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Early childhood educator training: The value of educating educators on movement, play, and physical literacy development – A three country case study

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ABSTRACT: A child's early movement and active play experiences influence their attitudes towards physical activity throughout their childhood and into adulthood (Blair, 1992). Yet, it has been suggested that early childhood educators (ECEs) may not recognize the importance of, or give enough attention to, movement skills and physical development opportunities for young children (Clark, 2014; Whitehead, 2010). The education, or lack thereof, that ECEs receive could be an important factor. International comparisons of overall ECE preparation and training have demonstrated that some countries' ECEs are more highly educated than others (Howells and Sääkslahti, 2019). Using a case study approach, this paper conducts an analysis and comparison of three countries to examine the value and role of physical activity/movement education for ECEs to enable them to support physical literacy development in early childhood educational settings. In addition, lessons learned from creating such educational opportunities in the context of their various locations (Manitoba in Canada, Kent in England, and Escambia County, FL in U.S.A.) are discussed. A purposeful sample was used as these countries have relatively low levels of educational requirements for ECEs, yet children start attending early years' education from the earliest life points (Howells & Sääkslahti, 2019).

Key words: *education of early childhood educators; play; physical activity; physical literacy development*

Introduction

In this article the authors propose that children may be missing out on movement and play opportunities within early education settings. Early childhood educators (ECE) undertake an important role in children's physical literacy development, yet ECEs may lack sufficient knowledge and understanding about it (Buckler & Bredin, 2021). The World Health Organization (WHO) (2019) also emphasized that early childhood is key for forming lifelong physical activity. Families and educational settings play an important role in forming physical activity routines and valuing movement (Lu & Montague, 2016), as well as helping young children understand themselves and the world around them.

Every child throughout the world learns about their body through playing and moving. Children within all cultures play, and Bruner (1983) described movement and actions as a representation of the culture of childhood. A child's early movement and physical experiences influence their attitudes toward physical activity throughout the rest of their childhood and on into adulthood (Blair, 1992). Janz et al. (2005) echoed Blair's (1992) earlier thoughts and highlighted that early childhood is a vital time for developing healthy physical activity, sedentary behavior patterns, and sleep habits that would shape not only their childhood, but also into adolescence and adulthood. Howells et al. (2018) stated that "most children prefer physical play, and physical competence can be a major factor in influencing social acceptance for mental and emotional wellbeing in children" (p. 97).

While the value of play, movement, physical activity, and physical literacy in the early years are acknowledged by international groups (International Physical Literacy Association, [IPLA] 2022 and the United Nations Committee on the Rights of the Child, 2013), differences have been found within international comparisons of ECE preparation and training with some ECEs being more valued and more highly educated than others (Howells & Sääkslahti, 2019). Using qualitative methodology, this case study draws on an international analysis of three countries to discuss the importance and role of physical activity/movement training for ECEs to develop physical literacy in early childhood educational settings. Additionally, lessons learned from creating such training opportunities in the context of their various locations: Manitoba in Canada, Kent in England, and Escambia County, Florida in the U.S.A. will be presented.

Theoretical framework

Physical literacy provided the foundation for this case study as we reflect on the ECE training that values movement, play, and physical activity. Whitehead (2010) defined physical literacy as the "motivation, confidence, physical competence, knowledge and understanding that individuals develop throughout their life" (p.11). She believed that

being physically literate allows individuals to maintain a lifelong positive attitude towards physical activity. Adults and children who display physical literacy are positive and confident in their own physical abilities to carry out everyday tasks with ease. Whitehead (2013) later highlights that physical literacy is a movement with "poise, economy and confidence in a wide variety of physically challenging situations" (Whitehouse, 2013, p. 28). She emphasized that it is not a state that is reached, but is persistent throughout life. The key from an ECEs' perspective is to provide experiences that enable children to progress in their physical literacy journey and to encourage children to be motivated, confident, and physically competent.

IPLA (2016) shared their view of how physical literacy is often seen within early childhood as 'physical curiosity' which is the way in which young children explore and engage in movement, to learn what their own bodies can do and how they learn to move in a variety of different directions. This physical curiosity is often seen in play or play based activities. IPLA (2016) also reminds us that time is needed for this exploration to allow infants to physically learn. This curiosity is often seen in a variety of different ways and stages, from crawling, to falling, to breaking things, to tripping over, often observed when infants repeat an activity and adapt their movements in response to the previous stimulus and response. Howells et al. (2018) highlights that this repetition of movements allows young children to actively explore their own movement capabilities through learning to perform stabilizing locomotor and manipulative movements. These are often first seen in isolation and can appear as if the child is stuttering in their movements, while they make sense of the environment.

Yet, it has been suggested by both Whitehead (2010) and Clark (2014) that ECEs may not recognize the importance or give attention to movement skills or know how to develop physical literacy in young children, as they tend to focus on language, numeracy, and social and emotional skills development. Consequently, the authors of this paper have joined together to compare early childhood educator training experiences of movement, play, and physical activity that will better support development of physical literacy in the early years.

Aim of study

This study focused on ECE preparation and training and the value of educating them on movement and physical literacy development. A case study design examined: 1) context of ECE training; 2) solutions and lessons learned when training ECEs to encourage young children to move, and 3) suggestions for future ECE training to enhance their knowledge, competence, confidence, and motivation of physical literacy within the early childhood setting.

Method

A case study design allows focused analysis of the programs implemented within the three countries. This research approach is "used to generate an in-depth, multifaceted understanding of a complex issue in its real-life context" (Crowe et al., 2011, p. 1). Additionally, this research method was selected to provide a foundation of knowledge by examining detailed information about ECE training undertaken within these three countries. Humes and Bryce (2001) advised that researchers can use case studies to investigate activities (such as programs) to yield new knowledge and understanding. The new knowledge and understanding within this paper are linked to the emerging themes within the data analysis.

This case study used convenience sampling of three countries' experiences providing authentic examples of ECE training that incorporated physical activity, movement opportunities, and active play in early learning settings: Manitoba, Canada; Kent, England; and Escambia County, Florida, U.S.A. The three countries were selected since each of these countries have relatively low levels of educational requirements for ECEs compared to the rest of the world (Howells & Sääkslahti, 2019). Yet within these countries, children start attending the early years' educational settings from the earliest life points (Howells & Sääkslahti, 2019) with the expectation that children will be cared for by qualified knowledgeable early years' educators.

Analytical procedures

Thematic analysis was used to highlight similarities and differences among ECEs training programs implemented in the three highlighted countries to gain insight into the childhood education training related to physical literacy (Braun & Clarke, 2006; Nowell et al., 2017). The authentic examples of the ECE training within the 3 countries are used. Specifically, analysis included data from each country related to program development, intended audience, program delivery format, and key program focus area (Table 1). Emerging themes were chosen to reduce bias and increase trustworthiness of the analysis. Williams (2008) believed that the use of emergent themes provides rich and detailed insights which help to reduce the temptation of pre-established directions of the data. This is especially important since all of the authors of this paper are based within university settings who supported both initial training and continuous professional development (CPD) of ECEs. Williams (2008) also suggests that emergent themes are suitable as they elucidate connections between the data, which was important when viewing the data from the three focused countries. Research triangulation, as proposed by Morgan and Ravitch (2018), was also used to enhance the trustworthiness of the data. By using multiple researchers within the analysis of the data, this prevented just their

own country viewpoints and bias being presented, and allowed the authors of this paper to bring together unique insights across all three countries. For each case, ethical approval was given by their university's institutional review board.

Data analysis was guided by emerging themes related to:

1. ECE preparation
2. training ECEs to encourage movement in the early years
3. enhancing the development of physical literacy for ECEs.

Context of the three countries within the case study

Early childhood education programs from specific regions within the three countries are presented. The demographics, below, for each region are provided which includes the number of child care workers and number of children enrolled in child care centers. Educator preparation certification and license criteria are described. Next, curriculum and educational standards for each region are identified that relate to physical development of children with age specific benchmarks defined. Finally, the development of educator training programs and examples of such training are presented from each region.

Demographics, educator preparation, PA curriculum standards and professional development

Manitoba, Canada. Canada has 10 provinces and three territories, each with its own provincial or territorial government. Since education governance, and subsequently curricula and educator training, is controlled at the provincial/territorial level in Canada, it makes sense for the purposes of this paper to focus on an individual province. Manitoba has close to 44,000 children attending licensed child care settings (Statistics Canada, 2022). Here, like all other Canadian provinces, there is heavy demand for early childhood care with over 60% of Canadian children aged 0-5 attending a daycare center or home daycare (Findlay, 2019).

The *Community Child Care Standards Act* (Manitoba Government [MG], 2021) and its regulations define the types of child care that require licensing and set minimum standards that facilities must meet in areas such as staff qualifications, supervision, space, health and safety, nutrition, programming and behavior management. Not all child care facilities in the province need to be licensed. An individual can operate private home child care without a license, if they are watching four or less children. However licensed facilities do provide a vast majority of the child care places available in the province (39,214 places) (Manitoba Department of Families [MDoF], 2021).

In Manitoba, all caregivers working at a licensed facility are required to have at least a secondary school diploma and current First Aid/CPR training certification. Based on their education and training, they are categorized into one of the following three classifications: Child Care Assistant (CCA), Early Childhood Educator II (ECE II), Early Childhood Educator III (ECE III). To start a position as a CCA, individuals are not required to have post-secondary education specific to early childhood education, however they must complete a 40-hour training course within their first year of employment. ECE II classification requires a degree or diploma specific to early childhood education with a minimum of 1800 to 2000 study hours including 520 hours of fieldwork/practicum through a recognized post-secondary institution. An additional college level credential above the diploma level, with a specialization in early childhood (e.g., The Child Care Centre Administration Certificate Program), is required to reach the ECE III level (MG, n.d.). In full-time child care centers, a minimum of one staff member per group of children (maximum 16 children) must be certified at ECE II or III level. Child care center directors must have ECE III qualification. As of 2021, the province's licensed early child care facilities employed 1,926 ECE II level caregivers and 806 ECE III level caregivers (MDoF, 2021).

Manitoba's early learning and child care (ELCC) framework is divided into three components: interactions and relationships; environments; planned and spontaneous experiences with an overarching focus on providing play based learning experiences (MG, 2014). In relation to physical development, the framework suggests that the centers must provide children with a variety of play spaces, facilities, and equipment that support dramatic; fine motor; large muscle; block and construction; science, water and sand; and other play choices. Additionally, every licensed child care provider in Manitoba must provide and maintain indoor and outdoor play equipment. There are no specific physical activity standards or requirements in the framework, however it is suggested that caregivers should provide at least 45 to 60 minutes of uninterrupted free play each day. Furthermore, caregivers are to provide outdoor play time daily (weather permitting), and all licensed facilities are encouraged to have a daily routine that includes time for individual play, small group play and activities that promote children's small and large muscle development (MG, n.d.).

In Manitoba, there are no requirements for ongoing professional development for ECEs. ECEs must only complete education as a means to reach different levels of classification. There are some organizations that offer professional development opportunities for local ECEs, such as the Manitoba Child Care Association (MCCA) and Fit Kids Healthy Kids. However, professional development opportunities specifically related to the physical development of children are few and far between.

Kent, England. Within the U.K. there are four countries, England, Wales, Scotland and Northern Ireland, each country has its own early years' curriculum. England has 48 counties (similar to states in the U.S.A., and provinces in Canada) however they are all governed by the Government of the U.K. The focused county for this paper is Kent, which is on the South East Coast of England. The Kent County Council (2019) reported that children aged 0-4 are provided at least four hours a day of sessional or full day-care, pre-school, or nursery. At the time of this report, there were 751 child care and early education places in Kent County serving 40,845 children. Childminders, who can care for children in their homes, are another 1099 providers who offer an additional 2700 places.

In England, ECEs must have either a level 2 certificate in child care (134 hours of learning online and modules on importance of play; young children's development) or a level 3 diploma in early years education and care (300 hours of learning online and 2 mandatory modules on child development: conception to 7 years and children's health and wellbeing). Approximately 80-82% of staff have up to level 3 qualification (Department for Education[DfE], 2021a) Most also have a pediatric first aid certificate (National Careers Service, 2022a, 2022b). Those who are in charge or are managing the educational setting, who are known as nursery managers or early years educators, will have higher qualifications, that is either a foundation degree (level 5) or a degree (level 6) in child development such as early years education, psychology or childhood studies. Approximately 32% of staff are qualified to level 6 (DfE, 2021a).

All children from birth to five undertake the Early Years Foundation Stage (EYFS) curriculum (DfE, 2021b). There are three main areas of learning, known as the prime areas of learning within the EYFS including: 1) communication and language; 2) physical development; and 3) personal, social and emotional development. Physical development is "vital in children's all-round development, enabling them to pursue happy, healthy and active lives" (DfE, 2021, p. 9). Physical development is achieved through gross and fine motor experiences, starting with sensory explorations and the development of child's strength, coordination. Spatial and positional awareness is developed through tummy time, crawling and play movements with both objects and adults. Opportunities for play occur in both indoors and outdoors, and should focus on core strength, stability, balance, spatial awareness, coordination and agility. Gross motor skills provide the foundation for developing healthy bodies and social and emotional well-being, whilst fine motor control and precision helps with hand-eye coordination, which is later linked to early literacy (physical literacy). Fine motor control is developed also through games, activities, puzzles, arts and crafts and the practice of using small tools such as, scissors, brushes and cutlery (with feedback and support from adults), to help develop proficiency, control and confidence (DfE, 2021b).

Escambia County, FL (U.S.A.). The United States is made up of 50 states, each of which is broken up into counties. The state of Florida consists of 67 counties. Escambia County located in Northwest Florida will be the focused region for this paper. In the state of Florida, 1,373,213 children aged 0–5 were enrolled in child care or preschool with 59,410 employed child care or preschool educators (Center for the Study of Child Care Employment, 2020) in 7,131 licensed centers (Child Care Aware of America, 2020). Licensed child care facilities must provide one child development associate credential for every 20 children. This applies to all facilities open 8 hours or more per week. However, facilities open less than 8 hours per week or with fewer than 20 children are not required to have the credentialed staff member (Florida Department of Children and Families [FDCF], 2021). For Escambia County, there are 138 child care centers (Child Care Center US, 2022) serving 19,343 children under 5 years (U.S. Census Bureau, 2021).

Escambia County follows the state of Florida requirements for child care credentials to include any of the following: National Early Childhood Credential; B.A./B.S. degree; A.A./A.S. degree in Child Development; Associate degree with 6 credit hours in early childhood and 480 hours in child care settings; Active Birth through Five Florida Child Care Professional Credential; or an Active School-Age Florida Child Care Professional Credential (FDCF, 2021). In addition, a Level I, II, or III credentialed director is required for each child care facility. Level I includes a high school diploma/GED, an Active Staff Credential, and a Director Credential course. Level II and III include Level I qualifications plus one and two years of experience respectively (FDCF, 2021). Florida Statute 402.305 requires an approved 40-clock-hour introductory course in child care for all personnel (Florida Legislature, 2022) and the completion of a one-time 0.5 continuing education unit.

The Florida Early Learning Development Standards and Professional Competencies includes eight domains: physical development; approaches to learning; social and emotional development; language and literacy; mathematical thinking; scientific inquiry; social studies; and creative expression through the arts (Florida Department of Education, Early Learning Division [FDOE-DEL], 2017). Within physical development there are two components: 1) Health and Wellbeing and 2) Motor Development. Health and Wellbeing is further broken down by age specific benchmarks for Active Physical Play. These benchmarks are birth-8 months, 8-18 months, 18-24 months, 2-3 years, 3-4 years, and 4 years-Kindergarten (FDOE-DEL, 2017). Under Motor Development, there are age specific benchmarks for Gross Motor Development, Gross Motor Perception, and Fine Motor Development (FDOE-DEL, 2017). Active play is required for children twice per day, this includes outdoor play, weather permitting (FDCF, 2021).

Early childhood educator (ECE) training

Overviews of the ECE trainings are presented as the data for each of the three case studies. Table 1 summarized the background, program delivery format, and key areas of focus for each case study's ECE education program as the data elements of the case study.

TABLE 1 Summary of background and key features from each case study's ECE education program

	Manitoba, Canada	***Kent, England***	***Escambia County Florida, U.S.A.***
Why Program was Created?	• The *Movement for Life* (M4L) program was developed as a result of the local government seeking ways to support PL development among area children (0-5 years old) • Recognized need by government officials for increased physical activity among Canadian children	• *Universal Approaches* (UA) was developed to support children's physical and cognitive development in the early years • Aligns with previous work where researchers proposed that trainee educators needed more knowledge about children's motor and sensory development within the physical development curriculum	• *Let's Wiggle 5-2-1-0* was created in response to increased rates of overweight and obesity in children (3 to 8 years) in Escambia County • Aligns with previous marketing campaigns to help children achieve 1 hour or more of daily physical activity • Limited funds for ECEs CPD
Intended Audience	• Early childhood caregivers (e.g., parents; ECEs; etc.)	• ECEs focusing their training with children 3 to 7 years old	• Targeted child care providers and educators in centers and home setting
How was Program Developed?	• Partnership between local government and University of Winnipeg • Literature review to ensure program was evidence based • Various local stakeholders and experts consulted	• Partnership between occupational therapist and educator from Canterbury Christ Church University • Developed from previous work on strategies related to developing resources related to movement and coordination in children in the early years	• Partnership with the University of West Florida and the FDoH Escambia • Literature review to ensure program was evidence based

Program Delivery Format	• Single educational workshop including lecture, games, discussion, and actual physical activity participation • Eight 1 hour visits by trained early childhood physical activity leaders to provide demonstrations of activities and how to deliver them • Small bag of equipment provided to each child care center that participated	• Resource strategies called *Universal Approaches* designed for educators and others working in early years education • Evidence based resource strategies for trainee educators and other qualified educators who need a greater understanding of principles of physical development (motor and sensory).	• Physical Activity Curriculum Cards (PACC) developed incorporating age-appropriate fundamental motor skills, learning standards (e.g., math, fine-motor, gross-motor) and Florida Early Learning Domains • One educational workshop with interactive presentation and six hands-on skill building stations • PACC and Physical Activity Toolkit (Equipment and child PA book) provided to child care centers.
Key Areas of Focus in Program	• Concept of PL and the benefits to young children • Child development (Physical, cognitive, & social) • Active play and its role in child development • Role of adults in supporting physical development of young children • Effective delivery of appropriate activities that will support PL development	• Sitting position • Handwriting skills • Manipulative object skills such as cutlery skills • Lunchtime skills • Moving and learning, focusing on children with movement difficulties • Addressed needs of children with poor motor skills at entry to elementary school	• Benefits of PA in early year settings • Strategies for selecting age appropriate movement activities • Hands-on practice of PACC • Incorporating PA into lesson plans • PA to fulfill Florida Early Learning Standards • Engaging parents in movement and PA

Manitoba, Canada: In 2016, members from the Community Services Department at the City of Winnipeg sought the help of researchers from the Department of Kinesiology and Applied Health at the University of Winnipeg to conduct a literature review focusing on physical literacy development in early childhood, with the intent of using this information to help create an evidence-based educational resource for early childhood caregivers. The result of this collaboration was the creation of *The Movement for Life!* or M4L program. This program was created with the purpose of providing education and training to local early childhood caregivers about encouraging physical literacy development in the early years. Initial implementation of this program, starting in 2018,

focused on delivering the M4L program to daycares in Winnipeg with the intention of prompting behavior changes related to physical literacy opportunities provided by ECEs.

The Movement for Life! program is composed of an evidence-based knowledge and skill development interactive workshop and practical demonstration follow-up for early childhood caregivers. The M4L program was successfully implemented with over 100 ECEs in the Winnipeg area. It was reported by ECEs that both their confidence in providing physical literacy development activities for the children in their care and the ease of doing so was improved by the M4L program.

Kent, England: Sue Soan (academic with special educational needs expertise) and Eve Hutton (occupational therapist and academic), both based at Canterbury Christ Church University, developed *Universal Approaches* (Soan & Hutton, 2021) to support children's physical and cognitive development in the early years. This comprehensive resource was built on their previous work (Hutton & Soan, 2010, 2017) developing resources that included strategies to support teaching skills and early identification of children's motor coordination skills including children with movement and coordination difficulties. The authors proposed that trainee educators needed to have more knowledge about children's motor and sensory development within the curriculum of physical development. They also recommended that qualified educators needed to understand more the principles of physical development and how resources could be used for the long term.

Hutton and Soan's (2017) work is based on implementation of their universal strategies resources for early years children to support motor development and functional skills. In 2015, they implemented their program across four schools in the South East of England where educators received electronic or printed resources to be used over a 12-week time period. This intervention found improvements in sitting position, handwriting and lunchtime skills, highlighting the need to implement more specific physical development programs within England. By using the resources, educators also gained a better understanding of the unique needs of early years' children in their development of motor learning skills and found they were able to give children more freedom to move in a way that was more comfortable for them (Hutton & Soan, 2017).

Escambia County, Florida, U.S.A.: In January 2014, the Florida Department of Health in Escambia County (FDoH Escambia) implemented the *"5-2-1-0 Let's Go!"* in response to the increased rates of overweight and obesity in children in Florida. This multi-setting community-based campaign was based on Let's Go! Maine, a childhood obesity prevention program promoting four recommendations: "eat five or more fruits and vegetables each day," "limit daily recreational screen time to two hours or less," "engage in one or more hours of physical activity daily," and "zero sugary drinks; drink

water or low fat milk." The 5-2-1-0 message was promoted throughout the community with advertising on community buses, commercial outdoor signs, a short cartoon video aired in movie theaters, and a social media marketing campaign. With >60% of three and four-year-olds enrolled in child care and 34% of preschoolers and students in grades 1-3 overweight or obese, FDoH Escambia also implemented a community-based intervention, *Let's Wiggle with 5-2-1-0*, that focused on increasing physical literacy in child care settings as a strategy to reduce early onset of overweight and obesity (Vinci et al., 2016).

The *Let's Wiggle with 5-2-1-0* is a physical activity training curriculum targeting child care providers and educators to incorporate movement and play within the child care setting. The development of this curriculum involved a literature review and environmental scan for evidence-based best practices related to physical activity initiatives in child care centers; comprehensive assessment of training needs of local child care providers using focus groups and key informant interviews; and environmental self-assessment of physical activity in child care settings. These data sources contributed to the development of the *Let's Wiggle with 5-2-1-0* child care provider training workshop, curriculum, and the *Physical Activity Curriculum Cards* (PACC).

Two hundred and twenty-two ECEs from 29 centers and 16 daycare homes attended the *Let's Wiggle with 5-2-1-0* Educator Training Workshops. Following participation in the workshops, participants reported higher knowledge in knowing the benefits of physical activity, developmental milestones for children, understanding age appropriate physical activities, strategies for incorporating physical activity, and ability to provide adaptive strategies (Vinci et al., 2016).

Results

Theme 1. Context of ECE preparation and funding

Context of ECE preparation includes childhood educator professional training and PA curriculum Standards. Table 2 summarizes the minimum requirements related to ECE preparation to be employed in early childhood facilities. In all three countries, licenses were required to run a center- or home-based child care program. Training hours focusing on child care varied with Manitoba, Canada and Escambia County, Florida requiring 40 hours compared to the 134 hours in Kent England. Training generally focused on child growth and development in all the countries and providing a safe learning environment with no requirements to include physical literacy in professional credentials. Professional development training beyond the minimum required hours was only required in EC, Florida with this limited to 0.5 credits. However, additional training was required if child

care providers and educators wanted additional administrative, supervisory, and/or educational responsibilities. In regards to physical activity, Kent, England and EC, Florida had county/state physical development curriculum standards with all three cases having varied physical activity recommendations (Manitoba) or duration requirements (Kent; Escambia County).

Underfunding was identified as a concern in England and Florida. Both areas are faced with limited governmental funding that impacts child care center providers in sustaining their educational settings, wages, and ECEs ability to further their education.

TABLE 2 Comparisons related to minimum ECE preparation

Minimum Requirements	***Manitoba, Canada***	***Kent, England***	***Escambia County, Florida, U.S.A.***
License Required - Facility	Yes	Yes	Yes
License Required - Home Center	No	Yes	No
Training Hours	40	134	40
Physical Literacy Included in Professional Credentials	No	No	No
Continuing Education Credit	0	NA	0.5
Physical Development Standards	No	Yes	Yes
Physical Activity	Recommends 45-60 minutes	At least 180 minutes per day	Required twice per day

Theme 2. Training ECEs to encourage movement in the early years

As indicated above, Table 1 summarizes the key features related to the training of childhood educators from each of the case study's ECE education programs. All three countries developed training programs for ECE to demonstrate an understanding of physical literacy especially related to children's movement and the role of active play in child development. Two of the countries (Canada; U.S.A.) provided interactive educational workshops that provided opportunities for ECEs to demonstrate skill acquisition. The training in the U.K. focused on structured physical development. The training across all three countries provided educational resources to ECEs with Manitoba and Escambia County including equipment for the ECEs' child care centers.

Additionally, these three ECE educational opportunities were developed with input from university faculty with expertise in physical literacy and health in the early years with support from community agencies (city government; university; public health department).

Theme 3. Enhancing the development of physical literacy for ECEs

Table 3 summarizes how each of the three trainings enriched the ECEs physical literacy related to knowledge, confidence, competence, and motivation. It is clear that all three ECE education programs increased knowledge. What is more notable, is that each of these programs impacted competence, confidence, and motivation of ECEs to support physical literacy development in their childcare centers.

TABLE 3 Findings from ECE education programs related to each facet of physical literacy

	Manitoba, Canada	***Kent, U.K.***	***Escambia County, Florida, U.S.A.***
Knowledge	• All participants perceived themselves as more knowledgeable about physical literacy following the program. • Included games they learned during the M4L program in the daily movement activities they do outdoors and indoors.	By using the UA resources: • Increased levels of knowledge and understanding, • Increased awareness of previous gaps in knowledge. • Improvements found in the sitting, handwriting and lunchtime skills. • Identified gaps in knowledge of motor development.	Participants reported increased knowledge/skills in the following areas: • Benefits of physical activity. • Developmental milestones for children. • Age appropriate PA for preschoolers. • Strategies for incorporating PA in child care. • Age-appropriate PA adaptation strategies. • Ability-appropriate PA adaptation strategies.
Confidence	• Majority of participants reported increased confidence in providing activities that would help support children's PL development. • More confidence to allow risk taking activities such as climbing on a wooden playhouse.	• Increased levels of confidence in the understanding of physical competence and engagement in activities for life such as cutlery skills at lunchtimes.	• Participants reported that the training provided them with enough materials and equipment to properly implement the curriculum.

Competence	Participants indicated that: • Planning and delivering activities that would encourage PL development was easier for them following completion of the program. • Adapting to the children's interests and being willing to change the plan to match what the children want to do. • Creating new activities with the equipment from the program.	• ECEs were able to follow the booklet of resources competently to understand sitting comforts. • The ECEs had previously not considered the impact of what they were asking the children to do, (sitting on the carpet for long learning periods). They had never previously asked children if they were sitting comfortably. • By using the sitting resource found that almost every child said that they had back aches when sitting on the floor and could now adapt to the children's needs.	Participants reported significant pre-post assessment on all components of the School PA Competence Questionnaire (SPAPCQ). Examples of increased competence include: • Creating opportunities for PA in the classroom. • Encouraging outdoor play including structured and unstructured PA time (recess). • Integrating PA into classroom lessons. • Using developmental practices when teaching PA content. • Incorporating movement breaks between lessons in the classroom.
Motivation	• Results did not clearly establish if, following the program, participants were more motivated to support PL development among children. • Participants indicated increased support from administration for PL focused activities, but support from parents did not increase.	• Participants were more motivated to listen to the children and to inquire how they felt, e.g. where once they thought fidgeting was a behavior issue, now through using the program they understood this may indicate discomfort and were motivated to increase the number of movement breaks.	• Following the training, educators reported a decrease in barriers to physical activity with statistically significant changes occurring related to lack of time, social influence, energy, willpower, skills, and resources.

Discussion

This case study focused on ECE preparation and training and the value of educating them on movement and physical literacy development. Overall, the results from this study indicate that the drive for childhood educator preparation and training in physical literacy were initiated at the local level. In this case study, local agencies representing city government (Manitoba), education (England) and public health (Escambia County) recognized the value of physical literacy in the early years and the need to receive

additional training beyond required ECE preparation. In the discussion, we will focus on the value of physical literacy education for ECEs across the three countries; and issues related to ECE's educational requirements and physical literacy professional development. Lastly, we will provide our recommendations related to overall ECE educational preparation and training specifically related to physical literacy.

Value of training

It was clear that the ECEs valued the educational programs across all three countries. In Escambia County, Florida, the workshop provided an opportunity to receive training directly related to physical literacy and at the same time earn the required continuing education credits at no cost, especially important to the attendees due to limited options for affordable CPD. In Kent, discussions with the ECEs led to them identifying that were even surprised at aspects of holistic movement and stability that they had never considered before. For example, this training made them aware of challenges children were having with sitting. With the training, ECEs now feel more confident in addressing stability and postural development which ultimately supports motor development. In Manitoba, ECEs not only report that the education benefitted themselves personally (i.e., increased their confidence and knowledge with respect to providing physical literacy development), but also reported that this type of training led to overall positive changes in the physical literacy environment at their childcare center. For example, ECEs felt that following the training they received more support from administrators with respect to providing physical activity, that the center made better use of the environment to support physical development, and incorporated physical literacy into values and goals of the center.

Additionally, all three countries addressed topics related to physical development. Previous research has highlighted the need for ECE training to support children's physical development. Howells and Meehan (2017) found that 60% of ECEs in the U.K. repeated the same selection of activities each week as the physical development activities due to a lack of confidence and competence in knowing what could support children's development. This was also reported in Vinci et al. (2016), where ECEs implemented movement activities that were demonstrated in the initial training sessions but did not explore other activities available in the PACC curriculum that support other areas of physical development. And, after completing training to support physical literacy development, ECEs in Manitoba (81%) reported their participation prompted them or the center where they work at to increase the frequency of activities provided related to physical literacy and 88.2% reported an increase in the number/variety of those activities (Hall & Gregg, in press).

While the training was valued in all three countries, one of the key differences found within the case study was the reasons why the programs were developed and who were the drivers in terms of partnerships and stakeholders. Interestingly in Florida, the driving force is a response to health and physical activity campaigns within the area and the need for ECEs to be upskilled on how to address the increased rates of overweight and obese children through both physical activity and diet. Canada's drive was to increase physical activity among Canadian children. Yet in Kent (U.K.), the driving force related to physical development and developing motor skills rather than activity levels or diet. Additionally, both the US and Canadian programs were developed and implemented by faculty with expertise in physical and health education pedagogy while in the U.K., the faculty expertise was in occupational therapy and special education.

Educational preparation of ECEs

This paper has highlighted the low levels of educational preparation that occur across these three countries within the early years setting. When considering other countries beyond the three discussed within this paper, it leaves the question as to why Canada, England and U.S.A. have chosen to accept lower levels of ECE professional preparation. If we look at previous international comparisons - Belgium, Denmark, Finland, Ireland, Italy, and Norway - all have minimum qualifications of Bachelor degree level (level 6), with Finland, Italy and Ireland also having Masters level qualifications (level 7) for their early educators (Howells & Sääkslahti, 2019). Perhaps it is time for these three countries within this paper to pose the question: Why are these minimal levels accepted? Early childhood is such a key time within a child's life that deserves more support from more knowledgeable educators, to enable them to fully support a child's holistic development (Howells et al., 2018).

Movement, play, and physical literacy professional development

Evidence from this case study suggests that physical literacy and movement programs and interventions, undertaken within the local regions, are helping to increase knowledge, confidence, and competence in ECEs. This feeds into the longer-term planning, teaching and learning that occurs within early years' settings. However, there are very few ECEs who have access to the programs compared to the number who are employed as ECEs.

The results show that prior to the programs there was a low level of understanding and knowledge that increased considerably through the programs. This level of significant improvements is not limited to the programs illustrated within this paper. Other recent research also reflects the same level of motor skill development. Sutapa et al. (2021) reports a 12-week training program in Indonesia significantly improved locomotion,

manipulative object, as well as stability skill development and Ali et al., (2021) also found gains in locomotor and object-control skills with a 10-week physical activity program for 3 and 4-year old children.

Recommendations

In this case study, the lack of upskilling and future CPD of ECEs are related to limited educational requirements and the underfunding of early years education (Gaunt, 2021; National Association for the Education of Young Children, n.d.). This underfunding also impacts the quality of the early-learning curricula that includes modules related to physical literacy development. Yet the programs within this case study have emphasized the power of the grassroots community involvement that have enabled ECEs to become more knowledgeable, confident, competent, and motivated in integrating play, physical literacy development and movement in the early childhood setting.

This paper calls for more policy to be driven from the bottom up. Physical literacy programs, such as those illustrated within this case study, can provide guidance to both inform and drive policies that value movement, play and physical activity in children's early care and education. This is a call for researchers/academics to collaborate with early childhood professional preparation programs, ECEs, and community members to join forces in addressing the identified gaps in knowledge and understanding. Recent policy documents from the US, Europe, and Canada speak to the educational preparation, professional development, and wage gaps in ECEs and suggest a need for a stronger investment in the child care system globally (beyond just the 3 countries analyzed in this case study) (Alliance for Early Success, 2020; Anderson et al., 2020; Picken, et al., 2021; Power to the Profession, 2020).

While it is beyond the scope of this paper to delve into these complex issues, we recommend a collaborative impact approach (Kania & Kramer, 2011) where like minds intentionally come together to address early childhood education issues at the grassroots level. As demonstrated in this case study, the driving force for all three initiatives were the availability of researchers/academics to provide guidance and support for CPD for their ECEs. This movement for changes in qualifications and improved working conditions for ECEs is not new. Perhaps now is an opportune time for the push for action to advocate for our ECEs in the role they play in young children's development and the importance of physical literacy as a part of initial professional education and CPD.

Conclusion

In summary, the three country case study analysis revealed that the minimum preparation of ECEs varies considerably from 40 to 134 hours, yet the overarching focus of early years' curricula across all three countries is mainly play based learning and learning physically. The children learn in a physical literacy manner, learning how to move and moving to learn, yet physical literacy was not a direct focus within either training or specifically guided within the curricula. It could be argued that policy makers and governments have assumed that the ECEs would just 'know' how to engage the children in inspirational high quality movement opportunities. Lessons learned from the analysis of these local level CPH sessions included the benefit of these trainings on improving ECEs' confidence, knowledge and motivation, and how to integrate physical literacy into daily sessions. The local level drive for the need of additional programs has been valued by stakeholders and educational and health experts. This paper has illustrated the need to upscale these successful local initiatives that are occurring globally across the three focused countries. However, these movement opportunities only occur in local level settings, contributing to a 'zip code lottery' for children's physical literacy experiences. There needs to be a worldwide governmental and national policy change to increase the value of educating educators to enable them to fully support children's physical literacy, movement, play opportunities and physical development.

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