of the program, parents and teachers stated positive effects of the program on children's overall development. Teachers also expressed children's fulfillment gained during the program: "we have already noticed the differences in children coming to outdoor school after only five weeks. They were more confident and talking more. Some are playing with each other now rather than alone. We know how well it works, it's a shame more children don't get the chance to come".

In addition to physical, intellectual, and social benefits, outdoor play could help to regulate emotional states of children. It has such a positive impact on

their mental health and sense of well-being. The healing power of outdoors is well documented through the recent studies. According to Martensson, Boldemann, Soderstrom, Blennow, Englund, and Grahn (2009), environment surrounded with large trees, bushes, and hilly landscapes help to increase children's attention and concentration skills. Taylor and Kou (2009) found similar results in their study investigating the impacts of environment on attention of children with *Attention Deficit Hyperactivity Disorder* (ADHD). Seventeen children between the ages of 7 to 12 diagnosed with ADHD participated in the study. They experienced each of three environments, a city park and two other well-kept urban settings, via individually guided 20-minute walks. The results indicated an increase in children's concentration levels after the walk in the park. According to researchers of the study, "Doses of Nature might serve as a safe, inexpensive, widely accessible new tool in the tool kit for managing ADHD symptoms".

In his latest book, *A History of Children's Play and Play Environments*, Joe Frost (2010) is also talking about the therapeutic benefits of both indoor and outdoor play. He stated that free and spontaneous play is closely associated with improved memory, problem solving, creativity, imagination, and formation of synapses which are preventing the negative effects of chronic stress and leading positive behaviors in children. Nevertheless, deprivation of play causes immature social and emotional behaviors, impulsivity, violence and reduced capacity for later learning (Frost, 2010).

The benefits of playing outside for children of all ages are apparently everlasting. Simply spending time outside gives children the opportunity to take

part in activities that helps them to improve imagination, flexibility, adaptability, and empathy. Through the exploration of their environment, children master many skills that encourage confidence and self-esteem. Through first-hand experience of the world around, children explore, and make sense of life as well as expressing their feelings freely and being creative. Despite the numerous benefits outdoors offer, however, many play scholars and advocates have emphasized the society's shift moving from outdoors to indoors (Clements, 2004; Frost, 2010; Gray, 2011; IKEA, 2010; Miller & Almon, 2009; KaBOOM, 2009; Pergams & Zaradic, 2006; Singer, Singer, D'Agostino, & DeLong, 2009; Staempfli, 2009; Veitch, Bagley, Ball & Salmon, 2006; Wridt, 2004). In *Last Child in the Woods*, Richard Louv (2005) also highlighted the issue of decreasing time spent in outdoors and the problem what he calls "*Nature Deficit Disorder*" threatening today's modern societies.

High emphasis on academic achievement and test scores reduces children's opportunities to play outdoors. The value of play has been forgotten and seen as waste of time. Technological changes, parental concerns about '*stranger dangers*', access to safe outdoor places, and structured activities led by adults are some other reasons for the decline, and this has been well-documented by several studies carried at the national and international levels. A well-known study conducted by Clements (2004) investigated the mother's outdoor play experience as children, as well as their children's play experience today. Eight hundred and thirty mothers of children aged three to twelve participated to the survey. The great majority of mothers reported that their children play outdoors

less often than children did a few years ago. Overall, 85 percent of the mothers identified their child's television viewing and computer game playing as the number one reason for the lack of outdoor play.

KABOOM, a non-profit organization that support communities to build playgrounds, surveyed parents to understand (a) the amount and importance of unstructured play for today's youth, (b) the general availability and utilization of outdoor play spaces nearby, and (c) the current awareness and support for the building and maintenance of community outdoor play facilities among parents, community members, and others (2009). Although parents mentioned about the importance of outdoor play for keeping their child physically fit; majority of them, eight in ten, believe that children today do not spend enough time playing outside. Similar to what Clements found, parents in this study also agree that children today spend less time outside than they did as children.

In his recent article, Gray (2011) documented the historical changes in children's play. He pointed on parental concerns as one of the main factors for the decline and then he stated "parents today have more fears about allowing their children to play outdoors than parents in decades past". This apparent shift in children's play has also been observed in other nations. Singer et al. (2009) surveyed mothers of children aged one to twelve in sixteen countries. Through using telephone or face-to-face interviews, mothers were asked to explain about their children's play activities when they were not attending school or day care. They were also asked about their own attitudes, beliefs, and perceptions about their children's play and concerns on children's well-being and future. According

to the results of the study, watching television was highlighted as the most common activity among boys and girls, while outdoor play was less often reported. Almost all of the mothers stated such concerns on their children as 'growing up too quickly' and 'childhood as they know is over'. Although the majority of them pointed on the value given to outdoor play, they worried about the safety of their children that lead them to stay indoors and watch TV.

Examining children's play in a global context could be helpful to understand the way in which parents and children from different countries value nature and outdoors. Recently, IKEA (2010) carried a research-driven project across 25 countries to investigate the children's development and play. 7,933 interviews with parents (parents of 0-12 years old) and 3,116 interviews with children (aged 7-12) were conducted via the internet. The state of parenthood, the state of childhood, and play were main the topics for interview questions. Study results showed the universal agreement (93%) on the developmental benefits of play. However, 45 % of the parent felt that they struggle to find time to play with their children. Parents especially in the 'time-poor' countries such as China, Portugal, Hungary, Russia, Italy, Ireland, and France stated that they do not have time to play with their children. In addition to the time constraint, parents also stated concerns about 'stranger dangers' (49%), traffic (43%), and bullying (38%).

The decline in children's play at outside has also been observed in Turkey. To describe the judgments and concerns of Turkish mothers with respect to their children's play, 13 mothers in Turkey were interviewed (Sevimli-Celik & Johnson, 2011). Through semi-structured interviews and play memory drawings, mothers

were asked about their play experiences in the past, present, and future and their children's as well. Data from the interviews and drawings showed that children are playing indoors more than their mothers did as children. One of the mothers described the situation clearly as:

We used to play outside a lot. We used to climb trees, play dodge ball, marbles, hide and seek. However, my kids are much more supervised because the world is a different place. And my son rather has spent the day in front of the computer instead of going outside. He has a bicycle but he rarely rides it. Sad but true.

Differences in types of play were also searched in the study. Mothers were asked to explain types of play they engage in their childhood. Physical play, pretend play, and open-ended play were the most frequently mentioned ones. However, mothers stated virtual/computer play, organized sports, and educational play for their children. Moreover, similar to what other studies suggested, concerns about academics, safety, and lack of play spaces decrease children's outdoor play time.

As it is seen in the recent studies, changes in society during past decades affect both children's play behaviors and their interaction with outdoors. The findings showed that children play less than they used to and they are restricted to play indoors to stay safe. Children have been more sedentary that may cause serious health problems later in life. Researches clearly indicated the need to raise general awareness regarding children's outdoor play. Therefore, play advocates have a central role to address this need, and also convince parents to let their children play outside.

Active Designs for Movement

Movement helps children to develop physical skills that are necessary for the discovery of the environment. While running, jumping, hopping, skipping, or galloping, children actively involve in exploring and experimenting the movement capabilities of their bodies. They also start to be aware of their personal and general space, so they can control their bodies efficiently (Gallahue & Ozmun, 1998). As mentioned earlier, preschools play critical roles to arrange such environments where children are encouraged to be physically active and are challenged to discover different ways of moving through enjoyable and non-competitive play opportunities.

Active designs for movement can be defined as a way of life that integrates physical activity into daily routines such as simply taking the stairs, walking to school, playing in the park, taking field trips around the community, and so on. According to Edwards and Tsouros (2008), design elements in the built environment such as street layout, land use, transport system, and location of recreation facilities, or parks are all components of a community that either encourage or discourage active living. For preschool-aged children who spend the majority of their time at early child care settings, indoor and outdoor play areas and community playgrounds provide such opportunities to engage children in more active lifestyles.

Cosco (2006) talks about the environment that should be designed to *afford* such physical activities as climbing, balancing, catching, crawling, hanging,

hopping, jumping, rolling, rocking, skipping, sliding, walking, and so on. In *affordance theory* (Gibson, 1979), objects perceived in terms of possibilities for action they offer, or *afford*. According to Cosco, to be able understand the implications of built environment and children's active living; it is essential to describe the concept of affordance: "an object in the play area will be considered climb-able if it is possible to climb on it, slide-able if it allows sliding, or swing-able if one can swing on it. The approach considers the individual and the environment as an interactive system".

Taking the affordances theory as the basis of their research, Cosco, Moore, and Islam (2010) investigated the variations in preschool physical activity in terms of the variations in school policies, practices, and outdoor physical environment. Behavior mapping approach, which consists of recording where certain activities occur over a number of days and creates a composite picture of activities, was used to get the behavioral dynamics of the built environment. Researchers used the *Child Activity Rating Scale* (CARS) to obtain the behavior mapping data from two preschools. The results showed that physical activity levels at the two centers varied across different types of behavior settings. Pathways and open areas with different ground surfaces were the behavioral settings where the majority of total activity was observed. In contrast to linear pathways (offer travelling back and forth), looped pathways (offer perceptual complexity and circular motion) provided higher physical activity opportunities. Moreover, open spaces with harder ground surfaces such as asphalt, compacted

soil, and concrete *afforded* higher levels of physical activity. Especially hard surfaces allowed children to use wheeled toys as play objects.

Indoor and outdoor play environments that offer rich, diverse, flexible, natural, and multi-sensory experiences provide opportunities for children to become more physically active and healthy. According to Fjortoft (2001), being in natural environments offers children dynamic and rough playscapes that help them to improve motor skills. In her study, Fjortoft examined the affordances of the landscape for versatile play and the impact of outdoor play activities in children's motor ability. The quasi-experimental study was carried with five to seven-year-old children in Norway for nine months. The experimental group, consisted of 46 children, used forest every day for 1-2 hours throughout the year. The control group used the traditional outdoor playground for 1-2 hours a day and only visited natural sites occasionally. Children in the experimental group used the forest to engage in variety of activities. They used trees for climbing; shrubs for hide and seek; shelters for role-playing and fantasy play; cliffs for sliding and crawling; dense snow for thumbing, rolling and other acrobatics. The results showed a significant relationship between the landscape diversity and the affordance of play. A significant increase was also found in motor skills of children who used the forest.

Similarly, Boldemann et al. (2006) found in a sample of 197 4-to-6 year olds that preschool environments with tree, shrubbery, and broken ground helped to increase physical activity levels of children. Eleven preschools who participated to the study had different outdoor environments regarding

vegetation, topography, and space. Broken grounds with tree and shrubbery areas stimulated more dynamic play and yielded good protection against UV-radiation. Natural environments improve the quality of children's play and physical activity and create new opportunities to children of varying interests and abilities. A well-known study conducted by Moore and Wong (1997) also demonstrated the effects of greener grounds versus traditional play yards. After an ecologically-diverse environment with trees, plants, rocks and water; students and teachers reported lower levels of boredom and fighting, and increased feelings of '*intense peace*' and cooperative play.

Besides natural elements, lower playground density (less children per square meter), open spaces, and portable materials in the play area positively influences children's physical activity levels (Troost, Ward & Senso, 2010). According to Hannon & Brown (2008) school playground equipped with portable and multi-purpose play structures, e.g., play kitchen, sandbox, tire swing, and basketball hoop, increased the time children spent in all levels of physical activity. Play spaces including loose materials, which could be moved, carried, combined, redesigned, lined up, taken apart, or put back together in multiple ways also encourage physical challenges which stimulate the mind and body simultaneously.

Loose parts, first proposed back in the 1970s by the architect Simon Nicholson, afford natural, complex, challenging, and exciting play environments that provide different play contexts for children. Nicholson asserted "it is the loose parts in our environment that empower our creativity". Adventure

playgrounds are well-known examples constructed by children using loose parts and scrap materials. Back in 1930s Danish architect Carl Theodor Sorensen introduced the idea of adventure playgrounds after following his observations of children at play in construction sites. What he realized during his observations that children are not much interested in adult-made playgrounds and perceived them as non-challenging and non-stimulating foster the spread of adventure playgrounds all over Europe.

Many years later, in a briefing paper, Play England (2009) defined the adventure playgrounds corollary as “*a space that children ‘own’ and are empowered to shape and develop*”. The paper also summarizes the widest possible range of opportunities for children’s play in adventure playgrounds, including:

1. Spontaneous free expression of children’s drive to play
2. The playground is at the heart of the community
3. Engagement in the full range of play types as chosen by children
4. Exploration of physical, social, emotional, imaginary and sensory spaces
5. Creating a shared flexible space that children feel has a sense of ‘magic’
6. Entry to the playground is free of charge, children are free to come and go and free to choose how they spend their time when there
7. A rich and evolving indoor and outdoor play environment, where children can play all year round and in all weathers
8. The active involvement of children and young people in creating and modifying the play space, within a varied landscape
9. It is designed to be accessible to all children, and is based on inclusive practice so that disabled, non-disabled children and children from minority communities are welcomed and enabled to play together

10. Risk management is based on the principle of risk–benefit assessment, balancing the potential for harm against the benefits children gain from challenging themselves in their play.

In a recent article about societal factors devaluing children’s play, Patte and Brown (2011) write about the importance of adventure playgrounds where children have the freedom to determine the nature of their own play. According to the authors, there are several factors that should be taken into account when considering play-friendly environments. Researchers summarized them as: freedom, flexibility, socialization and social interaction, physical activity, intellectual stimulation, creativity and problem solving, emotional equilibrium, self-discovery, ethical stance, adult–child relationships, and the general appeal of elements such as humor, color, and so on.

As mentioned all above, play spaces with a range of opportunities and experiences are essential to children’s physical activities. It is the details that often enable such environments to relate children’s physical needs so that it becomes not just a place of play but also a place of exploration, discovery, and developing environmental awareness (Dudek, 2005). In the following section of this paper, characteristics of the designed spaces for play and movement, physical, and spatial implications for such active living strategies and their integration into children’s daily routines will be discussed.

While designing children’s spaces, it is important to consider how the children would use the space, what they would see from their perspective, and what kind of experience they would have in the environment (Head Start Design

Guide, 2005). In his book named *Personal Space*, Sommer (2008) clearly pointed out the need of sensitivity to look from children's scale:

Movement in and out of the classrooms and the school building is rigidly controlled. Everywhere one looks there are "lines"—generally straight lines that bend around corners before entering the auditorium, the cafeteria, or the workshop (or, I might add, the bathroom). The straight rows (of the classroom) tell the student to look ahead and ignore everything except the teacher; the students are so tightly jammed together that psychological escape, much less physical separation, is impossible. The teacher has 50 times more free space than do the students with the mobility to move around...teacher and children may share the same classroom but they see it differently. From a student's eye level, the world is cluttered, disorganized, and full of people's shoulders, heads and body movements. His world at ground level is colder than the teacher's world (p.99).

As discussed earlier, children's learning through movement and space is an essential component to support moving and playing. In Reggio Emilia Program, based on the principles of respect, responsibility, and community through exploration and discovery in a supportive and enriching environment, space is seen as a key resource for well-being and security of children. Based on the idea of the importance of child and environment interaction, Reggio approach believes that '*environment is the third teacher*' and should support children's natural sense of exploration through touching, smelling, hearing, tasting, and seeing (Gandini, 1993). Environments are therefore carefully and aesthetically designed to offer complexity, beauty, and sense of well-being and ease (Edwards, 2003).

While designing children's environments, it is important to be cognizant about the room size which has a huge impact on children's mobility. *The National Association for the Education of Young Children* (NAEYC, 2005) requires for accreditation that programs shall provide a minimum of 35 square feet of usable indoor space and 75 square feet of outdoor space for each child. Space allocation might have an influential effect on children's behavior either positively or negatively. Siraj-Blatchford and Sylva (2004) found that children in restricted play spaces were observed to be anti-social, worried, and upset. Architect Louis Torelli (2002) also pointed out the negative influences of poorly designed environments on children's behavior. According to him, such environments limit children's self-directed exploration and play which later could cause aggressive behaviors. Lack of space also limits children's active play which requires spaces that are large enough to run, jump, hop, skip, walk, and so on (Rogers & Evans, 2008).

In addition to the space allocation, some other attributes of designed spaces have also influence on children's play and movement opportunities. Those attributes, however, show some variations according to setting type, i.e., whether it is indoor or outdoor. Obviously, the requirements for indoor design would differ from outdoors in that indoors are more compacted spaces with chairs, tables, shelves, materials, storage cabinets, room dividers, and etc. It is necessary to design indoor play spaces that include predictability, clear paths to activities, well-defined boundaries, freedom for exploration, privacy, variety, complexity, flexibility, and varied levels of stimulation (Olds, 2000).

Children usually prefer to play in spaces that are complex and challenging. With respect to complexity, Kritchevsky and Prescott (1969) identified three play units to evaluate environmental quality: (1) simple unit: play material or equipment that has only one use (e.g., tricycle), (2) complex unit: play material that has subparts or child can manipulate (e.g., road signs that are added to tricycle area), and (3) super unit: has three or more play material (e.g., two different kinds of blocks and trucks in a block center). In their analysis, Kritchevsky and Prescott observed that complex and super units are most attractive to children and hold attention the longest. Thus, they added, providing such units that have high mobility elements in it could be helpful to develop children's physical skills. According to Torelli (2002), having a loft is creating the feeling of more space in the classroom. For instance, an appropriately designed loft can be wonderful equipment for children to climb, slide, hang, or sit on it. It does not only support motor exploration but also provide a 'get-away' space for a child (Torelli, 2002).

Predictability is another important characteristic that should be taken in mind while designing children's play spaces. Although children like to be in control of their environments, they may not feel secure in the presence of uncertainty around them. Hence, it is necessary to define activity areas clearly. For instance, a movement area with appropriate materials, books, posters, and clear entrance would be more inviting for children not only because it offers what it aims (movement), but also it is a defined space in which children are naturally confined to perform physical activities in that specified area instead of moving

into the other areas. Moreover, the layout of the building could also be influential on children's predictability. Olds (2000) asserted that children find cluster of rooms more predictable than long corridors, for this reason, while designing children's activity areas it is better to arrange them as clusters rather than a long corridors.

Pathways also help children to predict their environments while playing and moving around. According to Greenman (1991), different paths encourage different types of activities. Circular pathways, for instance, encourage children running around the classroom more than straight paths which emphasize reaching destination because it has one beginning and one ending. In architectural design, shapes have their own meanings and some shape forms represent the ideal in designing buildings. It is commonly believed that circular/round/curved shape forms not only give welcoming feeling but in itself can encourage natural sense of exploration which is possible through moving inside and outside of circular pathways.

Olds (2000) is also talking about the shape forms in terms of their contrasts in the environment. She emphasized six dimensions of environmental contrasts that needed to be experienced by children in classrooms. These are: (1) in/out, (2) up/down, (3) light/dark, (4) exposed/tempered, (5) something/nothing, and (6) order/mystery. According to her, "good building design depends upon the presence of contrast in everything we experience. To truly know one dimension we must also experience its polar opposite". Therefore, she suggests being cognizant while designing classrooms provides children such

contrasts. Children, for example, need elevated spaces that have high (to feel the power) and low (to escape from chaos, crowd) levels so that they can experience up and down. They also need concave (to feel secure) and convex (to move freely and expansively) shaped spaces to understand the ‘*in-ness*’ and ‘*out-ness*’ (Olds, 2000).

Simply by creating different levels with ladders, slopes, or stairs, children would experience climbing, jumping, or hanging in a safe and appropriate way. Torelli (2002) argues that if there are not such affordances, then they will find a way to climb onto tables or chairs which push the teacher to redirect the child off the piece of equipment. The message the child receives from the teacher’s reaction is that what he/she is interested in doing is not okay. Also, the child’s self-initiated exploration is restricted (Torelli, 2002). How we design our spaces is also determining children’s judgments toward play or movement. If children have to wait outdoor time for running or chasing, then they will form the idea of ‘*no running indoors or indoors are not suitable for running*’. Without verbal expressions, as adults, we give children many inappropriate messages about their mobility.

Flexibility that the environment allows children to change the room layout is also a valuable attribute in designed play spaces. Rather than using built-ins, movable equipment afford great flexibility to adapt the environment in accordance with children’s play preferences. Although some physical educators support the idea of *moving the children, rather than the equipment*, movable materials do not only work great in limited spaces but also support children’s

muscle strength while carrying them from one place to another. Moreover, it is very efficient to have such equipment that could be easily moved and stored in one part of the class corner so that children can have more open spaces. Children in open spaces are usually observed to move around and between the groups more than children in less open spaces.

In addition to flexible spaces, such things as ventilation, lighting, flooring, coloring, doors, and windows placements are some other basic characteristics that influence planning for children's indoor play areas (Torelli, 2002; Henniger, 2009). For example, non slippery floors with checkered patterns can stimulate skipping, hopping, or jumping. The placements of windows are also very important since children like to play under natural sunlight next to windows which also create a visual connection to outdoors (Torelli, 2002). Moreover, the placements of doors determine the flow between indoors and outdoors. According to Cosco and Moore (2009), easy, safe, and quick indoor-outdoor flow allows children to move freely between in and out. It is therefore better to have outdoor spaces that are at the same level as the indoors which brings us to another important design attributes, outdoor play spaces.

Unlike indoors, design characteristics of children's outdoor play spaces look fairly clear cut but still require time and energy for planning and preparing (Frost, Wortham & Reifel, 2005). Before talking about the outdoor design details, it is better to mention about the critical effect of transition zones which serve as a bridge from indoors to outdoors. As mentioned earlier, predictability in the environment gives children a sense of security about what comes next in their

daily routines. While going outside such transition zones as corridors or stairs would give them a reference point about exiting from the present setting and entering to another one. Therefore, it is always helpful to decorate those zones with visual, tactile, or auditory signs (e.g., green wall paintings, pictures of trees, real flowers, or plants, grassy floors) indicating the entry to outdoors.

In the following sections of this paper, attributes of outdoor play spaces will be discussed with physical and spatial implications. It is believed by many educators that using the term *playground* limits our understanding of outdoors. Therefore, rather than using this term, outdoor play spaces/outdoor environments/naturalized environments will be used interchangeably throughout the paper. There are some basic principles that should be taken into consideration while designing children's outdoor play spaces. These are: (1) easy access, (2) close proximity to drinking water and emergency assistance, (3) sturdy fence to separate play area from vehicular traffic, (4) partially shaded/covered areas for hot or rainy days, (5) natural features such as hills or trees, (6) large, open area for gross motor skills (Frost, Wortham, & Reifel, 2005; Henniger, 2009; Johnson, Christie, & Wardle, 2005; Sawyer, 1994).

Nowadays, the tendency to design outdoor play spaces is moving away from the traditional play spaces including swings, slides, or jungle gym with an asphalt surfaces to creative, adventure, and nature based play spaces (Widman, 2008). Simply adding natural elements into children's play spaces might stimulate different forms and amount of play. Cosco and Moore (2009) also talk about the importance of sensory integration and contact with nature. According

to them “it is critical to introduce children to the living world in the first year of life - the first spring, the first snow drop, the first snow flake, the first breath of wind! All environments should say to the child: Welcome to the planet!”

While designing outdoor play spaces, it is necessary to be cautious about the spatial layout of the environment which should meet the physical needs of children. This means the overall arrangement and the equipment setting should promote interaction and encourage both individual and group activities (Henry, 1995). As a general notion, outdoors are usually known to enhance children’s physical play. However, appropriately designed outdoor play spaces may offer range of play activities rather than just physical play. Landscape variety is an important asset to allow children such diverse play opportunities (Cosco & Moore, 2009; Fjortoft, 2001; Knight, 2011).

Differentiated landscapes attract children because they stimulate running, sliding, rolling, balancing, or crawling which offer challenges in relation to environment. It is therefore beneficial to have topographical variations in the play area that can be either natural or man-made. For instance, creating lower (for younger children) and higher (for elder children) mounds facilitate physical play, creative play, hide-and-seek games, and navigational skills (Moore, 1996). Children are also attracted to the ‘*prospect and refuge*’ quality of such elevations (NLI, 2009). To improve accessibility, Moore (1996) suggests integrating landforms with fixed structures. Simply using retaining walls, recycled tires, rocks, and plant materials on steep slopes can “enhance play value and protect

the site against erosion”. In this way, children’s creative play will be enhanced by unique aesthetic features.

As mentioned all above, play spaces with a range of opportunities and experiences are essential to children’s physical activities. It is the details that often enable such environments to relate children’s physical needs so that it becomes not just a place of play but also a place of exploration, discovery, and developing environmental awareness (Dudek, 2005). Including all these ideas ultimately depends on the adults involved in the design process of children’s play spaces and active play opportunities.

Teacher Education for Quality Movement Practices

It is essential to increase teachers’ knowledge, skills, attitudes, values, and practices that could have a strong effect on student achievement. Professional development aimed to support ongoing improvements in teachers’ practices would directly affect students’ performance that prepares them to more complex analytical skills in preparation for further education and work in 21st century (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009). With the demands of high standards for all students, teachers are necessarily at the center of reform. Therefore, learning opportunities and support for teachers become a critical initiative to implement teaching practices based on those standards (Garet, Porter, Desimone, Birman, & Yoon, 2001). To do so, teachers need quality professional development which is defined as “*comprehensive, sustained, and*

intensive approach to improving teachers' and principals' effectiveness in raising student achievement" (National Staff Development Council, 2009).

Yoon, Duncan, Lee, Scarloss, and Shapley (2007) explain the effects of professional development on student achievement in three steps. According to the authors, professional development enhances teacher knowledge and skills. Through better skill and knowledge, classroom teaching improves which would then lead a better student achievement. However, lack of one link, e.g., applying new ideas from professional development, might negatively affect student learning. Currently, there is a considerable body of literature concerning quality professional development and its impact on teachers' classroom practices and student achievement. To be considered high quality, professional development should (1) align with school goals, state, and district standards, (2) focus on core content and modeling of teaching strategies, (3) allow sufficient time for teachers to learn and improve their practice through active learning opportunities, (4) provide collective responsibility among educators and other education organizations such as universities or education service agencies, and (5) enable embedded follow-up and continuous feedback to assess the effectiveness of the professional development on student, teacher, and school learning needs (NSDC, 2009; Darling-Hammond et al.; Archibald, Coggshall, Croft, & Goe, 2011; Hirsh, 2009).

In their analysis on the characteristics of quality professional development, Garet et al. (2001) also created a set of scales describing the relationship between features of professional development and self-reported change in teachers'

knowledge, skills, and classroom teaching practices. According to the authors, *structural* and *core features* are two main characteristics that seem influential on teacher outcomes. Researchers categorized the structural features as (1) the form of the activity – whether it is traditional or reform type, (2) the duration of the activity – total number of contact hours that participants spend in the activity, and (3) collective participation. They also grouped core features as (1) the content focus – the degree to which the activity is focused on improving and deepening teachers’ content knowledge, (2) the active learning, and (3) the coherence – incorporating learning experiences into teachers’ goals, and state standards.

According to Darling-Hammond et al. (2009), there should be an alignment between “what teachers are urged to do in professional development activity and what they are required to do according to local curriculum guideless, texts, and assessment practices”. Otherwise, there will be a little impact of professional development on teachers’ classroom practices. Teachers need to be able to return to their classrooms to try out a new technique with learners, set up research process to obtain data, receive feedback from students, coaches and mentors, reflect on what they are learning, confer with others about what is being learned, modify what they are doing and repeat these processes, and plan next steps (Easton, 2008). In this way, professional development activities would be embedded into day-to-day teaching practices which reduce the confusion and uncertainty about what and how to teach (Archibald et al., 2011; Croft, Cogshall, Dolan, Powers, & Killion, 2010; Hirsh, 2009).

The teaching and learning of curriculum content is another essential characteristic of high quality professional development. Research has provided evidence on the importance of focusing on both knowledge of subject matter content and an understanding of how children learn specific content. Compared to more general professional development, professional development that focuses on specific content and how students learn that content has larger positive effect on student achievement outcomes, especially achievement in conceptual understanding (Kennedy, 1998). The results from the data collected from a nationally representative sample of teachers ($n=1027$) showed that professional development that focuses on academic subject gives teachers opportunities for hands-on experiences and provides an integration of activities into the daily life of the school (Garet et al., 2001).

Similarly, using the data from a 1994 survey of California elementary school teachers and 1994 student *California Learning Assessment System* (CLAS) scores, Cohen and Hill (2000) examined the influence of assessment, curriculum, and professional development on teacher practice and student achievement. The study results indicated that teachers who attended workshops on how to teach the new math curriculum reported positive changes in their practice. On the other hand, teachers who attended workshops that were not centered on specific content teaching reported no effect on the mathematic teaching.

Moreover, professional development activities that are sustained over time seem to be more effective than the activities typically lasting less than a day. It

does not only allow teachers to engage in-depth discussions of pedagogical content but also allow them to try out new practices in their classrooms. In their report, Darling-Hammond et al. (2009) found that teachers' opportunities for high quality professional development are much more limited in the US than in most high achieving nations such as Belgium, Denmark, Finland, Norway, Singapore, and Japan. For instance, the Netherlands, Singapore, and Sweden spend at least 100 hours of professional development per year, in addition to regularly scheduled time for common planning and other forms of teacher collaboration. The report also pointed out the active involvement of teachers in curriculum and assessment development: "in most countries, about 15 to 20 hours per week is spent on tasks related to teaching, such as preparing lessons, marking papers, meeting with students and parents, and working with colleagues. By contrast, the US teachers generally have from 3 to 5 hours a week for lesson planning, which is done independently".

Rather than working independently, active participation in the learning process could build a strong working relationship to discuss the concepts, skills, and problems that arise during professional development experiences. It also allows creating a '*shared professional culture*' in which teachers who have the same grade share a common understanding of instructional goals, methods, problems, and solutions (Garet et al., 2001). For example, through reform type of activities, e.g., study groups, peer coaching, and, critical friends groups, which usually take place during regular school day, teachers might help each other making meaningful changes in their classroom practices. Such collaborative

activities are vital for teachers to have a shared responsibility not only for themselves as teachers but also for all other students.

In addition to the collaboration which serves as a primary motivation for professional growth, it is essential to assess the effects of professional development on teachers' knowledge and skills. Ongoing assessment of teacher practices and student learning will enable teachers to determine where they have succeeded, or where they may need slight modifications (National Staff Development Council (NSDC), 2009). According to NSDC, in high quality professional development, educators engage in a continuous cycle of improvement that (1) evaluates student, teacher, and school learning needs through a thorough review of data on teacher and student performance, (2) regularly assesses the effectiveness of the professional development in achieving identifies goals, improving teaching, and assisting all students in meeting challenging state achievement standards, and (3) informs ongoing improvements in teaching and student learning.

Guskey (2000) identifies five critical levels of professional development evaluation which is ranging from simple to more complex: Level 1: participants' reaction, Level 2: participants' learning, Level 3: organizational support and change, Level 4: participant's use of new knowledge and change, and Level 5: student learning outcomes. In this model, each level is hierarchical, and success at one level is necessary for the following levels. For Guskey, "good evaluations are products of thoughtful planning, the ability to ask good questions and a basic standing about how to find valid answers". Therefore, for each level of the model,

he generated what questions are addressed, what information will be gathered through which evaluation methods, what is measured or assessed and how the information will be used. Through those kinds of systematic evaluations, professional development activities would be refined and adjusted for ensuring continuous improvement.

As found in many aforementioned studies, quality professional development along with a supportive environment enables teachers to increase their practice which would result in improved student achievement. To sum up, it is generally suggested that professional development could influence teacher practices significantly when it (1) continues over a long period of time rather than one-day workshops, (2) focuses on improving subject content, (3) centers teaching and learning activities, (4) cultivates collaborative work among teachers, and (5) enables continuous feedback to assess the effectiveness of professional development activities on teachers' classroom practices. Professional development activities including those characteristics would help to better understand student learning, instruction, and subject matter content which enhance the performance of teachers and students.

High quality professional development opportunities in early childhood have strong potentials to raise teacher qualifications and improve learning and development of young children. Teachers who have the essential skills and knowledge play an important role in school readiness and later outcomes for children. Clearly, professional development seems as a great approach to adequately prepare teachers to improve teaching practices. *National Association*

for the Education of Young Children (NAEYC), an organization working on the behalf of young children from birth through age 8, defines early childhood professional development as:

A continuum of learning and support activities designed to prepare individuals for work with and on behalf of young children and their families, as well as ongoing experiences to enhance this work. These opportunities lead to improvements in the knowledge, skills, practices, and dispositions of early education professionals (p.5).

Collaborative early childhood professional development activities enable teachers to reflect on their teaching practices and give them a chance to express opinions about a preset professional development agenda (Helterbran & Fennimore, 2004). In this way, decision-making would be something “done *with* teacher, not *to* them” (Kohm & Nance, 2009). In their recent article in *Young Children*, Skiffington, Washburn, and Elliot (2011) describes one of the professional development approaches, instructional coaching, as a reflective practice to help teachers to analyze their teaching and its impact on children. According to the authors, instructional coaching creates classroom laboratories by helping teachers reflect on their practice in relation to new knowledge.

Amelia, a teacher of 3 and 4 year-olds, move through a three-phase process of instructional coaching with a coach, Tonya. In the first phase, Pre-Observation Planning Conference, they both came together to discuss the goals for children’s learning and plan an activity to meet those goals. In the second phase, the coach videotaped the activity the teacher was carrying out. Then, they

both watched the video separately to assess what children have learned from the activity. In the last phase, the Reflective Conference, the teacher and the coach watched and discussed the video together after following some questions to support reflection. For Amelia, observed and videotaped by Tonya helped her to catch each child's response which is hard to pay attention during the story time. What she also realized in the video is the participation of Carlos who always seems to be a quiet child in the classroom. This encouraged Amelia to organize one-on-one and small group book reading sessions to increase the participation of children who are typically quiet. Through instructional coaching as seen in this example, children would also benefit from changes in teachers' practice and improvement.

Those kinds of reflective personal goal settings in collaboration with colleagues are helping to change the view of professional development which is expected to be an out-side-in process. Instead, it is becoming an inside-out process wherein teachers are responsible for their ongoing growth and improvement (Sheridan, Edwards, Marvin, & Knoche, 2009). Creating such communities, according to Wood and Bennett (2000), "addresses the problem of enacting policy changes from a 'top-down' perspective in which teachers are viewed as mere implementers of recommended or fashionable approaches". Through a reflection-in-action approach, Wood and Bennett explored nine early childhood teachers' professional learning in relation to changes in classroom practices. Reflective analyses of the videotaped episodes of play enabled teachers to realize the discontinuities between their intentions and actions.

Gina, for instance, identified a strong ideology on free play and active self discovery. According to her, children learn more when they discover. However, after watching the video she realized that the play activities were mostly teacher-led and had specific intentions e.g., language or math games. To address this dilemma, she changed her curriculum to make it more playful and child-centered. For example, she included resourcing learning areas to promote literacy, reading, and writing, and provided stories as a stimulus for role play. Similarly, Chris who has 12 years of experience felt that her practice is different than her beliefs about free play. As a result of reflective discussions, she also decided to change her expectations for free play - accepting and valuing what children do, and being more flexible about her involvement in free play. Such reflective approaches provide empirical evidence about the nature of teachers' knowledge and what are the effective forms of professional development (Wood & Bennett, 2000).

According to the *National Association for Sport and Physical Education* (NASPE), a non-profit organization which sets the standards for best practices in quality physical education and sport, in order to provide the highest level of instruction to nation's youth; states, districts, and schools should make available professional development that is specific to promoting young children's physical activity and health. Providing teacher appropriate professional development opportunities in terms of curriculum implementation, instructional skills and techniques, and classroom management would be extremely effective to increase children's physical activity levels in daily school routines. Children need high quality physical activity programs that should have three important components:

(1) opportunity to learn, (2) meaningful content, and (3) appropriate instruction (NASPE, 2011).

Unfortunately, the characteristics of high quality professional development in physical activity/movement is very limited in the research literature and the ones which are available to us mainly focus on higher grade levels other than early childhood. Yet still, the results show similarities on the requirements for high quality experience that discussed earlier in this paper. For instance, Armour and Yelling (2004) concluded that continuing professional development (CPD) opportunities are effective on teachers' physical education practices. Teachers found those activities as practical, relevant, and applicable since it includes hands-on opportunities. Most importantly, teachers highly valued CPD as being collaborative and self-reflective. The authors, then, pointed out the need "to re-think the nature and type of provision of CPD for teachers to match their priorities for pupil learning in the subject and to cater more broadly for teachers' learning needs".

Developing teachers' professional knowledge and skills about physical activity are essential to enhance the quality of physical activities that ought to be offered at least 60 minutes of structured and 60 minutes of unstructured each day (NASPE, 2009). The deliberation and presentation of this knowledge and skills by an experienced and knowledgeable leader would determine the quality access to those activities. When the leader has relevant experience and an understanding of the current demands of teaching physical activities, teachers had a tendency to remember and implement the activities that was experienced

during CPD (Armour & Yelling, 2004). One of the teachers commented “the worst is having someone who hasn’t taught in years talk to you about what to do when you are just thinking. I would love to leave you in a class today with some of our rough kids”. This would also affect the motivation that plays a critical role in whether teachers are open to learning from those opportunities.

Undoubtedly, the experience and enthusiasm of the providers during the implementation of the physical activities contribute to the success and motivation of the teachers as learners. The majority of the teachers (71 percent) who participated the ‘*I am Moving, I am Learning*’ (IM/IL) training highlighted an enthusiastic and capable leader as one of the major factors that determined the success of the activities. IM/IL is designed as a research-to-practice initiative by Head Start aimed to (a) reinforce the importance of the mind-body connection and the relationship between physical fitness and early learning, and (b) provide strategies and resources for quality physical movement and healthy nutrition choices within familiar curriculum approaches and daily classroom routines. Using the ‘*train-the-trainer*’ model, 53 programs sent a team of up to five representatives to the IM/IL training on nutrition and physical activity.

Each representative was expected to explore the ways to determine the training needs of their staff and the technical assistance they require, what curriculum planning they might conduct, methods for infusing best practices into their daily routines, and effective ways to measure and evaluate outcomes. As a result of developing individualized approaches to best meet the needs of their staff and children they serve, the majority of the programs made a rise in daily

physical activities. Programs also included structured outdoor play into lesson plans on a daily basis. In general, the training made staff, including teachers, cooks, and even drivers, more aware of the importance of increased activity and healthy food choices in their lives (Office of Head Start, 2006).

Adequately prepared teachers with high quality professional development would provide ample opportunities for children to practice physical skills and teach the skills that are necessary for healthy behaviors. *Munch and Move*, a key initiative of the New South Wales Government's Plan Preventing Overweight and Obesity, was designed as a professional development program for early childhood teachers to increase healthy eating and physical activity levels of children aged 3-to-5. The program provides a one-day workshop, resources for preschools (e.g., manual, fact sheets, and games), as well as contact with health promotion professionals to provide additional advice to preschools supporting the delivery of the program. After attending a *Munch and Move* program, teachers reported an increase in their attitudes, confidence, and knowledge relating to physical activity and healthy eating. Teachers, overall, rated the workshop very useful. It is, however, difficult to determine the efficacy and sustainability, hence workshops with longer durations might be necessary (Hardy, King, Kelly, Farrell, & Howlett, 2010).

The *FunMoves* is another program aimed to increase children's fundamental movement skills (FMS) via training of long day care (LDC) staffs. The program was implemented in 12 centers for 16 weeks (three-hour sessions). Staff trained by the Health Promotion *FunMoves* trainers about the rationale and

implementation of movement activities. The staff performed 30-minute *FunMoves* lessons including warm-up, main activity, and cool-down twice a week in the classrooms. Staff was also observed by the trainers during the activity implementations. At the end of the training, the staff evaluated the program in terms of the demonstration of FMS, planning practices, barriers for implementing those activities, and suggestions for further trainings. Although, the staff evaluated the program as positive, they preferred to run the lessons less than 30 minutes which is conflicting with the rationale that FMS should be implemented at least 60 minutes. Also, while most of the staff reported the FMS demonstration as sufficient, none or little was observed during actual classroom implementation which hints a need for post-training support (Petrunoff, Lloyd, Watson, & Morrisey, 2009).

All those aforementioned programs, whether they are short- or long-termed, aimed to support physical development of preschoolers as well as physical activity knowledge of teachers. It is clear that some of them were successful in terms of increasing teachers' knowledge and practice, physical activity levels of children, and changing school policies. However, none mentioned about the follow-up evaluations of the teacher practices. Primarily, they focused on the child outcome i.e., whether an increase in physical activity level is observed or not. Besides, preparing professional development activities according to the physical needs of children only might reduce the teacher motivation for using those activities in daily routines.

In addition to intervention programs, many other professional development opportunities are offered via conferences, webinars, podcasts, and online courses regarding early childhood physical activity. Yet, most of them have limited opportunities for practice, self-reflection, and evaluation. The content, unfortunately, does not support the necessary knowledge that teachers need to learn for effective physical activity practices. When teachers have enough knowledge and practice, they might feel more confident to implement those activities.

Pre-service teacher education is one great avenue to equip prospective teachers with necessary knowledge on physical development and movement and to teach them how to use that knowledge to prepare appropriate activities that will be used in schools. In recent years, there has been considerable interest in studying pre-service teachers' confidence and competence in teaching academic subjects like math, science, and language arts. Some of these studies reported changes in pre-service teachers' content knowledge for teaching academic subjects. For instance, after taking a 10-week training module, first year pre-service teachers in MacDonald and Sherman's (2007) study demonstrated a strengthened belief in promoting the teaching of science with their elementary students. Through this module, prospective teachers also described ways to teach science in their classrooms with a strengthened content knowledge and confidence. When actively involved in the learning process, pre-service teachers are more likely to build new teaching skills and become more effective teachers (Zeichner & Liston, 1996). Isikoglu examined the role of reflective journals in

early childhood pre-service teacher's professional development. During their 15-week of practice teaching, students were asked to keep reflective journals. When the researcher examined the quality of reflection, the data indicated three stages of reflection labeled as *routine*, *technical*, and *critical*. In the routine reflection, student teachers focused on the description of teaching practices in terms of success or failure. In the technical reflection, they focused on examining teaching practices in terms of both student's and their own learning. In the critical reflection, on the other hand, student teachers focused on analyzing their educational practices considering multiple perspectives, moral and social implications of classroom practice (Isikoglu, 2007).

In other study, Alsawaie and Alghazo (2010) examined the effect of video-based approach on prospective teachers' ability to analyze mathematics teaching. Study results indicated the effectiveness of video analysis in terms of increasing the students' knowledge about problems of practice and encouraging them to think in greater depth about efficient instructional strategies. Such innovative ways of teaching methods would be helpful to increase prospective teachers' content as well as pedagogical knowledge. However, as the majority of these researches on effective teaching have been concentrated in traditional academic subject areas and small amount of information has been gathered in the area of movement or physical education.

According to Morgan and Hansen (2008), quality physical education experiences for pre-service teachers are influential in their future teaching styles and confidence and they found that previous PE experiences in primary school

and pre-service education were related to the quality of a teacher's PE program. In a similar study, Fletcher (2012) examined the experiences and identities of two pre-service elementary classroom teachers in relation to teaching physical education. After attending a PE course during their pre-service teacher education program, they reported a positive change in their dispositions for teaching PE. It's through such practical courses that pre-service teachers can improve their teaching styles which will directly contribute to the implementation and quality of PE programs and the level of outcome achievement for students (Morgan and Bourke, 2005).

In relation to the effects of practical experiences pre-service teachers gain during their teacher education, Tsangaridou (2008) concluded that learning to teach PE is a process which develops over time and is affected by the trainee teachers' beliefs. He stresses that "well-designed school field experiences should be included in teacher education programs in helping teachers to become familiar with the realities of teaching the curriculum and feel more empowered to teach PE in a meaningful manner. In addition, during field experiences, teacher educators should, systematically, supervise primary teachers when teaching and should provide them with opportunities to critically reflect on teaching and schooling".

As clearly indicated in the literature, through meeting the individual needs of PTs, allowing them to practice what they have learned, encouraging self reflection on what happened, and giving them responsibility to take actions for their behaviors, all then would ensure quality in every levels of education.

CHAPTER THREE

METHODOLOGY

The current study aimed to find out the prospective teachers' perceptions about movement education, and perceived benefits and competency to integrate movement across into the curriculum after participating in a 12-week movement education module embedded in a three-credit course on play as an educative process (ECE 479). The following four research questions guided the study to examine the topic in detail: (1) what are the prospective teachers' perceptions about movement education? (2) what are the prospective teachers' perceived benefits from participating to a 12-week module? (3) what are the prospective teachers' perceived competencies to incorporate movement into curriculum? (4) what are the strengths and weaknesses of the module in supporting prospective teachers as they construct an understanding of movement education?

Design-based research (DBR) was used as a research design in which the researcher studied her own students enrolled in one section a three-credit play course in early childhood education. The following sections include a detailed explanation of the research methodology: discussion of a design-based research method, preparations for the study, participants, location, data collection, data analysis, and validation of data collection techniques.

Design-Based Research

Design-based research is defined as “a form of interventionist research that creates and evaluates novel conditions for learning” (Schwartz, Chang, & Martin, 2005). DBR was introduced by Anna Brown in 1992. According to her, “classroom life is synergetic: Aspects of it that are often treated independently, such as teacher training, curriculum selection, testing, and so forth actually form part of a systemic whole. Just as it is impossible to change one aspect of the system without creating perturbations in others so too it is difficult to study any one aspect independently from the whole operating system” (p.141). Similarly, Cobb, Confrey, DiSessa, Lehrer, and Schauble (2003) talk about the “learning ecology” that is defined as a complex, interactive system involving multiple elements of different types and levels rather than as either a collection of activities or a list of separate factors that influence learning. DBR; therefore, according to Cobb et al. “constitutes a means of addressing the complexity that is a hallmark of educational setting”.

DBR frequently seeks innovations for future educational improvements by not only explaining why design works but also suggesting how they may be adapted to new circumstances (Cobb, et al., 2003). Like many design-based studies, this study focused on PTs’ learning in the area of movement education while implementing and evaluating the use of a 12-week movement education module embedded in a three-credit course on play as an educative process. The interventionist nature of the study design enabled the researcher in this current study to make modifications on the module throughout the semester. For

instance, after participating in body awareness activities in the first few weeks, students' verbal and written reflections indicated their discomfort in relation to those activities. Therefore, two extra weeks of activities on body awareness were added to give the PTs an opportunity to work more on bodily expressive activities. As a result of practicing the activities over an extended period, the PTs seemed to be relaxed and enjoy the embodied experience with their peers.

The ongoing communication and collaboration between the researcher and the students allowed the researcher a great flexibility to modify the module based on the students needs. Wang and Hannafin (2005) described this whole process in the DBR as “a systematic but flexible methodology aimed to improve educational practices through iterative analysis, design, development, and implementation, based on collaboration among researchers and practitioners in real-world settings, and leading to contextually-sensitive design principles and theories (p. 6).

The critical element, according to Cobb et al. (2003), with DBR methodology is generating a comprehensive record of the ongoing design process which can be done through generating and coordinating a complex array of data sources such as classroom discourse, tests, responses to interviews, or products of learning. For the particular study, data were collected through pre/post open-ended questionnaire, weekly reflections, microteaching analysis, and focus group interviews.

Preparing for the Study

The research was granted exempt status by the Institutional Review Board (see Appendix A) prior to the onset of data collection. Informed consent for each participant was gained (see Appendix B). The researcher informed the participants during the initial contact about the nature of the study, researcher and participant roles and expectations, and protections of participant privacy. In addition to the informed consent, each participant was given a cover letter explaining the procedures for the research (see Appendix C).

The Evolving Research Design

My own experiences as a physical education teacher, researcher and graduate instructor are central to my developing understanding of movement and its' benefits on young children's future physical activity participation. These experiences both as practitioner and researcher have assisted me in understanding a variety of issues related to movement knowledge, and its' implementation into practice. At the same time, I have realized that there is little known about this topic especially in the early childhood education field. It is this realization that led me to do my research that would be beneficial for both pre-service and in-service teachers.

The Researcher Role

The researcher in the current study was the instructor of the students as well. This enabled the researcher to create, implement, and review a 12-week

movement education module embedded in ECE 479 course to early childhood education prospective teachers. MacLean and Mohr (1999) defined this as a teacher-researcher inquiry in which “teacher-researchers raise questions about what they think and observe about their teaching and their students' learning. They collect student work in order to evaluate performance, but they also see student work as data to analyze in order to examine the teaching and learning that produced it” (p. 27).

Having the dual role gave the teacher-researcher in the current study an opportunity to have a deeper understanding on the weekly reflections and microteaching analysis. Moreover, conducting the research simultaneously with teaching enabled her to develop questions based on the student needs, investigate the questions systematically, collect and analyze data while including observations and reflections, closely examine the students’ assumptions and beliefs, and articulate theories based on the results (Mohr et. al., 2004). Moreover, using the teacher-researcher paradigm enabled the researcher to improve her educational practice while deepening the understanding of her own teaching.

Participants

The participants in the study consisted of 17 female students enrolled in one section of the ECE 479 during the fall 2012 semester. Since the teacher-researcher paradigm was used, the participants in the study were the researchers’ students who registered to the class when the course was first advertised and

became the participants for the study. The students attended the course for three hours in a week for 16 weeks.

Location

The study took place in large public university in the northeastern United States with an annual enrollment of more than 44,000 graduate and undergraduate students. The Child's Play as Educative Process (*ECE 479*) is a required course designed for Childhood and Early Adolescent Education (CEAED/PK-4) pre-service teachers. CEAED majors take this course during their third year of a four-year curriculum geared toward a Bachelor of Science degree in CEAED. The overwhelming majority of these students are female.

Course Information

The course is designed to prepare teachers in the area of early childhood education and to meet the state requirements for licensure to teach pre-kindergarten, kindergarten, and first through fourth grades. Emphasis is placed on the development of the young child within the context of the play and on integrating developmentally appropriate practice within educational settings. Through a variety of in-class activities and outside assignments, the students strive to (1) generate current knowledge about theory, research and practical applications in the area of children's play in ECE settings, (2) acquire and develop play observation, assessment and documentation and communication skills, (3) learn how to analyze toys and playthings and to realize their use in ECE and how

their use helps children meet or exceed state learning standards, (4) learn how to make suitable situational arrangements for children's play in indoor and in outdoor play settings, (5) learn about and understand various teacher play facilitation strategies and techniques and to be able to make sound judgments about their use, (6) be able to plan play-based activities in ECE and show how they fit SLS/DAP/SAS, (7) know about and be able to apply in practice play pedagogy for inclusion and in culturally diverse settings, and (8) understand how and why to become an advocate for play that is educational in ECE programs. A description of the course outline is shown in Appendix D.

Data Collection

To provide an in-depth perspective of the issue investigated, multiple data sources were used during the study. The teacher researcher collected the data through a pre and post-open ended questionnaire, weekly reflections, researcher field notes, and microteaching video analysis (see table 1). At the end of the semester, focus group interviews were also conducted to understand the participants' insights and understandings of the module. A detailed description of each data collection processes is given in the sections that follow.

Table 1: Sources of Data

Data Source	Focus	Research Question
Pre-questionnaire (August) Post-questionnaire (December)	Comparison of the responses on each questions between pre- and post-questionnaires	Q1. Perceptions of movement education Q3. Perceived competency to incorporate movement
Weekly Reflections (August-December)	Reflections on weekly movement activities and field trip	Q2. Perceived benefits from participating in weekly movement activities
Researcher Field Notes (August-December)	Behaviors and interactions in the classes	Q4. Strengths and weakness of the module
Microteachings (October-December)	Planning and implementing movement activities	Q3. Perceived competency to incorporate movement
Focus Group Interviews (December)	Reflections on the module, modifications for future use	Q1., Q2., Q3., Q4.

Pre and Post Open-Ended Questionnaire: During the second week of the semester, PTs completed a pre questionnaire requesting demographic information (e.g., degree, courses taken, movement/physical activity experience) and responses to questions focusing on the movement education knowledge. At the end of the semester, the second part of the questionnaire was administrated again to see any changes in their responses with regard to knowledge and competency to integrate movement across curriculum (see Appendix E).

Weekly Activity Reflections: During the 14 weeks of classes, the students participated a 30-minute periods of movement-based activities (see Appendix F) mainly focusing on the movement dynamics of Laban’s Movement Analysis (LMA): *body awareness* (body awareness, body management, body image),

space awareness (space awareness, personal and general space), and *relationships* (with partner, with group, with objects). After each activity, the students wrote and discussed their reflections based on several open-ended questions: (1) what skill/skills did you explore in this activity? (2) what was your favorite part of this activity and why? (4) what was most challenging part of this activity and why? (5) if you were the teacher, how would you integrate this activity into your curriculum? (6) what modifications would you make to this activity? (see Appendix G)

Microteachings: During the semester, students in groups of two had an opportunity to independently plan and implement movement activities (see Appendix H) to the class. The aim of microteachings was to (a) develop an understanding of the movement dynamics incorporated into the peer teaching, (b) increase students' confidence and ownership of movement activities, and (c) experience different teaching perspectives in the same context. During their performance, each group was video-recorded for further analysis of their lessons. In this way, students had a chance to watch, reflect, and make comments about their performances. While watching their performance, the students were asked to focus on some specific points like; (1) what did you learn from your microteaching? (2) would you give the same teaching again? Why? why not? (3) what was the most difficult part of your teaching? (4) Is this video reflection helpful for you? Why or why not? (See Appendix I).

Focus Group Interviews: The researcher interviewed students at the end of the course in a focus group setting, after which all other sources of data are collected. The group interviews helped to provide narrative data primarily regarding the student's perceptions of the usefulness of the movement activities and their appreciation of these activities. The researcher conducted 3 focus groups and scheduled them during the finals week of classes (see Appendix J). The focus group protocol consisted of open-ended questions which allowed students to voice their experiences (Creswell, 2008). For capturing the data more faithfully, the researcher audio-recorded the interviews. In this way, the researcher did not only focus on the interviews but also transcribed them accurately.

Data Processing

Descriptive statistics were used to represent the demographic information of the participants. All the other questions included in the questionnaire, weekly movement activity reflections, and focus groups interviews were open-ended in nature. Therefore, the responses for each of these data were analyzed through using inductive analysis of qualitative data (Creswell, 2008). The following procedures were used for analysis of the qualitative data: (1) preparation of raw data files/data cleaning, (2) close reading of text, (3) creation of categories, (4) overlapping coding and un-coded text, and lastly (5) continuing revision and refinement of category system (see figure 2).

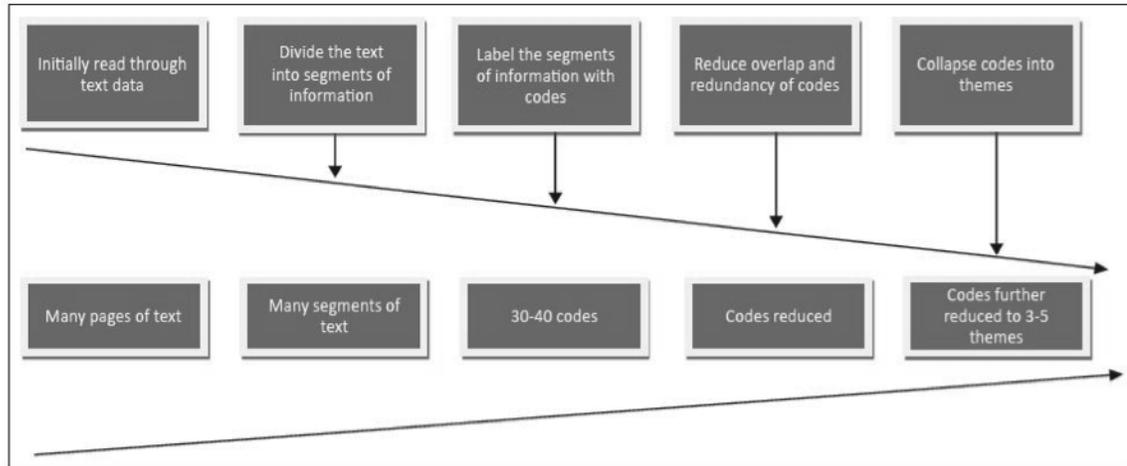


Figure 2: A visual of the coding process (Creswell, 2008; p.251)

As stated by Creswell (2008), coding the data helps to “make sense of out of text data, divide it into text or image segments, label the segments with codes, examine codes for overlap and redundancy, and collapse these codes into broad themes” (p.251). Through this inductive process of narrowing data into few themes, he added, “you will select specific data to use and disregard other data that do not specifically provide evidence for your themes”. Table 2 illustrated the coding process of student reflections from the weekly activities and microteachings.

Table 2: The summary of coding the data from students' reflections

Main Themes	Emerging Sub-themes	Initial Codes	Source of Data
Body Expressions	-The way body moves -The way others move -The shapes body can do -The relationship body create	Creating different body poses; walking in different pathways, quality, levels; performing dynamic/static balance in general/personal space.	Weekly reflections
Movement Explorations	-Movement actions (locomotor, non-locomotor, manipulative) -Space (general/personal) -Relationships	Center of gravity, body coordination, balancing the body, balancing with partner, balancing the objects, using the limited space, using the whole space	Weekly Reflections
Social Interactions	-Team work -Problem solving -Respect others	Building social skills, participating actively, supporting each other, collaborating, communicating and interacting while moving, strategic thinking, waiting/listening others	Weekly Reflections Microteachings
Teaching Approach	-Way of learning -Medium for learning -Fun way to learn	Creating meaningful experiences, encouraging learning, engaging students actively, motivating students, enhancing mental-health and well-being, including fun	Weekly Reflections Microteachings
New ways of Understanding	-Reframing the definition of movement -Reframing movement activity settings -Reframing teacher roles in movement	Classroom as a gym, movement connection to subjects, making children active during the day, being an active role model, moving around classroom more often, advocating for movement in school	Weekly Reflections Microteachings
Professional Preparation	-Practicing teaching skills -Appreciating different perspectives -Improving teaching practices	Proficiency in specific subjects, confidence to teach movement, feedback from multiple sources, reflecting on teaching skills	Weekly Reflections Microteachings

For the data coding process of focus group interviews thematic coding was used to identify students' comments that were linked by a common theme (see Table 3).

Table 3: An example of coding the data from focus group interviews

Theme	Emerging Sub-themes	Discussion Focus	Exemplary Quotes
Active Participation	<ul style="list-style-type: none"> -Engaging the activities -Learning by doing -Being in charge of your own learning -Involving in more than listening -Teaching the class 	<ul style="list-style-type: none"> -Positive aspects of the weekly movement activities -Professional learning needs -Implementations future use 	<p>"I like the movement activities because you actually got to do it. Like in every class we are just reading textbooks and not actually moving" (MS2)</p> <p>"This was my only class that we actually got to experience and observe" (C2)</p>

Validity

Content validity: Content validity was addressed by piloting the questionnaire; the content areas and the level of difficulty of the questions was addressed by piloting the questions.

Data triangulation: The researcher in data triangulation checked if the phenomenon or the case investigated appears consistent across varied data sources. Multiple data collection sources (e.g. questionnaire, weekly activity reflections, microteachings, and focus group interviews) lead more valid and diverse construction of realities.

Investigator triangulation: This is the protocol that includes another researcher to study the data collected. The primary investigator of this study discussed the data with a faculty member who is familiar with the issue being investigated. His interpretations of the data provided additional insights.

CHAPTER FOUR

PRESENTATION & ANALYSIS OF DATA

The purpose of this study was to examine the prospective teachers' (a) perceptions about movement education, (b) perceived benefits of movement, and (c) perceived competency to integrate movement across curriculum. The study was also aimed to find out the strengths and weaknesses of the module in supporting prospective teachers as they construct an understanding of movement education. In this chapter, the results of the data analysis for the stated research inquiry were represented as follows: pre open-ended questionnaire, weekly reflections, focus group interviews, and post open-ended questionnaire.

Pre Open-ended Questionnaire

Descriptive Statistics of the Sample:

A total of 17 female (mean age 20.1 ± 0.69) pre-service teachers who enrolled in Child's Play as Educative Process course participated in the study. Out of the 17 students who enrolled in the course, all of them consented to participate. However, of the 17 who consented, four students did not want to participate in the focus group interviews held at the end of the semester. Therefore, the number of participants for focus group interviews was $N=13$. All of the 17 students were majoring Early and Elementary Education. Most of the students were juniors ($n=14$) with a small number of seniors ($n=3$).

The student questionnaire aimed to obtain information on (a) students' movement/physical activity background and current physical activity participation, (b) their beliefs about children's participation to movement/physical activities, and (c) their confidence to teach those activities. The questionnaire was administered during the first week of class. Due to the controlled nature of the environment, the response rate for the questionnaire was 17 out of 17 students. The questionnaire began with questions that ascertained the movement/physical activity participation of the students starting from preschool up to high school years.

Movement/Physical Activity Background:

A majority of the students (n=14) claimed they actively participated physical activities during the elementary, middle, and high school years. Students were allowed to state more than one physical activity. Most commonly stated physical activities in the elementary school years were soccer (n=14), and basketball (n=12). In middle school years, student stated their participation to field hockey (n=9), softball (n=5), and basketball (n=4). In high school years, basketball (n=8) and field hockey (n=9) were most commonly stated physical activities among the students. A few (n=5) claimed participation in soccer in the preschool years. Students also reported their current physical activity participation: Going to the gym (n=13), running (n=12), soccer (n=7), yoga (n=7), zumba (n=4), dance (n=3), and swimming (n=2). Students who were not currently participating any physical activities stated their reasons as not having enough time (n=2), living off campus (n=1), or having health problems (n=1).

Students also indicated whether they took any college course on movement or physical education previously. Six students took KINES 126 which is an introductory course designed to prepare school-and community-based educators to implement health promotion and disease prevention educational programs to elementary-aged audiences. Four students took KINES 127 which is another introductory course designed to introduce future classroom teachers to the conceptual framework of developmentally appropriate physical education. The rest of the students (n=7) reported that they did not take any course on movement/physical education. Students who took KINES 126 and KINES 127 also wrote in their reflections about the benefits gained from taking those courses. Seven of them who took KINES 126 mainly focused on gaining knowledge about health promotion of the elementary school-aged children.

The course focused on elementary-aged students' health. I learned how to keep children healthy. I also learned how to create lesson plans that will involve play (S5).

I took the course KINES 126. In this course we created an e-portfolio which included lesson plans and activities to promote health and physical activity in the classroom. These courses help me further my knowledge on how extremely beneficial physical education is for everyone, especially young children (S8).

Students who took KINES 127 mainly focused on the implementation of physical activities with elementary school-aged children.

This class had many sections but overall it was helpful in teaching physical education lessons. By taking the course it allows me to think outside the box instead of sticking to the books children need to be engaged in other ways (S11).

I get to learn how to get my students more involved in the lesson, than just sitting there and listening to me. They might understand the information better (S3).

Benefits of Being Physically Active:

This section of the questionnaire ascertained the benefits of being physically active for young children. From the students' responses to an open-ended question three themes emerged: health benefits (n=17), intellectual benefits (n=8), and social-emotional benefits (n=4). The following excerpts indicate the benefits for improving health and well-being of children, academic success and social skills of the children.

Being physically active as a young child significantly reduces the chances of obesity and help promote a healthier lifestyles. If you get into the habit of being physically active while you are young, it becomes a habit and you are more likely to stay active as you grow (S1).

They are healthier which means less sick days. Also, when people are physically healthy, they have more energy and are able to learn and retain more information (S4).

They get to stay in shape and stay healthy. Also, it is a great way to meet their peers. It encourages interaction between peers, and it gives children a variety of activities they can do for fun (S6).

Students also reported the detrimental effects being physically inactive. Obesity (n=14), emotional problems (n=9), poor academic performance (n=8), and drug addiction (n=5) were the main themes emerged from their responses. One of the student's excerpts clearly summarized these negative effects.

They may grow to have health problems and bad habits like drugs. Many kids struggle with obesity if they're inactive which results in bullying and self-esteem issues (S2).

Movement Education Knowledge:

This section of the questionnaire tapped into student's movement education knowledge in terms of children's daily physical activity needs, fundamental movement skills, and teaching curricular subjects. All students (n=17 students) mentioned daily physical activity needs to promote healthy development and growth. Six students specifically focused on children's daily needs of 60-minute physical activities.

I know that children significantly benefit from exercise at least 60 minutes per day. Children need to be physically active, they want to get out and play or they become agitated. This helps them release energy or help them make new 'play' friends (S5).

Young children need to be active (heart rate up) for at least 60 minutes each day. They have a lot of energy and also learn through physical activity. They need this play to relieve stress or give their brain a break for an hour (S8).

Students' views of children's daily physical activity needs varied from preventing obesity epidemic to improving intellectual development. Five students pointed out the link between daily physical activity and children's intellectual development. One of the responses clearly illustrates this relation.

Children need at least an hour of physical activity for better learning. Because daily physically activity keeps children healthy, awake, and focused in the classroom. When they focused in the

classroom, they will be successful and get higher scores in the tests (S14).

In relation to movement education knowledge, students were also asked to define fundamental movement skills along with three examples of locomotor, non-locomotor, and manipulative skills. Out of the seventeen students, only two of them could define fundamental movements skills. Fifteen of them clearly stated their limited knowledge using such statements as “none”, “not very familiar with them”, “I don’t know anything about that”, and “not much”. One of the definitions given by the two students specifically focused on the child’s gross and fine motor development. The other definition, on the other hand, mentioned about the fundamental movement skills in general terms.

Gross motor skills like jumping and running. Fine motor skills like cutting with scissors or drawing. Children should be at certain stages of these skills at a certain age for healthy development (S7).

They are necessary skills that a child must develop in order to be active and develop essential skills. Kids need to start getting active at a young age. Before each class they should get out their chairs and move around (S9).

When the students were asked to give three examples of locomotor, non-locomotor, and manipulative skills, only eight of them could respond. However, some of their responses were irrelevant to the questions. For example, in response to the manipulative skills, students gave such responses as “math work”, “playing with play dough”, “writing”, “cutting a piece of paper”, “using scissors”,

“painting a picture”, and “doing a puzzle work”. Moreover, other irrelevant examples given for the non-locomotor skills were “knitting”, “not moving your body”, and “talking”. Students gave more relevant examples in relation to locomotor skills: running (n=8), walking (n=5), jumping (n=3), kicking (n=1), skipping (n=1), biking (n=1), and catching (n=1).

Responses to a question regarding the role of movement in teaching curricular subjects showed similarities. All of the students (n=17) mentioned about the importance of keeping children active and interested during teaching. They do specifically mention about its’ benefits on helping children to retain their attention in a fun way.

It definitely helps the child to understand and remember information better. Also, it allows the children to have some sort of freedom. I find it be extremely important for future teachers to know about this subject, not only for their future students, but for themselves as well (S10).

I think it is important that it is added into each subjects to get kids thinking that all learning is fun (S13).

I think it is a great way for the students to interact and enjoy what they are learning (S16).

I think it can be very beneficial. Kids love to move so it may make them more interested in the course information being taught (S15).

It should be used to teach students good habits, wake them up, and therefore allow them to be more engaged in the classroom (S2).

Confidence to Teach Movement:

The final section of the questionnaire prompted students to convey their perceived confidence to teach movement. The question stated, “As a teacher, would you be competent to implement movement/physical activities in your classroom? Why or why not?” Only 2 of the 17 students indicated their confidence to use it in class. Their comments revealed the benefits of previous physical education courses on their confidence to implement it.

Yes, I have taken courses on it and feel that I have a good understanding. It’s a great way to teach, than just standing up and talking. I learn how to keep my students active while still teaching them. I will have calmer and more focused kids in my class. It also teaches me about how I need to help my students stay away from obesity (S5).

Because at my background of physical activity and because I truly enjoy it, I hope to create ways to pass on my love to my own students. For me, personally, I believe in movement because I think it helps children learn in a fun and inviting manner. Students, no matter their age, can only sit at a desk for so long, and movement gives them the opportunity to have fun and most of the time, they do not realize how much they are, in fact, learning (S8).

Although five students indicated their concerns on not having enough knowledge on the topic, they had a desire to implement movement activities after taking the play course.

At this point in my schooling, I do not feel comfortable enough to do so because I do not have many ideas. But after more instruction and ideas of activities in this class, I think I would feel more competent to use it in my future class (S6).

After taking this course, I hope to be competent in implementing movement activities in my classroom. I already believe movement in a classroom is essential (S11).

The rest of the students (n=10) indicated their incompetency to implement movement activities.

Weekly Reflections and Microteachings

Students' perceptions of and experiences with the module were presented around the following six major themes: 1) body expression, (2) movement skill exploration, (3) social interaction, (4) teaching approach, (5) new ways of understanding, and (6) professional preparation.

Body expression:

Students' reactions toward the module centered around the benefits of the movement activities on their skills in terms of body awareness, space awareness and relationships with people, objects and environment. From a 12-week experience, with a variety of movement activities, students mentioned their comfort about the ways they move and willingness to use movement in their classroom when they become a teacher.

Each week we learned movement activities that taught several important skills. These activities were simple enough to remember. I'm glad we learned skills about how our bodies move in personal and general spaces. We also learned space awareness, relationships with people, objects, and the environment. These

are vital life skills that we will now easily be able to teach our children about. I liked how each movement activity involved working on our own, with a partner, and with a group. It gave us a chance to experience the differences (S4).

I gained many skills from the weekly movement activities, it showed me how important movement is for our bodies and mind. I learned many new lessons that I can take on with me to my future classroom. These include lessons about self-body awareness, balance, and relationships. I plan on integrating these lessons in my future classroom (S12).

In addition to the comments about the ways their bodies move, some of the students also commented the ways others move (see Figure 3): “movement activities included being aware of your body and the movements each body part can make as well as being aware of your peers and their movement. Now I have a better understanding of working with a partner and with a small group and learning about my body movements” (S3).



Figure 3: PTs were practicing body awareness activities

They also specifically mentioned the use of personal space in relation to others: “we learned about personal space and how to move around the class without bumping into each other. We interacted with our peers, learned each other’s capabilities which helped us to see our differences” (S8). For some, however, perceptions of how their classmates see them during performing the movement activities was a concern especially at the beginning of the semester. “Being ridiculed” by their peers and “looking silly” while performing the activities that were centered on using whole body emerged as an influential factor to participate to the activities.

At first they were uncomfortable, because you did not know anyone in class and did not want to be ridiculed. Though as the weeks went on you got more and more comfortable. I liked the activities, because they helped you gain more confidence in being upfront. I learned a lot of them that I can definitely use in the future (S5).

One of the students who thought she was “looking silly” commented on her lack of skills on certain activities during her elementary school physical education and added,

Although they (movement activities) made me feel silly at the beginning, these are very important skills for us to gain. In my PE class, I was one of the less coordinated students and I did not like anything about the class. I enjoyed these activities, especially the ones that we used our bodies. I plan on using them in my classroom and I would probably have kids play these games within the first couple weeks because it will allow them to get an understanding of how their bodies work and teach them how to interact appropriately with their peers (S1).

In relation to the body awareness, all students frequently commented about moving their bodies in a creative way which seemed as a common motive for their enjoyment during the movement activities (see Figure 4).



Figure 4: PTs were practicing creative body expressions

Different ways to move the body seemed to help them to open up their imagination and see the possibilities their bodies can do.

Each week, I learned something different during the movement activities. I thought that some were challenging but they really helped me to think outside of the box. I learned how to make different shapes with my body, to be aware of space, and how to work together with my partner in order to accomplish a goal. I will use some of the weekly movement activities in my classroom because I think they would be great for elementary school children and they can teach children to be creative and use their imagination while moving (S2).

Similar comments made by another student also focused on the benefits of these activities on thinking about possible body expressions while working on math skills.

I gained a lot of knowledge through the weekly movements. Many activities that we did I never even thought about incorporating in my classroom before actually doing them. For example, the activity where we had to walk with a partner while touching two or seven body parts definitely taught me a lot about body (how I was able to move) and mind (different number combinations each time) (S7).

The other important aspect of the weekly movement activities in relation to body awareness that helped students to feel more comfortable about using their bodies included a change in their views about the qualifications that are necessary to teach movement or physical activity. The students seemed to re-frame the common view of being a specialized physical education teacher to teach movement.

Before taking this class I know movement was important but only assumed to include movement in gym class with gym teacher. I now see how easy it is to add movement in and you don't have to be a PE teacher. I can see myself having at least one movement activity a day (S1).

Along with the above comment, developing some confidence and competency seemed to motivate them for incorporating movement into their daily routines so that kids can learn what their bodies can do and how their bodies can move in relation to space and objects.

Previously when I thought of movement in school, only recess came to my mind. The weekly [movement] activities made me aware of all the movement you can include in your classroom. I now plan to use activities such as the ones focused on body and space awareness which are the foundations for building strong movement skills (S14).

For me personally, it showed me creative ways to move and to potentially incorporate into my future classroom, which I may have otherwise been unaware (S11).

In general, weekly movement activities helped them to discover movement possibilities and investigate their own movement efficiency. Activities led students to think about their bodies' capabilities and the ways their bodies move and look in relation to people, space and objects. Students were also able to mention about the perceptions of how others see them during the movement activities that made them to worry about "looking silly" or "being ridiculed" by their peers. Throughout the semester, however, with the development of some confidence and competency on the activities that centered on body and space, students stated their motivation and eagerness to implement movement when they eventually become a teacher.

Movement skill exploration:

Weekly movement activities allowed students to become familiar with a broader range of movement skills and experiences. All of the students were relatively pleased with the variety of activities that helped them to explore movement actions, spatial awareness, relationships with others and objects. Students specifically wrote about the benefits of the activities that helped them to explore locomotor, non-locomotor, and manipulative skills. The main emphasize was given to the skills that foster moving the body from one location to another, balancing and maintaining postural control, and handling and controlling objects (see Figure 5).



Figure 5: PTs were practicing dynamic and static balance

In addition to their reflection on the movement skills they gained, students were also asked to reflect on the positive aspects of the activities and challenges they faced during the participation to these activities. They were able to define the movement skills and appreciate the benefits of the activities as helping focusing on self (n=17), creative thinking (n=16), problem solving (n=14), team working (n=14), multitasking (n=11), moving in different ways (n=11), revising the body's skills (n=11), learning center of gravity (n=8), manipulating the body (n=8), and controlling body parts (n=7).

Students were also asked to reflect the challenging aspects of the activities. The most frequently stated challenge was having individual differences (n=11) during the activities that required working with a partner: “mirroring someone else was challenging because we had different levels of balance and flexibility” (S11). Another student commented: “working with a partner was difficult because you had to be aware of their movements as well as your own” (S5). The other student's reflection was related to manipulating the body with an object: “working with the small object rested on different body parts was hard because I

had to comfort my body to keep it still” (S14). Similar comment continues as “it was challenging to hold the objects with different body parts, like the knee, especially with a partner. Everyone has different body shapes and sizes, so it was very challenging to do this in sync” (S16).

Moreover, students focused on the maintenance and use of personal and general space. Activities centered on using immediate space (see figure 6) while moving, using all the space that can be used by everyone, and moving through different pathways and directions.



Figure 6: PTs were practicing spatial awareness activities

One of the benefits appeared to help students to develop an understanding of general and personal space (n=17): “I learned how children can integrate personal space by playing and moving in the small circle and then seeing how it was like to have your personal space invaded” (S6). Another student’ comment focused on the personal space of others as well: “it was not always easy to accommodate for everyone’s personal space. While you’re learning about your personal space, you’re also learning to respect others” (S9). Majority of the students (n=15) also mentioned the benefits of these activities on being a team

and including everyone to the activities without having any fear of elimination or criticism: “when everyone gathered in the one big circle we all had to communicate in which way we were going to move as a group. I learned that communication is important to make things work” (S2).

Along with positive aspects, students also mentioned the challenges they faced during space awareness activities. For some (n=7) trying to figure out how to move and being a group leader seemed to put a little stress on them: “you have to be comfortable moving your body in different ways. It was challenging to figure out the movement my partner wanted me to make because I couldn’t visualize the movement and this made me nervous” (S10). Another student commented: “although it was fun to see what our bodies were capable for, you (leader of the whole group) had to be conscious of the general space around you and the ways you move because they were imitating you” (S17). For some students, on the other hand, being a group leader was motivating: “I enjoyed being the leader and explaining to them the movement they had to do. It was very motivating and allowed me to teach and help others” (S2). Moreover, the classroom in where activities were performed was not large enough for students to move around. All of them (n=17) stated the need for more room for the activities that require exploring space.

Furthermore, students’ reflections demonstrated the focus on developing relationships with one self as well as connections to another (see figure 7). They also mentioned about creating relationship between the body and the object.



Figure 7: PTs were practicing relationship activities

Different types of movement relationships seemed to help students to think about their movement as well as others: “when someone was following me in copycat I thought more about how I was moving” (S12). During small and large group activities, students identified and explained their use of relationships and how successfully they have been communicating their partners and objects: “keeping to communicate through eye contact and coming up with strategies in crazy balls to keep the balls moving” (S5). Similar comments outlined the significance of strategic thinking during group works: “by creating a group for crazy balls, it allowed us to work together as a group to figure out a system to keep all the balls in circle” (S8). Another one added: “for copy cat it was fun because the person we were mirroring had no idea who the person that was following them. The crazy balls activity was also fun because everyone worked together to come up with a strategy to kick the balls without knocking over container” (S4). Since the relationship activities included controlling both the body and objects at the same time, students also mentioned the challenges they faced: “working with a large group while trying to control the balls and

accomplish a goal. In crazy balls, it was difficult for the entire class to pass around many balls without hitting someone or something” (S11). Another student commented: “the most challenging part for crazy balls was trying to figure out what direction to kick the balls without knocking over the container” (S7).

Social interaction:

Students identified the opportunity for actively participating in a wide range of activities as one of major strength for the development of a sense of community. Students were of the opinion that participating in activities each week helped them to build their social skill with their friends that will be necessary in their future career. It also helped them to feel connected to each other.

Space awareness activities allowed communication and body language to be developed in the class. By moving around the class it allowed me to understand and communicate better with my classmates. If it helps my communication as an adult, I can only imagine the skills that children would gain from it (S5).

Similar comments made,

The movement activities got the class laughing and having fun. This made learning very enjoyable. Having to apply different skills made us think in a very creative way. I also believe it helped us to connect with our classmates better. Activities also allowed us see what our students will experience (S9).

Everything was like hands-on. Instead of just sitting we were able to get up and move around all the time and work with each other. It helped me to practice different skills each week and I plan on doing the same activities in my class (S14).

I liked weekly activities because you actually got to do it. In every class we're just sitting and reading the materials and not actually moving around. This gave me a whole new perspective about my teaching. I will definitely add space awareness activities because kids need to learn their personal space as well as general space (S3).

Another student valued the benefits of the activities for kids who are kinesthetic learners.

For students who are kinesthetic learners and enjoy hand-on activities this benefited them. After some time of sitting and learning, we were able to get up and move. It's important that as teachers we are not just lecturing because most students learn by doing and moving. This also allowed us to teach our fellow classmates what we become sort of masters on (S16).

As the students gained more experience and expertise through active participation each week, many of them stated the benefits of working as a team to support one another.

I found the weekly movement activities to be very beneficial. They gave us a chance to learn from each other. I enjoyed working with others and using teamwork to come up with a way to move together. This gave me the chance to learn about how important it is to implement teamwork and collaboration through movement and play (S6).

One student, however, viewed working with a partner as being challenging.

Movement activities were a challenge because we had to work together as a class and it was difficult because everyone had to combine their own thoughts while others may have had other ideas. Another aspect that made it challenging was not everyone found

it easy to participate during the lessons overall it allowed for creative ideas and working together (S15).

In general, the students stated that movement activities were exciting and helped them to build up their skills in learning how to work effectively with one another (see figure 8).



Figure 8: PTs were discussing together after an activity

Active engagement also enabled students to practice variety of movement skills and developed confidence to teach movement in the future.

I like the weekly movement activities because I think that they provided us the opportunity to get out of our seats and move around, and also they helped us to be flexible and creative with our body. I would definitely want to use these in my classroom because I think that young children would really enjoy them and learn from them (S11).

As clearly stated by the students, active engagement brought benefits such as better communication skills, social skills, collaborative learning, and higher motivation. In this way, learning about movement seemed to be interesting,

engaging, and satisfying experience for the students. The students also pointed out the benefits of these kinesthetic experiences in heightening the learning experience and making academic subjects easier to learn and recall. The following theme focused on the brain and body connection emerged throughout students' reflections of weekly movement activities along with microteachings.

Teaching approach:

The potential intellectual benefits that movement brings to children were frequently indicated in student reflections. They referred movement as a meaningful way of learning, a medium for learning, and a fun way to learn. According to student reflections, using movement in the learning process will help kids to recall such subjects as math, science, language and literacy more efficiently.

I plan to incorporate movement in many aspects of my classroom. As we have learned, movement helps children grow and learn in many different aspects of their lives. This means that movement can make it easier for the children to learn the information that we are trying to teach them in the classroom such as math and science. In class, we have participated in a lesson where the children must count how many body parts can touch the ground at a given time. This is a great way for the children to look at numbers as a something different from just numbers on a piece of paper. It is a way for children to think in an abstract way, something that may not always be in a curriculum but is just as important. I remember my science classes in elementary school being very engaging and fun, making it easier to learn the material and remembering it (S5).

Incorporating movement into variety of subjects enabled the students to think about its potential for creating meaningful learning experiences (see figure 9).



Figure 9: PTs were practicing literacy through movement

They re-consider their role as a teacher who needs to integrate movement into instruction more often so that children can become active while learning different subject matters in a meaningful way.

I learned how to teach children the importance of movement with their body, different shapes the body can make. I also learned how to incorporate play and movement into subjects which make learning fun and provide meaningful learning practices. These are great examples of experiences we will need to know as teachers. It allowed us to be creative and playful. It makes learning more enjoyable and engaging for children (S13).

I will definitely use movement in my class because using movement inside the curriculum further engages students. It provides a fun way for students to learn. Also, hand-on experience will give a more meaningful result in the end (S1).

One of the students particularly wrote in their reflections the significance of including both content and pedagogical knowledge while teaching specific subjects to make it more meaningful to kids.

Play and movement can play a huge role in teaching curricular subjects. A teacher can not only incorporate knowledge from the content area, but also use play and movement to make learning more enjoyable and meaningful for students. When subjects are taught this way students will be more engaged and learn easily (S12).

Along with the benefits of providing meaningful learning experiences, movement seemed to be an ideal medium to teach “academic subjects”. In their reflections, students frequently indicated its benefits for enhancing academic performance, attention, attendance to school, and mental health of children.

I think that movement is extremely beneficial and that it can enhance curricular subjects for both teachers and students. It is essential in the curriculum to teach math and science. For example, while kids are moving, you can ask them to do triangle or circle with their bodies. They can learn about human body throughout body awareness activities, or you can teach them about solids and liquids with pretend activities (S17).

The types of play I believe children benefit from the most are those with little competition, a decent amount of physical activity, and those where everyone is able to participate. Any type of relay race, where children are highly competitive will most likely create anxiety and stress, which is not something we want to flow over into the classroom. Exercise is proven to improve moods; when children have a more positive mood, they are better able to focus and will be more eager to learn. In my classroom, I would choose a game that could be played either inside or outside the classroom. One game in particular that I think children could benefit is called, Body Shape Fun. In this game, students must

cooperatively work together to spell out a given word with their bodies. Not only does this game help recap on reading and writing skills, but students are also able to free their minds and have fun working together (S14).

Some students explicitly stated their role as a teacher to stimulate the minds of the kids and provide an environment that encourages active learning.

Children learn most by experience, exploration, and interaction. They become more focused and creative when they move. In order to help them to learn better we need to provide classrooms in which children can move and explore more (S9).

I believe that I'll use most of the weekly movement activities in my classroom because I think they would be great for elementary school children. Movement will help them to improve their problem solving skills and higher-level mental skills. It will teach children to be creative and use their imagination while being active (S4).

As a teacher, I want my students' learning to be enjoyable. I want my students to be excited to come to school and enthusiastic about and engaged in learning. The way I can promote this through play. As an elementary school teacher, I will have to make lessons, but intend to incorporate play and movement into those lessons. This can be done simply. For example, I can include my Language and Literacy lessons movement. This is an easy way to encourage students to get out of their seats and to move around, while promoting teamwork and learning, specifically with spelling. This lesson can also be manipulated for almost any subject. Additionally, I hope to incorporate some type of dramatic play area into my classroom. This could be used so that the students can act out their emotions and use their creativity to learn to their fullest potentials. Although I have only included two specific examples, I truly place an emphasis on movement for many reasons. First of all, encouraging movement and play can have long-lasting effects. In the USA, obesity is becoming a rather large issue. By instilling movement in students from an early age, they will be more likely to continue to be active later in life. Additionally, I firmly, believe that students

are more likely to remember academic material when it is associated with something fun and something that they are physically doing (S1).

Students' reflections also indicated the fun aspects of movement as an important part of a meaningful experience (see figure 10).



Figure 10: PTs were practicing math (counting) through movement

The students emphasized the significance of incorporating movement activities to get kids to enjoy and learn at the same time.

I think weekly movement activities were really fun and enjoyable. They were something new that I have never done in a class before. We got a chance to learn different lesson plans that we can use as teacher to get our class involved in a fun and enjoyable way. Young children will really enjoy them and learn from them (S6).

I was able to get many examples of play and movement and I was able to test out if I liked them or not prior to me teaching. Children will enjoy the games and be able to learn in a fun and creative way that they love (S11).

Movement throughout the school day is necessary for the children to reenergize themselves and to be able to maintain

focus on their schoolwork. Throughout the day, I will incorporate movement for my students; even if it is while walking to lunch. Why can't my students walk sidewalks or bunny hop to the cafeteria? I don't want to be the plain, straight-forward teacher. I want to be the fun, imaginative teacher that makes my students excited to learn and be in my classroom. Activities, games, seat-changes, role-plays, and dance actively contribute to children developing basic timing, balance, coordination and concentration, and will all be built-in to my classroom (S12).

In addition to its positive effects on learning, fun aspect of movement can also enhance well-being and mental health of children. Student reflections also focused on the benefits of incorporating movement on social and mental state of children.

A physically active child is more likely to live a healthy lifestyle. Healthy children can think and be better mentally (S15).

It allows children to de-stress, to be creative and it allows them to work through their problems. Moving can also increase social interaction and allow kids to have fun together (S8).

Being active is fun. It will motivate students to be active throughout their life. When they are healthy they miss less school and they can focus better. They also learn social skills when they play with friends (S3).

In their reflective writings, particularly the weekly movement activities, all students (n=17) frequently stated that movement is a meaningful way of learning, medium for learning, and fun way to learn. They explicitly emphasized that movement in the classroom provides opportunities for children to develop physically, cognitively, mentally, socially, and emotionally. They recognized its

potential to reach all domains of learning; they seemed to encourage students to plan to incorporate movement either directly (learning to move) or indirectly (learning through movement) into their future teaching. The holistic nature of weekly movement activities also seemed to change students' presumptions about teaching it which will be discussed in depth as the following theme entitled "new ways of understanding".

New ways of understanding:

In this theme, focus was given to new perspectives students constructed during their participation to the variety of movement-related activities. As a result of participating these activities, the students were more likely to consider movement as a part of their future teaching.

I realized integrating movement is actually not hard at all. I believe the reason for this change is the amount of times the class as a whole actively engages in a movement activity. As children get older, especially now as college students, getting up and jumping around and running is not something we normally do in our classes (S7).

When I thought about the how I would teach subjects such as math, science, language, etc. I never imagined I would teach them with movement. I pictured students sitting on their desks in the classroom, listening to me and learning from filling out math sheets at their desks. I now understand even more how extremely important integrating movement is to the classroom and how simple it is to do so. Whatever subject I chose to teach, I will try to incorporate some type of movement as well. Children need to get out of their seats and move around in order to increase their attention spans. Movement is also important for their health. I've learned that children learn new subject better when they are actively involved in an activity which teaches this skill (S4).

Implementing almost all of the movement activities inside classroom also enabled students to re-consider their assumption about participating movement or physical activities only in their gym classes or outside the classroom.

Before taking this class I knew that movement was important but only assumed to include it in gym class. I always thought adding movement into other classes was a good idea but I just did not know how it was possible. After taking this class I see how easy it is to add movement in. Having these techniques I can see myself having at least one movement activity a day. Each week when we learn games I can imagine incorporating them into my lesson plan (S1).

I always knew (thought) that movement outside the classroom like in the playground was important so that children would get out their energy. I now think that it is crucial that as a future educator I integrate movement into every different subject area. By promoting movement you are making children actively participate which will hold their attention more (S10).

I didn't really think about integrating movement in class or other subject areas (math, science, language, etc.). I just thought students would engage in movement during their physical education class. Now I have been informed about it's benefits. I have seen that allowing children to engage in movement, they are developing socially, cognitively, and academically (S6).

Some other reflections also indicated the student's attitudinal change in terms of "being a child" to engage play and movement activities.

I mostly just thought of it as a way for kids to have fun, develop motor skills, and burn off energy. Now that I know how it can be done, I am more likely to use it my future classroom (S9).

Before this class I really just considered play as just little kids playing with toys and one another. I never knew how wide play ranges, especially in the classroom. Now, I understand how important play is to a child's learning. I learned what benefits and skills children get or use while playing (S5).

The above reflections indicated a new way of thinking and a deeper understanding where the students seemed to recognize and internalize the benefits of movement activities. Re-defining the placement of movement in the classroom was a significant shift for the students who added more value statements to these reflections.

In addition to the weekly movement activities, field trip to the university's childcare center (see Appendix K) provided a whole new perspective to the students who had a chance to observe and reflect on movement activity affordances for children. The reflections indicated that field trip was an enriching learning experience supports the topic discussed in the class.

This play area is great! It really conforms to the 7Cs and gives children a chance to grow and explore through play and movement. I love how much nature is involved as well. I think I have learned a lot about outdoor play areas and how they should look (S13).

It was a great opportunity to be able to observe the outdoor environment at Hort Woods. We were able to see first hand the 7Cs being used in an outdoor environment. Also, how easy it is to incorporate nature into the environment yet still having some structure to the space (S8).

One of the main topics discussed in the class was affordance theory and

7Cs which drew student's attention to the significance of built environments of children's play and movement. Having an opportunity to actually visit and observe such an environment that included almost all the components of 7Cs and affordance theory made the students to reflect (see figure 11) about the play and movement opportunities that the environment offer to children.



Figure 11: PTs were reflecting after the field trip

The way this area is built not only encourages play and movement but makes it enjoyable to everyone. All the obstacles and materials that went in to making this playground happen are somehow related to nature. There are logs to play on. There are rocks to climb and jump off of. There are different pathways around the playground for kids to walk and run (S15).

By coming here and observing this place made me realize just how beneficial an area like this for children. The materials this playground offers are mostly rocks, logs, plants, leaves, sticks, sand, and water. There are only two typical jungle gyms and even so they connect to nature. This area allows the children to explore physically by running, jumping, climbing, digging, and many more affordances (S7).

Given the importance of physical environment on children's play and

movement opportunities, the field trip also gave an insight to consider child's perspective while designing play areas.

The outdoor design was definitely beneficial to my learning. Before going there I had no idea how important it is for the children to be attuned to nature. By visiting the area and exploring it allowed me to really engage in the area myself to see how the children would do so if they were playing on it (S1).

I've learned how the outdoor design helps children with movement and play. I learned that slides, longs, and stairs, etc. create strengthening of a child's muscle. I also learned that the affordances could impact children's enjoyment of outdoor play (S3).

After seeing how this building was designed to promote nature and physical, cognitive, and visual learning, I was able to see how truly important it is. This outdoor play area encouraged students to explore, to jump, and to climb whatever they wanted to. By having logs and tree stumps for children to climb on, we allow children to climb, swing, and jump. I learned that hands-on/physical play is so important for children (S11).

Lastly, the students viewed the field trip as inspirational and motivational for future references while integrating and designing an area for play and movement activities.

This field trip opened my eyes to see how educators can improve play areas to promote an optimal learning through exploration (S4).

I learned a lot about outdoor design and how many different components should be involved in a great outdoor play area. I'm glad we had the chance to see one of these areas first hand. This gave me ideas of how I would design an outdoor play area if I had the opportunity to (S12).

Design was one of the biggest topics I took out of this class. I learned about all of the needs that could be met for children in the playground. This is something I had never considered before. When I was elementary school all I had was an empty parking lot to play in. I look forward to looking for these affordances in my upcoming teaching experiences (S17).

Professional preparation:

All seventeen students discussed in their written reflections that they deepened their understandings of the pedagogical ideas by participating weekly movement activities and microteachings where they were provided with opportunities to apply their developing understanding in practical context. The students primarily commented on the benefits they gained from microteachings which enabled them to improve their professional learning while refining their teaching skills, understanding different teaching perspectives, and analyzing their teaching practices.

Providing opportunities for the students to teach their lessons in a simulated setting (see figure 12) helped them to improve their teaching skills in terms of the subject area being taught by themselves and other group members. The followings are exemplifies students' reflections.



Figure 12: PTs were reflecting on an activity after the microteaching

Some skills I gained from the microteachings were being very proficient in my specific subject, making learning more enjoyable and engaging, and incorporating movement into different subjects to develop children's physical, intellectual, and emotional skills. I liked them all, because it helped me gain more confidence in being upfront and teaching to a group (S12).

I enjoyed the microteachings. It gave us all a chance to become experts in a particular subjects, and teach what we learned to the rest of the class. We not only informed the class of the importance and benefits of each subjects, but we also taught movement skills which incorporated each subject. This helped give us another opportunity to remember movement activities that we can one day implement in our classrooms (S4).

Moreover, having the opportunity to prepare and practice teaching particular subject areas through movement helped them to internalize the lessons better.

Microteaching was a great way to explain different aspects of movement through subjects in the classroom. Through our own research we had to come up with activities for our certain topic. By explaining what we learned to the class and actually having our classmates do the activity we were able to see the successfulness of it. Also some aspects of movement like culture and inclusion were especially interesting to learn about because

most of the time teachers don't think about that. This showed that movement can be incorporated at any time of the day in the classroom (S7).

Great way to get information on every subject area! I have so many ideas to use for my classroom now. Each subject allowed us to take part in a game which was the best part. They also gave me background in areas that I didn't have before (S9).

Through a simple form of a teaching situation, the students also had the opportunity to develop an ability to understand teaching perspectives of others. Participating lessons taught by their peers gave them a chance to reframe the activities from different teaching perspectives.

I really liked microteachings and the presentations other people gave. I liked it because it challenged us to come up with a lesson plan that we can actually teach to our friends. Other people's ideas and presentations sparked idea in our head. These lessons also gave us an opportunity to receive feedback on our teaching from multiple perspectives (S17).

These teachings allowed the class to put together their own interpretation of movement with their specific subject area (S6).

Through microteachings, I learned different teaching styles and techniques from my peers. It was a great way to reflect on your own teaching style while teaching the class (S15).

Furthermore, microteachings also helped students to return, review, and reflect on the sequence and consequences of their teaching actions. It challenged them to review their existing theories and assumptions about teaching. While reviewing their video-recorded lesson, they were asked to focus on framing and implementation of their lessons along with the results in terms of content,

organization, delivery style, competency, and future modifications. Majority of the reflections indicated students' emphasis to their teaching styles more than any other aspect of the reflective process.

In terms of my teaching style, I learned that preparation is key; in fact, it is not bad idea to be over-prepared. While in this specific lesson, the class was very willing to participate, it is hard to tell in a given class, or in a given lesson, whether your students will be enthusiastic. With this being said, as a teacher, it is important to be patient, to be flexible, and to have alternatives. Additionally, I found that it is necessary to be specific with directions and to be open to others' ideas and creativity. When concerning being open to other ideas, I had a certain image in my mind of what the students would respond with as a movement when we held up a letter. For example, if I held up the letter 'A' the idea in my mind was that students would spread their legs apart, and put their hands together, making somewhat of a triangle with their arms, legs, and the floor. Not everyone did this, which allowed me to see that everyone has different interpretations and perspectives. That does not make them wrong, it is just another way to see something (S11).

Delivery is something that I feel need to work on after watching the video of myself teaching. Seeing Stephanie move, and then myself move, I notice how much more inactive my body was than hers. Stephanie's body expressions demanded attention from the class which is a skill I plan to work towards. As for my style, I feel as though I could work on joining the students while they are moving rather than just watching them. When I pictured myself as a teacher, I always see myself moving and playing with students rather than just telling them what to do. After teaching the class I realize now how much harder this is to do than I previously thought! (S14).

After looking at the video of our lesson, I have found that my delivery is different than I realized. I move a lot more than I was aware of, and I'm not sure if it is distracting to the students. During our line dance we were showing the movements too fast and some people had hard times to follow our directions (S16).

While viewing the videotaped lessons, some of the students also focused on the benefits of the microteachings on their level of comfort teaching in front a class.

While teaching the lesson I realized that I was becoming more and more comfortable with teaching in front of a group. I feel I learned how to deliver the information in a playful way, especially when you are not getting any intention to move from the class (S5).

At first I was hesitant to do the lesson. However, once we began doing the activity we all seemed comfortable and willing to participate. I liked to see my friends use their imagination when completing movement activities (S1).

Additionally, reflecting on their microteachings helped the majority of the students to consider possible modifications and revisions for future implementations of their same lessons. The frequently stated comments are as follows: (a) being more confident while demonstrating movements (n=13), (b) being more precise with the directions (n=10), (c) focusing on the process more than the product (n=8), (d) limiting the elimination games (n=8), asking more prompting questions (n=5), (e) and allocating more time on the discussions (n=5).

The students, in general, asserted that microteachings in general helped them to improve their professional preparation by improving their teaching skills, understanding different teaching perspectives, and analyzing their teaching practices. Through reflective experiences, students had an opportunity to be aware of their own strengths and weaknesses during teaching variety of subjects

while including movement. After watching their lessons, most of the students also pointed out the kind of teacher they wish to be: “physically active”, “confident”, “flexible”, “playful”, and “patient”. Last but not least, microteachings seemed to increase the feeling of ability, ownership, and motivation of the students to integrate movement with their teaching that they were able to speak about the importance of integrating movement into other areas.

To sum up, the weekly movement activities and microteachings enabled the students to consider movement education as a dynamic process. The six themes emerged from both data sets indicated that the module was beneficial for (1) body expressions, (2) movement skill explorations, (3) social interactions, (4) teaching approach, (5) new ways of understanding, and (6) professional preparation. In the following section, the student focus group interviews will be discussed along with the four emerging themes.

FOCUS GROUP INTERVIEWS

At the end of the semester, three focus groups were conducted to obtain a deeper understanding of students’ experiences and perceptions with respect to the movement education module in general. The focus groups also aimed to elicit suggestions for the improvements of the module for future implementations. Information was sought about the usefulness of the module, positive and negative aspects of it, and feasibility to incorporate it across curriculum. Four main themes emerged from the focus group interviews.

Building movement education knowledge:

The students highlighted that each component of the module (weekly movement activities, microteachings, and field trip) helped them to construct their knowledge through hands-on experiences they'll need once they begin their career. Consistent with their reflections, the students found the module useful for providing them with different ways to directly apply what they learn about movement into their classrooms. Parenthetical notations at the end of each quotation is to indicate whether the quotation was from the first, second, or third focus group.

“We talked benefits of movement and everything. I noticed when I was writing my paper and looking at my notes...we discussed everything. So overall I feel like it's good to know all about movement” (S3)

“I think it's pretty much covers everything like.... like the different movement activities presented and the one we did it to teach math...it has a lot. I think we touched everything related to movement and it's not like missing anything about it” (B3)

“I think the module was very helpful with the organizing... like the lessons and how to teach lessons.... everything like builds up one another so... like can scaffold learning and all that stuff. The weekly movement activities were able to build and help us to understand some ideas and incorporate those movement activities into the peer teaching lessons that we taught but then also they each build from so like... it builds up that way too, because weekly movement activities gave us awareness, you know you learn from social learning from textbooks...the regular lecture we used to...but movement activities allows you to learn in different ways” (K1)

“It definitely made me to think about... actually incorporating movement into the day because...I did not like school when I was

in high school because there was so much sitting and lecturing. I think if other teachers would have taken this class and umm...know just how to teach things through movement then school and learning could be a lot more fun and enjoyable” (A1)

The students particularly the ones whose learning focus is on “academic subjects” appeared more willing for incorporating movement into the curriculum:

“I think they are all important and a lot of them are not addressed in other classes. They gave me lots of examples to integrate movement rather than just reading a book” (N1)

“I think is very useful during transitions...umm...or you can do all these movements in the morning so you get the kids kind of moving and being active” (AM1)

“I mean...it definitely helped us as teachers like...umm...the kids are learning better while moving and I want to incorporate movement in my class. It’s very beneficial for children and it’s just...umm...children are obviously more comfortable than us while moving, so it’ll be much more easy to use movement with kids” (MA2)

During the focus groups, consistent with their reflections, the students repeated out the new perspective they gained through weekly movement activities and microteachings.

“I liked all the movement activities you brought to us. Using the body...forming letters like that, it’s something I’ve never thought about before to teach language and literacy” (MS2)

“I did not realize how important they actually was and umm...I did not know how to incorporate movement into teaching like...science or social studies. I’ve never taught that level...” (C2)

“I think now movement is something like I should think about in my class. I’ve never thought movement before. I did not know it was something as important as math or science” (R3)

“I’ll definitely use movement in my class, even while preparing my presentations seeing all the benefits...umm...even if you do a 5-minute activity between subjects students will feel fresh. Before taking this class I thought it’s gonna be a preschool type...umm...like play you know...but you can do all these activities with older kids” (D3)

Encouraging active participation:

During the focus group discussions, the students were also asked about the positive aspects of the module. Students reported benefiting from participating in a 12-week movement related activities. The majority of responses in relation to these activities indicated the significance of active participation on learning the topic easily, understanding the child’s perspective, learning from one another’s perspective, being comfortable to teach in front a class, and learning by doing.

“You know all aspects of the module ties into one...like...each aspect helps you add onto something else and I think the peer teaching was the most beneficial one because I actually got to experience and learn from my friends. Each week we started with movement activities and then we learned about the design of it...you know...field trip and then peer teachings. They all tied to one another” (H1)

“We got to actually move and see how younger kids would move in their own way” (K1).

“It made me realize...umm...I got a real bad habit not working out and then it made me realize that...after our weekly movement activities made me wake and alert and then made me think working out more regularly to be wake and alert in general” (N1)

“I thought peer teachings was very helpful...and just to see how the class interact with your lesson and you could learn something from them...umm...it is kind of both way you know...” (A1)

“Even just getting to know each other, and be more comfortable with each other while moving or playing. It helped us being more playful because it was not embarrassing what were doing, we were learning together” (AM1)

“Definitely helped me to be more comfortable speaking in front the class. I really...when first came to college I hated public speaking but now I feel it is not a big deal” (KE2)

“This was my only class that I was on a field trip and we actually got to experience and observe...that was definitely cool and positive because we liked learn about affordances and got to experience it” (C2)

“I think it was good way to learn how express ourselves to others but I think it was also difficult to do...umm...because sometimes we just had to use our bodies you know...it was not easy and it was my first time to experience this...umm...we learned how to communicate with our bodies...but that was hard” (MA2)

“I liked movement activities because you learn the material and you actually got to do it. Like in every class we are just reading textbooks and not actually moving. When you do it, you learn from your classmates and they are learning from you...you know” (MS2)

“We pretty much learned different teaching styles every week and I know I am more a hands-on learner...I like moving and doing things you know” (I2)

“I liked how we learned about our body movements...I took KINES126 and 127 and we learned a lot more about games with rules...umm...we started learning from young age moved up to older students but it was like more games you play with kids. I sort of understood why I took the class but I am not try to be a PE teacher or gym teacher and I am not gonna use those activities but this was not like PE classes, it was more...umm...like teaching subjects with movement. You

definitely incorporate math or science in your activities. They were all indoor activities and you can do them in class, you don't have to go gym" (E3)

"I think you were really focusing on how learning and movement are to...umm...together like that. I feel that you are not just telling about movement but make connections to academics" (R3)

"Weekly movement activities were good because I can remember what we did and easily incorporate in my classroom daily. They are simple enough and take a few minutes to do" (N3)

"I like watching the video. I thought that I gained a different perspective. I picked up a lot of things that I did not do when I was actually peer teaching in class and able to critique myself watching myself...umm...I don't like watching myself but...umm...it was not comfortable but it was definitely helpful because I would never know the things I could do better" (D3)

"I really enjoy the visit to the preschool, it was really cool. I've never seen such a place before and it was something that I liked most about this class. I really did not realize how important it is to have such places enhance play and movement" (S3)

Help gaining confidence and competence:

Another discussion topic of the focus groups was about students' competency and confidence to implement movement activities in their classrooms. All of the comments indicated the students' willingness and motivation that can be considered to be decisive for having confidence and competency to implement it in the classroom.

"I feel like I should be using movement a lot. But before it was not something that we discussed in our other education classes. So this was new but I really want to incorporate it...you know...I

learned a lot this semester and definitely feel confident to use it” (H1)

“It never occurred to me using movement in a classroom but now being the position...you know...we became more aware of it and I’ll definitely incorporate in my class” (AM1)

“We’re definitely more knowledgeable and experienced because we actually got to do it ourselves, not just learning about it, actually moving and playing” (C2)

“I think I got a lot more comfortable by the end of the semester. In the beginning we were all sort of confuse, laughing and giggling because this was really different than any other classes. I’ve never been so actively engaged in any class that I took...umm...we were literally moving and playing...so by the end of the semester we were all know why we were doing this and a lot more comfortable to use in our classrooms” (KE2)

“Well...I mean I remember in one of my teacher interviews, teacher was saying kids are not gonna have fun if you don’t have fun. Then actually this class made sense, so you need fun, too. You need to be active yourself first and then kids gonna be active...umm that’s pretty much true, I guess. I never realized how much...like you were saying being active role models...” (I2)

“I mean I’ll definitely use it because like...umm...peer teaching we learned a lot...including movement to other subjects and all” (C2)

“Kids are sitting all day and we have to encourage them to move. We learned how to do this in class, so I’ll incorporate it...especially during math class” (MS2)

“I never realized how important it was and I remember giving science lessons and being so boring...then with peer teachings you bring outside to your classroom and enjoying it while moving and playing” (MA2)

“In the beginning...it’s definitely...umm...when you said movement, I was like...umm wait we’re gonna move...why... but then I realized...umm... I felt how we could do these activities in

our own classrooms when we become teachers. It definitely opened my eyes” (D3)

“It was not easy in the beginning...you know...like doing childish things in front of your friends and they might be judging you...you know...like then when the semester went on I felt comfortable and it was okay being silly. Now I feel that I’ll definitely encourage my students to do these activities” (B3)

“Since now I have a professional language to use it and learned lots of great examples, I feel very comfortable to use them and explain it to the people like other teachers, parents, or kids” (S3)

Challenge to use the body:

Comments made by the students also emphasized the negative aspects relating to movement related activities. Some of the students indicated their concerns for participating to the activities that were involving body expressions. Some other comments also emphasized the difficulty of moving in a limited area and suggested to do the activities in more open areas.

“It was awkward in the beginning...you know...when we did body awareness activities...it did not like the first weeks of the class, but then...you know...umm...getting more comfortable with each other” (H1)

“It was a little bit harder moving and playing because we’re older” (B1)

“I think at first we were all like a little...umm...why are we moving but when weeks went on we all learned...I think all of us learned how to move and it was not awkward at all” (N1)

“I did not have negative things about the module but we were limited to this classroom...so...it’s just...umm...limitations that were given here not specific to module itself” (AM1)

“We did almost all the activities inside the class...umm...I don’t know maybe we could have done the activities outside...that’s the only one I don’t know...” (K2)

“While doing the weekly movement activities...umm...we did not talk about much about child’s perspectives, we always talked about our movements” (C2)

“We could have spent more time on design part and seen different schools” (I2)

“Once we did the body awareness and wrote our reflections, we could have spent more time on the discussion with the class because it seemed really important to me...you know...umm...did not talk about it much” (KE2)

In summary, focus group interviews unfolded the strengths and weaknesses of the module. Although the majority of the comments were positive about the module, the students also stated the challenges they faced during practicing some of the activities. In response to all these comments, future modification of the module for different set-ups will be discussed in chapter five. In the following section, students’ responses to the post open-ended questionnaire will be represented.

POST OPEN-ENDED QUESTIONNAIRE

The post open-ended questionnaire administrated during last week of classes aimed to obtain information on student’s beliefs about children’s participation to movement/physical activities, knowledge on movement education, and confidence to teach movement activities. The analysis of the first question revealed that students’ beliefs focused on four major themes: (1) health

benefits (n=17), (2) intellectual benefits (n=16), (3) social benefits (n=14), and (4) enjoyment (n=13). All of the students who responded indicated that physical activity is an important part of a healthy lifestyle for children. Considering the obesity epidemic and the inactivity of today's kids, it is not surprising that majority of the responses was related to fitness and wellness.

Children will be healthier and more fit when get active. This can easily prevent obesity and other health problems related inactivity. Being physically active will also prevent laziness in children and will help their social skills (S6).

I think that physical activity is essential for children. These days, many children spend a lot of time watching TV, playing indoor games, etc. and choose not to be physical active. Physical activity has health benefits and can help prevent excessive weight gain. A child who is physically inactive will probably experiences health issues, whether it is currently happening, or it happens in the future. By introducing physical activity and movement at a young age, it can be instilled in the child to promote a healthy lifestyle (S10).

It keeps them healthy and in shape. It also keeps them active and releases the extra energy they have. They miss out on so much when they are not active. It hurts their body and they are not getting the exercise they need. Energy/exercise is key to a healthy life (S11).

For some of the students, it seemed that body awareness is one of the core components of being physically active. They particularly made comments about the importance of body awareness helping kids to move their bodies better so that they can get active more often.

Children need to be aware of how their bodies move and work. It allows children to get up more and be more active. This also

promotes children to take more responsibility in their health. Otherwise they are more likely to be lazy at home and school (S2).

Obesity is becoming a large problem and children need more opportunities for physical activity. Obese children will have poor body awareness and which can be a major disadvantage for being active (S5).

They need to be active daily or it can have a huge negative impact on their body. While they are moving they will learn things like body and space awareness and fine and gross motor skills. They will also release pent up energy (S7).

Being physically active is really important. If they are inactive they will be obese and they will have poor body awareness (S12)

In addition to the health benefits, majority of the responses indicated the significance of mind-body connection on learning “academic subjects”. Because of its’ benefits on learning, all of the students agreed to incorporate movement and physical activity into their teaching.

It can contribute their cognitive attention. It makes learning fun and helps children to really focus when they need to (S4).

Children need to be physically active. They learn most by experience, exploration, and interaction. They become more focused and creative (S15).

It will help them to keep their attention easily during class. When they get rid of their extra energy they will willing to participate in class (S13).

Being physically active is extremely important for children. It improves their brain function, keeps them focused in the classroom and improves learning (S1).

Social benefits and enjoyment are two other themes emerged from students' responses in relation to benefits of being physical active. The general focus was given to the benefits on improving self esteem, friendship, team work, and mental health.

Children will enjoy the games and be able to learn in a fun and creative way that they love (S14).

It's really important to get kids moving. When they are not active it leads to obesity and lack of concentration in the classroom. Being physically inactive will also promote laziness in children and will not help their social skills (S16).

The students were also asked about daily physical activity needs, fundamental movement skills, and importance of using movement as teaching curricular subjects. Almost all of the students (n=15) were able to mention about the need for a 60-minute of daily physical activity for children. They specifically mentioned about the daily physical activity need to ensure good health and concentration during the class. Therefore, they aimed to incorporate movement into their curriculum in which some of the subjects would be taught directly while being active. Comments such as the following were some examples.

Kids need daily physical activity and this should be at least 60 minute. I think I'll get kids active during the day. It'll help them to learn and concentrate better (S2).

In science classes, for example movement can be used to illustrate body parts. It's a fun way to learn and get active (S5).

It's a great way by adding movement to academic subjects. In this way you can get them active during the day and provide

enough time get to actually be moving and involving and experiencing the lessons (S17)

The last part of the questionnaire tapped into students' confidence to use movement when they become a teacher. At the end of their participation in the 12-week movement education module, all seventeen students responded "Yes" to the question "would you be confident to include movement into your curriculum? Why or why not?". Below is a representation of their responses.

Yes. Movement has increasing benefits for students. I have learned in this course, how easy it is to set aside a few minutes each day to incorporate movement in the classroom. Children's motivation to do work and pay attention in class will increase as well (S2).

Yes, because we learned many tips to use it in our future classroom. We also now know (through our peer teaching) how to integrate movement and different content areas (S4).

Yes. After this class I know techniques to implement movement as well as many advantages of movement I can explain to parents and administrators (S5).

Yes. I would be confident including movement because I have learned a lot from the weekly movement activities in class and through peer teaching (S8).

Yes, because I learned about the benefits it brings. Also I know how much fun I had and I know my students would enjoy it (S11).

Yes I would because I have examples and the proper language to use to explain why movement is important (S13).

I would be very confident to include movement. Keeping students active and learning can make understanding clearer and leave children to live healthier lifestyles (S14).

As clearly noticed from the responses, the students articulated that actively participating in weekly movement activities was one of main reasons for enhancing self-confidence and self-competency to incorporate movement into their future curriculum. At the beginning of the semester there were only two students who stated their competency to implement movement activities for their future classrooms. At the end of the semester, on the other hand, all of the students positively commented on their competency to integrate movement across curriculum.

In general, the module with its different components enabled the students to practice, reflect, and reframe their understanding about movement education. In this chapter, the benefits from participating a semester-long course enriched with a 12-week module were represented through six themes emerging from the student reflections and four themes emerging from the focus group interviews along with the responses to the post-questionnaire. The following chapter will discuss the results while reporting similar studies from the literature.

CHAPTER FIVE

DISCUSSION & CONCLUSION

The purpose of this study was to examine the implementation of a 12-week of movement education module on prospective teachers' perceptions and readiness to incorporate movement in the curriculum. Four research questions that guided this study were: (1) what are the prospective teachers' perceptions about movement education? (2) what are the prospective teachers' perceived benefits from participating to a 12-week module, (3) what are the prospective teachers' perceived competency to incorporate movement into curriculum. (4) what are the strengths and weaknesses of the module in supporting prospective teachers as they construct an understanding of movement education? In the preceding chapter, the discussion of the findings, implications for practice, and recommendations for further research were reported.

The study findings indicated that, on the whole, participating a 12-week of movement-related activities promoted a deeper understanding of movement education and resulted in prospective teachers appreciating the module as a worthwhile experience. The six major themes emerged from the data were: (1) body expression, (2) movement skill exploration, (3) social interaction, (4) teaching approach, (5) new ways of understanding, and (6) professional preparation. In addition to these six themes that emerged from a variety of data sets, the focus group interviews also indicated that the module was found practical in terms providing the prospective teachers opportunities to plan, implement, and reflect on their current and future teaching practices in such a

way that they can proficiently incorporate movement while teaching math, science, or language and literacy. Lastly, responses to the post open-ended questionnaire clarified the changes in their perceptions toward their pre-set beliefs about movement and physical activities that were perceived as teacher-centered, skill-oriented, competition-based, and less playful. In the following sections, each of these emerging themes along with the additional discussion topics from students' reflections, focus group interviews, and post-questionnaire will be discussed and linked to the similar findings in the literature.

The expressive nature of the weekly movement activities provided the prospective teachers an environment where they could work on their body and space awareness along with the relationships they formed with each other and the objects around them. In the first few weeks, however, many students pointed out their concerns of “being ridiculed” by other class members or “looking silly” in regard to body awareness activities that required using body as a focal point while moving. Nevertheless, experiencing those activities on a weekly basis made them feel comfortable about the ways their bodies move and look in front of others. More precisely, when the weeks went on they became experienced with the expressions they performed while moving. According to Sherborne (2001), movement experiences can help educators to develop physical awareness and through such experiences “they become aware of what is happening to their body, listening via touch and by feeling of inner physical sensations rather than by our usual way of looking and thinking. This helps lessen self-criticism and allows people to grow in terms of self-esteem and confidence both at physical and emotional level”.

Kaufmann and Ellis (2007) reported similar findings in a study of pre-service generalist teacher's use of creative movement in K-6 classrooms. Through such activities as lying on their backs and moving, rolling over, creeping, crawling, or jumping, students performed a variety of movement forms that made them feel uncomfortable about their bodily expressions in front of their classmates. However, as the time went by, they were able to develop positive self-image that enabled them to think about incorporating dance into their teaching methodology. Halprin (2003) perceived such movement expressions as a dynamic use of creativity in which "we can try things out, make discoveries, take risks, do it again if does not feel right, be silly, brave, nasty, tear things apart, pull it all back together, or make love and war" (p.19). With time and practice, according to her, this new ways of learning, knowing, and expressing will shape more creative relationships with ourselves. By working in expressive ways each week the prospective teachers in this study were able to express themselves at three levels of awareness: (1) physical (body awareness), (2) emotional (unease about the way they move and look), and (3) mental (imagining/improvising). Through these three levels, they were able to find their own creativity and embrace kinesthetic teaching which should be, as said by Griss (1998), a fundamental part of teacher training. She thinks that "teachers need not be dancers or even comfortable with their bodies to have such insights and to use kinesthetic techniques effectively. They need only take a risk by asking their students to stand up".

This is only possible through introducing practical experiences and creative expressions. Prospective teachers can work on their bodily expressions

along with the basic movement skills necessary for kinesthetic teaching in the classroom. The weekly activities in this particular study provided the prospective teachers with opportunities to explore and to refine a variety of fundamental movement skills essential for implementing a developmentally appropriate movement practices. Once they performed the movement actions, applied the spatial awareness to movement, and used the relationships in movement, they realized how important movement is to someone's overall health and quality of life in general. Some of them specifically pointed out that understanding the ability to be aware of oneself in a given space need to originate early so that when growing older, children's movements will become more controlled. Their enthusiasm to infuse these skills into their classroom might help kids master basic movement skills that will be necessary for participating in more advanced sports in the future (Gallahue & Ozmun, 1998; Goodway et al., 2009; Haywood & Getchell, 2009; Robinson & Goodway, 2009).

Daly, Hudson, Hudson, and Murray (2011) also pointed out the importance of practical experiences for prospective teachers because they see teachers as "key targets for implementing physical education reform in schools, as many primary teachers will be generalists and may not be confident enough to implement PE effectively". In relation to this opinion, very encouraging is hearing about the movement implementations prospective teachers included in their field experiences after participating a semester long course. Nine of them particularly indicated using body and spatial awareness activities for "circle time" and "transitions". This can be considered as one promising advocacy plan for providing movement-enriched classrooms in the future. Similarly, Vera and

Geneser (2012) concluded in their recent study that “some of the pre-service teachers re-introduced their mentor teachers to the idea of play and movement as an effective strategy to motivate and engage children. The surprise and excitement some mentor teachers experienced to use play and kinesthetic movement in classrooms became a favorable outcome from this assignment”.

As indicated in the research literature, pre-service teachers’ confidence levels have been shown to increase as a result of effective professional learning opportunities. At the end of a 12-week of participation to a variety of movement activities, the prospective teachers indicated that increased competency to integrate movement into the curriculum was because of their genuine participation at the physical, intellectual, and social level. Learning about movement as a whole enabled them to enjoy the process while participating in a meaningful and motivating way. In general, they found those activities as relevant and practical so that they would use them in teaching young children. Daly et. al., (2011) also indicated similar results. They examined the effects of an authentic teaching experience entitled “Move It, Use It” on pre-service teachers’ confidence to teach physical education in primary grades. The results showed that through delivering a 40-minute period of physical education lessons to primary school children, the pre-service teachers practiced the teaching skills provided them with vital opportunities to put theory into practice and interact with “real-world” students.

Halprin (2003) found such practical experiences valuable because of their dynamic connection to our lives and she adds: “as we learn how to work with the principles of creativity and the practice of art, we are able to apply what we learn

to all aspects of our lives”. She also perceived movement as a “vehicle of awareness” and an “imaginative form of knowledge” that helps to create an “active relationship with ourselves, with one another, and with the world” (2003). The way the prospective teachers participated in a variety of movement-related activities in this current study also seemed to create a better understanding of self and others. The weekly movement activities have been found to contribute to the development of a sense of community among the prospective teachers who placed high value to the activities that were motivating, entertaining, and interactive in their nature. Through spatial awareness and relationship activities, they had a chance to know not only each other’s personalities but also their physical capabilities as well. Such dynamic interaction styles and shared movement activities helped them to develop trust and build positive relationships with each other.

This finding is consistent with recent work examining the effects of Sherborne Developmental Movement teaching model on pre-service teachers’ emotional competencies. Hen and Walter (2012) reported that body awareness and relationship activities created social interactions that evoked emotional understanding of self and others, improving emotional competencies. Similarly, Ogden, DeLuca, and Searle (2010) found that participation in an authentic arts-based learning course created a sense of community and belonging as well as a sense of equality where all members felt valued. In terms of feeling valued, the prospective teachers in this current study also developed a deeper appreciation toward the responsibility given for microteachings. The majority of them stated the sense of autonomy and planning they felt during planning of their lessons.

They also pointed out the new insights they gained with respect to their teaching actions after watching their lessons. While reflecting on the lessons, they pointed out the techniques that they would take to their classrooms. As emphasized by Hinett, reflection “is about developing, building upon, and in some cases, changing existing behavior and practice” (2003). Plenty of recent studies reported similar findings in regard to the professional growth prospective teachers gained during reflective practices (Amobi & Irwin, 2009; Etscheidt, Curran, & Sawyer, 2012; Robichaux & Guarino, 2012; Young & Knestrict, 2012). Moreover, microteachings not only provided the prospective teachers an ownership of the movement activities, but also they gave them an opportunity to work on the complex nature of teaching. In this way, they became decision makers who could act change agents (Larrivee, 2006).

By practicing the skills and examining the teaching practices, majority of the prospective teachers mentioned the confidence they gained for incorporating movement in their future agenda. Teaching a variety of subjects through movement enabled them to appreciate movement as an important part of a meaningful and an enjoyable way of learning that also can possibly affect student learning in the long term. The way the prospective teachers consider integrating movement into curricular subjects might be an effective solution to the current problem many schools are facing when marginalizing physical education classes for the sake of “academic subjects”. Enthusiasm about using movement as a teaching approach in classrooms seems to be a promising way to keep movement in schools. Recently, Shavol (2011) examined the effects of using movement activities in learning geometry in the third grade. She found that compared to the

conventionally taught control group, the experimental group using movement reached significantly better results in studying angles. In another recent study, Finn and McInnis (2013) found that incorporating movement into traditional science curriculum helped to promote physical activity and academic performance in underprivileged middle school-age students.

When teachers feel confident and competent in their abilities for integrating movement across the curriculum either directly (learning to move) or indirectly (learning through movement) they can embodied learning in an active and enjoyable way. Therefore, it is very essential for prospective teachers to have a variety of hands-on experiences during their teacher education where knowledge, attitudes, behaviors, and skills are reframed and reconstructed. Lourenco (2009) and Xiang et. al., (2002) reported that participating in a semester long course on physical education method course had a positive effect on pre-service classroom teachers' beliefs about the purpose of physical education in elementary classrooms. Consistent with these findings, the prospective teachers in the current study noted that active participation enabled them to reflect and reframe their understanding about movement, teacher roles, and activity settings.

The prospective teachers particularly were impressed by the change in their own perspective toward the nature of movement activities. They were came a long way from when they were teacher-directed, product-oriented, and playless. In his article entitled "The Physical Education Hall of Shame", Williams (1994) wrote about the importance of reexamining the physical education practices which are criticized to "have limited physical activity time, promote minimal

participation, embarrass students in front of their classmates and concern with having fun”. In parallel with his criticism, some of the prospective teachers talked about the negative memories they have from their PE classes. This seemed to create a hesitation in the beginning. The prospective teachers appreciated the gains in knowledge, skills, and joy as a result of their participation in the 12-week module. Similarly, a plenty of research findings have indicated a host of negative attitudes of pre-service teachers toward participating or teaching physical education, as a result of experiencing poor practices as Williams mentioned earlier (Fletcher, 2012; Morgan & Hensen, 2008; Morgan & Bourke, 2008; Petrie, 2010; Pickup & Trace, 2005; Tsangaridou, 2012).

According to Fletcher (2012), teacher education programs play a critical role in empowering prospective teachers’ professional identities for teaching physical education in positive and meaningful ways. He adds that they need to have opportunities to “deconstruct and critically reflect upon their prior physical education experiences, as well as think about possible positive experiences in the future” (p.393).

Being able to reflect on the activities they participated in and microteachings they taught helped the prospective teachers to create such a professional identity in three ways. It enabled them to (1) improve their teaching skills, (2) understand different teaching perspectives, and (3) analyze their own teaching practices. Reflective thinking as stated by Hoover (1994), can facilitate pre-service teachers’ ability to interpret and construct meaning from their practical experiences. It also allows them to make connections between theory and practice. After watching their lessons, many students commented on the

complexities of teaching and the possible acts needed for a similar situation in the future. In relation to these results, Amobi and Irvin (2009) also found that implementing on-campus microteaching helped the pre-service teachers to re-make and self-correct their teaching actions. Similar findings also indicated the benefits of microteachings offering for pre-service teachers to practice effective teaching skills and provide them a safe environment to make mistakes, and grow in their teaching capabilities (Amobi, 2005).

It is evident that teacher education programs can have a considerable impact on the knowledge, skills, beliefs, and attitudes of prospective teachers. The findings of this study suggest that participating in a 12-week of movement education module can boost early childhood prospective teacher's confidence and competence to integrated movement into the curriculum. This study supports the findings of other studies which examined and evaluated supportive ways for prospective teachers to enhance their confidence for teaching movement and physical education. Within teacher education gaining practical experiences in teaching movement to young children is urged. Generalist teachers can increase their competency to teach movement and tie it with the curriculum and look forward to the benefits for incorporating movement as a total part of their curriculum.

One of the limitations of this study was lack of participants' interpretations on the results. The researcher did not conduct a member check to see the student's comments on the focus group interviews. Another limitation was the restrained ability to generalize the results to a larger population. The sample was drawn from one of the sections of a three-credit *The Child's Play as Educative*

Process course where all the seventeen students were females. Moreover, the content of the course was specific to this study and this limits generalizability. Future research might seek to conduct a similar study with a larger number of participants in other sections of the same course to see if the results can be replicated. Further research might focus on observing prospective teachers implementing movement activities with young children during their field experiences. Follow up interviews or observations would help to see the long-term effects and implementations of the movement-related activities learned during their teacher education.

Multiple data sets used in this study indicated the value of practical experiences on the prospective teachers' personal and professional growth. Having this opportunity during their teacher education gave them a chance to think and reflect on their teaching skills in relation to movement in a learner-centered, process-oriented, and playful ways. In this way, they felt better equipped as future teachers who will be responsible to meet the physical needs of children along with the cognitive and social needs. Therefore, teacher education programs play a critical role on the development of prospective teachers' pedagogical knowledge through offering a variety of practical experiences that will promote a positive change in students' attitudes, confidence, and knowledge (Bowie, 2013). As they acquire more knowledge and hands-on experience simultaneously, they become more confident and independent on planning activities that will benefit for the students in the long term.

The prospective teachers in the current study were appreciative of their physical, intellectual, and social participation to the discussions through

movement-related activities. They also pointed out the limited opportunities to be physically active during their 3-hour long methods courses where most of the discussions are verbal and not including movement at all. Alibali and Nathan (2011) pointed out the same concern about using limited “body-based resources” during the methods courses at the teacher education programs:

When one delves further into the instructional strategies offered to pre-service teachers one finds an overwhelming emphasis on the verbal channel. In our view, there should be a place in teacher education for the consideration of how speech and body-based resources such as gesture can work in concert to implement effective and engaging instruction that promotes deep understanding of fundamental ideas in mathematics and other content areas (p.30).

When teacher educators provide them an environment where movement or “body-based resources” are embedded into methods courses, they become competent and confident to create similar practices into their classrooms. Therefore, as teacher educators, we have a responsibility to create such active learning environments so that they can be encouraged to use their own personal bodily expressions during teaching. They also need to be able to participate and reflect on the process of their learning. In this way, they can see the complex nature of teaching and find possible solutions for their future career.

The 12-week movement education module embedded into a three-credit course on play as an educative process can be considered as one of the ways to lead up such innovative teaching practices at colleges who prepare future educators for young children. However, the interventionist nature of a design-

based research in the current study indicated that the module as it stands needs further modifications for its potential use in the future. For instance, instead of asking actually to perform bodily expressive activities at the beginning of the semester, the students can be invited to an intellectual discussion about the ways their bodies move. They can first verbally describe their most proud or embarrassed moments in their childhood or adulthood relative to movement. Talking about those moments and reflecting on them would prepare students mentally in such a way that it brings a new awareness of and appreciation for bodily expressive activities. Meyer (2012) described such kind of shift as “Embodied Transformative Learning” and she commented

As a facilitator, when using embodied strategies such as improvisational games, I have witnessed and documented many examples of what I now believe to be “embodied transformative learning,” in which the transformation came not in the form of a perspective shift but through a shift in the embodied experience as adults co-create the space in which it is safe to participate with their whole selves and become aware of and engage their whole bodies as well as their emotions, intuition, humor, environment, and each other (p. 29).

As what Meyer said about the benefits of “embodied strategies”, a variety of improvisational activities were also included throughout the semester because of their genuine contribution to the prospective teachers’ “whole selves” including physical, social, and emotional. According to Meyer (2012), these strategies particularly allow to set the stage for people to play new roles and discover new capacities to explore beyond the familiar. Recognizing embodied practices in classrooms and design curriculums accordingly will open up the authentic and holistic possibilities for teaching and learning that incorporate the whole body

approach (Chapman, 1998).

The results of this research indicated that it is possible to boost prospective teachers' confidence and competencies to integrate movement into curriculum through practical and hands-on experiences over a semester long course on play as an educative process. The module, if not all, can be adapted for different teacher education courses through including improvisations, movement performances, role plays that are considered to be an embodied learning as well. Rather than just asking to respond verbally, teacher educators can encourage prospective teachers to dramatize or act out the situations or cases in relation to the subject matter being taught. Inviting prospective teachers to a variety of embodied learning practices and giving them a permission to perform different situations or cases in an environment where they feel secured and valued will definitely benefit them on becoming an “actors” for their future classrooms.

To conclude, the current study findings provided a deeper understanding about the significance of movement and embodied learning practices for prospective teachers. Discussing the study findings with other teacher educators and informing them about the implementations of this authentic learning example will not only promote collegial partnerships but also improve teacher education programs that embrace whole body approach in the classrooms.

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APPENDIXES

Appendix A: IRB Approval

PENNSYLVANIA STATE UNIVERSITY



Vice President for Research
Office for Research Protections

The Pennsylvania State University
The 330 Building, Suite 205

Phone : (814) 865-1775
Fax: (814) 863-8699
Email : orprotections@psu.edu
Web : www.research.psu.edu/orp

Date: July 03, 2012

From: The Office for Research Protections - FWA#: FWA00001534
Stephanie L. Krout, Compliance Coordinator

To: Serap S. Celik

Re: Determination of Exemption

IRB Protocol ID: 40442

Follow-up Date: July 2, 2017

Title of Protocol: Incorporation of Movement Activities into Pre-Service Teacher Education.

The Office for Research Protections (ORP) has received and reviewed the above referenced eSubmission application. It has been determined that your research is exempt from IRB initial and ongoing review, as currently described in the application. You may begin your research. The categories within the federal regulations under which your research is exempt are:

45 CFR 46.101(b)(1) Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

45 CFR 46.101(b)(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Given that the IRB is not involved in the initial and ongoing review of this research, it is the investigator's responsibility to review [IRB Policy III "Exempt Review Process and Determination"](#) which outlines:

- What it means to be exempt and how determinations are made
- What changes to the research protocol are and are not required to be reported to the ORP
- Ongoing actions post-exemption determination including addressing problems and complaints, reporting closed research to the ORP and research audits
- What occurs at the time of follow-up

Appendix B: Informed Consent

All students will turn in this form, whether or not you opt to participate. Please initial either “accept” or “decline” for each of the two activities described below, and then sign and date the bottom of the page. Please also choose an 8-character identifier that you will use in place of your name when you answer the two in-class questionnaires. You may keep the extra copy of this document for your records.

I have read and understand the contents of this form, and I voluntarily agree to participate in this project by allowing the researchers to use information from my **questionnaires** and **reflective papers**. I realize the questionnaires and reflections are a regular requirement for the course regardless of whether or not I participate in the study. I understand that the results of the study will be disseminated among movement education professionals in publications and conference presentations, and that all names and place references will be changed so that my identity will remain confidential. I also understand that I may withdraw my participation at any time.

Student: Initial either “accept” or “decline” below:

_____ Accept

_____ Decline

I grant my permission for the researchers to audiotape focus group **interviews** with me and to use portions of those interviews in publications and at professional conferences. I understand that all names and place references will be changed to ensure that my identity remains confidential. I recognize that I am not required to respond to any question that I choose not to answer. I also understand that I can withdraw authorization at any time by providing both researchers with written notification.

Student: Initial either “accept” or “decline” below:

_____ Accept

_____ Decline

(Print) Student Name

8-character identifier

Student Signature

Date

Appendix C: Cover Letter

Dear Student,

We are from the College of Education at the Pennsylvania University and would like to include you, along with your peers, in a research project that will collect information about your participation in ECE 479, The Child's Play as Educative Process. You will be asked to complete questionnaires that ask about movement. You will also be asked to participate weekly movement activities for a 12-week, and peer teaching that will enhance your ownership of movement activities. You may also be asked to participate in an audio-taped focus group interview at the end of the semester in order to expand upon your questionnaire responses, weekly movement activity reflections and peer teaching reflections. The information you supply will help us understand more clearly how pre-service teachers form beliefs about teaching movement.

We anticipate that approximately 24 pre-service teachers will participate. The initial questionnaire will be administered during regular class time at the beginning of the semester. You will be asked to write a response for each question that indicates your content knowledge about movement education. The same questionnaire will be administered during regular class time at the end of the semester. The questionnaires, weekly movement activities, and peer teaching are a part of the regular course requirements, regardless of whether or not you consent to participate in this study. However, we will only use your responses as research data if you give your consent.

Your participation in this project is completely voluntary. Only those students who want to participate will do so. Every student will return the attached form, whether or not you choose to participate. Please initial next to either “accept” or “decline” for both sections. You will be free to withdraw your participation in this study at any time and for any reason without penalty. We are confident that the time you spend participating in the study will be productive and rewarding. You will be encouraged to self-reflect in a way that may boost your understanding of how to become a better teacher. It will also make a significant contribution to the field of movement education by identifying the most appropriate methods and approaches for university training programs. We expect that there will be no risk to participating in this study beyond those that exist in a typical method course. Your decision to participate or not, to stop at any time, will not affect your standing in ECE 479. The information obtained during the research project will be kept strictly confidential. Any sharing or publication of the research results will not identify any of the participants by name. For information about research participants’ rights, feel free to call the IRB Office at 814-865-1775 or ORProtections@psu.edu. If you have any questions or would like to discuss this research, please contact us using the information below.

Sincerely,

Professor James Ewald Johnson
Phone: (814) 865 2230
E-mail: jej4@psu.edu

Serap Sevimli-Celik
Phone: (814) 441 3240
E-mail: sxs1070@psu.edu

Appendix D: ECE 479 Course Outline

Weeks	Dates	Schedule of classes
1st Week	8-27-12	Introductions Syllabus review Consent Forms/Pre-questionnaire Assignment of presentations
2nd Week	9-3-12	LABOR DAY-NO CLASS
3rd Week	9-10-12	Keep Moving: Body Awareness Chapter 1: Beliefs about play Play memories drawing activity
4th Week	9-17-12	Keep Moving: Body Awareness Chapter 2: Theories of play Case study discussions Case study reflection paper DUE
5th Week	9-24-12	Keep Moving: Body Awareness Chapter 3: Play development and assessment: Birth to eight years Play and learning standards activity
6th Week	10-1-12	Keep Moving: Body Awareness Chapter 4: Diversity and individual differences in play Presentation: Math Through Movement
7th Week	10-8-12	Keep Moving: Body Awareness Chapter 5: Play's role in development Presentation: Language & Literacy Through Movement
8th Week	10-15-12	Keep Moving: Space Awareness Chapter 6: Play contexts: Physical environment, social ecology, and culture Presentation: Multi-cultural Education Through Movement Theory of Play DUE
9th Week	10-22-12	Keep Moving: Space Awareness Chapter 7: Educational play Presentation: Science Through Movement Letter to Parent DUE
10th Week	10-29-12	Keep Moving: Space Awareness Chapter 8: Enriching classroom play: Materials and curriculum Toy Analysis Activity Presentation: Creativity Through Movement
11th Week	11-5-12	Keep Moving: Space Awareness Chapter 9: Enriching classroom play: Teaching strategies and facilitation technique Indoor environment design activity Presentation: Social Studies Through Movement Assessment & Documentation Plan DUE
12th Week	11-12-12	Keep Moving: Relationships Chapter 10: Play for children with special needs and circumstances Presentation: Inclusive Classrooms Through Movement Play and Play Setting/Space Observation DUE
13th Week	11-19-12	THANKSGIVING WEEK- NO CLASSES

14th Week	11-26-12	Keep Moving: Relationships Chapter 11: Popular Culture, Media, and Technology Presentation: Music & Movement
15th Week	12-3-12	Keep Moving: Relationships Chapter 12: Outdoor play Outdoor environment design activity Physical Health Through Movement
16th Week	12-10-12	Course Wrap Post-questionnaire Discussion & suggestions for future courses Play & Education Position Statement DUE

Appendix E: Student Questionnaire

Please create an 8-character code that will be used to identify you throughout semester.

8-character code here: _____

FIRST PART

Current Semester standing: _____

Gender: M ___ F ___

Age Range: 18- 20, 21-23, 24- 30

Degree: _____

Your expectations from this course:

1. Please describe your movement/physical activity experiences for each age group?
 - a. Preschool:
 - b. Elementary School:
 - c. Middle School:
 - d. High School:
 - e. College:

2. Please list any course on movement/physical education/dance that you have taken previously and briefly describe content of the course/s.

3. What are the advantages of being physically active for young children?

4. What are the disadvantages of being physically inactive for young children?

SECOND PART:

5. What do you know about young children' daily movement/physical activity needs?

6. What do you know about fundamental movement skills?

7. Can you give 3 examples of:
 - a. Locomotor skills:

 - b. Non-locomotor skills:

 - c. Manipulative skills:

8. What do you think about the role of movement in teaching curricular subjects?

9. As a teacher, would you be competent to implement movement in your classroom?
Why or why not?

10. Do you have any additional information you would like to share with us?

Thank you for taking time to complete this questionnaire.

Appendix F: Weekly Movement Activities

Movement Concepts	Categories	Activity Focus	Activity Explanations
BODY (What the body can do)	Traveling	<ul style="list-style-type: none"> Moving the body from one location to another 	<p>#1: Move to music; when music stops make a pose #2: Walk taking giant steps; baby steps. Walk with feet close together, apart, wide, narrow #3: Walk on your tiptoes; walk tall, low. Walk on your heels. Walk fast/slow.</p>
	Balancing (static & dynamic)	<ul style="list-style-type: none"> Balancing and maintaining postural control 	<p>#1: Use different body parts to balance on (back/knees/elbows/head) #2: Move in different ways to music; when it stops, perform a balance on 2/3/4 body parts #3: Walk backwards/forwards/sideways with arms out to sides.</p>
	Manipulating	<ul style="list-style-type: none"> Handling and controlling objects 	<p>#1: Walk with a beanbag on your head/shoulder/knee/elbow/ back. #2: Walk backwards/forwards/ sideways with a beanbag on you head/shoulder/knee #3: Throw your beanbag high/low/sideways</p>
SPACE (Where the body can move)	Personal	<ul style="list-style-type: none"> Using immediate space while moving 	<p>#1: Find your home space and walk in your own space #2: Walk in your space like a penguin, a crab, a gorilla, a robot. Invent your own walk! #3: Hop, jump, skip, run in your own home space</p>
	General	<ul style="list-style-type: none"> Using all space that can be used everyone 	<p>#1: Walk in general space #2: Walk with a partner in general space #3: Walk with three/four/five/six people; walk together as class in general space.</p>
	Directions	<ul style="list-style-type: none"> Moving through different pathways and directions 	<p>#1: Walk forward/backwards/sideways in general space #2: Walk forward/backward/sideways with a partner #3: Copy your partner's body movement while walking zigzags/sideways/backwards/forwards</p>
RELATIONSHIPS (The relationship the body creates)	Body	<ul style="list-style-type: none"> Creating relationship between the body and the body parts 	<p>#1: Create a pose and then add on second pose, then add on third pose #2: Move to music; when it stops touch knee to elbow, shoulder to hand, hand to head #3: Listen to music and create your rhythm and repeat the same rhythm with different music</p>
	Partner	<ul style="list-style-type: none"> Creating relationship between the body and other mover 	<p>#1: Connect with a partner palm to palm, knee to knee, shoulder to shoulder #2: Find ways of balancing on 2 body parts, three body parts, four body parts #3: Hit the balloon back and fort to each other using different body parts</p>
	Object	<ul style="list-style-type: none"> Creating relationship between the body and the object 	<p>#1: Move to music; when it stops position your self to an object or piece of equipment #2: Touch a body part to objects in the environment; head to ground, elbow to chair #3: Kick the balloon your knee/elbow/head/shoulder/nose/finger/foot</p>

Appendix G: Weekly Activity Reflections

8-character code:

Date:

1) What skill/skills did you explore in this activity?

2) What was your favorite part of this activity and why?

3) What was most challenging part of this activity and why?

4) If you were the teacher, how would you integrate this activity into your curriculum?

5) What modifications would you make to this activity?

Appendix H: Microteaching Lessons

Topic	Date	Presenter 1	Presenter 2
Math Through Movement	10-1-12		
Language & Literacy Through Movement	10-8-12		
Multicultural Education Through Movement	10-15-12		
Science Through Movement	10-22-12		
Creativity Through Movement	10-29-12		
Social Studies Through Movement	11-5-12		
Inclusive Classrooms Through Movement	11-12-12		
Music & Movement	11-26-12		
Physical Health & Movement	12-3-12		

Lesson Example

Language & Literacy Through Movement

IV. Appendix

o Lesson Plan Outline:

- i. Supplies:
 - Cut out letters (or write letters on board)
- ii. How to do activity:
 - Break lesson into three parts based upon age and skill level
 - a. For younger students:
 - i. Work as individuals
 - ii. Teacher holds up (or writes down) a single letter from the alphabet
 - iii. Student will make this shape with his or her body
 - b. To make more complex:
 - i. Put students in groups of 2-3 people
 - ii. Have them work together to spell out simple, 3 letter words
 1. Examples: Cat, Dog, The, Run, Dad, etc.
 - c. More advanced:
 - i. Divide class in half
 - ii. Students will work together to spell out more complex words with their bodies
 1. Examples: Days of the Week, Months, etc.
- iii. In conclusion...
 - This lesson incorporates spelling and movement. It is a fun way to promote language and literacy, while the students are actively participating. Through movement and play, the students are able to be more focused, which in turn, will help them to better understand and remember these concepts that are being taught.
 - This lesson can be manipulated in many ways for different age groups and different skill levels. Additionally, because no supplies are necessary (unless the teacher chooses to make his or her own letters, instead of writing the letters on the board), this activity can easily be done and incorporated into the daily classroom schedule.

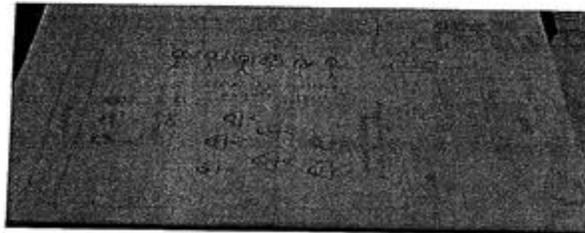
Lesson Plan Idea

<http://www.peccentral.org/lessonideas/ViewLesson.asp?ID=305>

Materials used:



Sketch of space:



Appendix I: Self Reflection of Microteaching Lessons

I. Framing

Please explain the rationale behind your teaching approach, subject area, and preparations for your microteaching.

II. Implementation

Please explain the delivery of your microteaching, the techniques you used, the rationale for choosing this technique, and the reactions of your peers to your microteaching

III. Results

Please explain the following:

- What did you learn from your teaching?
- Would you give the same teaching again? Why? Why not?
- What was the most difficult part of teaching the lesson?
- What was the most positive part of the lesson?
- What do you think about your competence to demonstrate the movement skills?
- How was this teaching experience different from the instructor-directed movement activities you are participating every week?
- Is this video reflection helpful for you? Why or why not?

Appendix J: Focus Group Interviews

Date:

Number of Interviewees:

1. How would you describe weekly movement activities in terms of;
 - a. Quality?
 - b. Usefulness?
 - c. Match for your own professional learning needs?
2. What have you learned from participating in movement activities in general?
 - a. Tell me about your positive experiences you've had?
 - b. Tell me about your disappointments you've had?
3. What do you think about the microteachings and video analysis of you lesson?
4. What do you think about weekly reflections? Was it helpful? How?
5. Would you be willing to implement the movement activities in your future teaching practice? Why or why not?
6. How would you like movement activities to be different next year in order to better meet pre-service teacher needs?
7. Is there anything else you'd like to tell me about movement activities specifically or in general? Any concerns you have?

Appendix K: Field Trip Consent Form

Date decided: _____
Decision: _____ Type of activity: _____

The Pennsylvania State University
HDFS Children's Programs

REQUEST TO USE THE PROGRAMS
The Bennett Family Center
The Child Care Center at Hort Woods

Date 10/03/2012

For Hort Woods return form to:
Linda Duerr, Director of Education
203 Hort Woods
University Park, PA
PH: 814-863-0267 FAX 814-865-5080

For Bennett return form to:
Wendy Whitesell, Director
123 Bennett Family Center
University Park, PA
PH: 814-865-4057 FAX 814-863-4523

Name of applicant: Serap Sevimli-Celik

Address: 220 Chambers Building, University Park, 16802, PA/US.

Telephone: 814-441 32 40 E-mail: sxs1070@psu.edu

Applicant university affiliation: faculty X graduate student _____ undergraduate student _____

Other (specify): _____

If this project is to be completed for credit, please list the department, course number and title:
Early Childhood Education, ECE 479- Child's Play As Educative Process

Approximate number of students involved: 17

What type of activity are you requesting (check all that apply):

1. ___ Passive observation on the playground or in classrooms-no interaction with children
2. ___ Conducting a survey
3. ___ Teacher or administrator interview
4. * **Photo or videotaping or recording in classrooms or on playground (The students will observe and take photos of the playground and equipments—not children)**
5. ___ * Conducting and activity with the children in classroom or on playground
6. ___ * Conducting an activity with the children off site or outsider of the center
7. ___ * Other (please specify) _____

Request to use HW 8/2012

***The Child Care Centers operate in full compliance with PSU AD 39 and will adhere to AD 39 and other licensing and supervision policies in consideration of all requests to use the program.**

(over)

Who will the activity involve (check all that apply):

<input type="checkbox"/> Infants and toddlers (0-3 years)	<input type="checkbox"/> Preschoolers (3-5 years)
<input type="checkbox"/> Infant/toddler teachers	<input type="checkbox"/> Preschool teachers
<input type="checkbox"/> Infant/toddler parents	<input type="checkbox"/> Preschool parents
<input checked="" type="checkbox"/> Program director/administrator	
<input type="checkbox"/> Other (specify) _____	

How many visits to the program will be required by each person involved (**see limits on observation requests below**). Please include as much detail as possible; days per week, number of hours required etc.: **Only 1 day, 1-2 hours**

Approximately how long will each visit last: 1 to 2 hours

Proposed beginning date: 10/22/2012

Proposed ending date: 10/22/2012

Provide or attach a brief description of the activity. For class projects, a copy of directions from the instructor is fine. A course syllabus is also appreciated. Thank you.

Outdoor Play Environment: Describe the outdoor play environment and its' affordances (e.g. a tree can afford climbing or swinging) for children's play and movement. Sketch diagrams with identifiers. Take photographs if you have permission. (Also please see the attach syllabus)

Observation is limited to two visits per observer and to a 1.5 hour time period per visit.

NOTE: Applications MUST be received and approved prior to proposed beginning date. Decisions about certain types of involvement could take as long as two weeks.

Update: 8/12

VITA

Serap Sevimli Celik

Education

Ph.D. in Curriculum & Instruction (2014). The Pennsylvania State University, University Park, PA, USA.

Master of Science in Physical Education and Sports (2008). METU, Ankara, Turkey

Bachelor of Science in Early Childhood Education (2005). METU, Ankara, Turkey

Professional Experience

Graduate Instructor (2012-2014). The Pennsylvania State University, University Park, PA, USA.

Assistant to the Editor of Handbook for the Study of Play (2012-2014). The Pennsylvania State University, University Park, PA, USA.

Supervisor of Student Teachers (2010-2012). The Pennsylvania State University, University Park, PA, USA.

Peer Reviewed Articles

Sevimli-Celik, S., & Johnson, J.E. (2013). "I Need To Move And So Do The Children". *International Education Studies*, vol.6, no.5, 1-10.

Sevimli-Celik, S., Kirazci, S., & Ince, M. L. (2011). Preschool Movement Education in Turkey: Perceptions of Preschool Administrators and Parents. *Early Childhood Education Journal*, vol.39, no.5, 323-333.

Book Chapters

Johnson, J.E., Al-Mansour, M., Sevimli-Celik, S. (2013). *Researching Play in Early Childhood*. Handbook of Research Methods in Early Childhood Education. Routledge.

Johnson, J.E., Sevimli-Celik, S., & Al-Mansour, M. (2012). *Play in Early Childhood Education*. Handbook of Research on the Education of Young Children, 3rd Edition. Routledge.

Selected Conference Presentations

Sevimli-Celik, S., & Johnson, J.E. (2011, November). *Preschool teachers' attitudes toward physical education: Need assessment study*. Paper presented at the NAEYC's Annual Conference in Orlando, Florida

Sevimli-Celik, S. (2011, April). *Understanding of play in Turkish cultural context*. Paper presented at the Association for the Study of Play's 37th Annual Conference in Rochester, New York.