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Physical play - How do we inspire and motivate young children to be physically active through play?

An international analysis of twelve countries' national early years curriculum policies and practices for physical activity and physical play*

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ABSTRACT: Lifelong movement and physical activity (PA) patterns develop during early childhood. Therefore, educators (teachers and practitioners) in early childhood education and care (ECEC) should provide opportunities to support children's play, PA, and movement development. The World Health Organization (2019) offers new recommendations for PA, for children under five years. The guidelines do not specify the ways ECEC staff can support PA through play. Therefore, this paper investigates, how physical play (PP) is enacted globally. An international policy and practice analysis of twelve countries, (Australia [Victoria], Belgium [Flanders], Canada [Alberta], China, Finland, Ireland, Italy, Portugal, Spain, Sweden, UK [England] and USA) was completed by analyzing the ECEC curricula and their implementation in different cultural contexts. A content analysis was undertaken by AIESEP Early Years SIG experts revealing that PP was not clearly defined. When defined, it was described as PA, and important for children's holistic development. The majority of curricula did not state the length/time for PP. Three main strategies for implementing PP were found: a) pedagogical framework; b) active learning methods; and c) motor development. This international analysis highlights the global need for better ECEC staff support in acknowledging and implementing PP to aid children's overall development, PA and wellbeing.

Keywords: *early childhood education and care, curriculum, physical play, international comparison.*

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Introduction

AIESEP (Association Internationale des Écoles Supérieures d'Éducation Physique, translated into English as the International Association for Physical Education in Higher Education) is an international, non-governmental, non-profit, professional association, which aims to promote high quality research worldwide in the areas of physical education (PE), physical activity (PA) and sport pedagogy across the lifespan. (AIESEP, 2018a). The Special Interest Group (SIG) for Early Years is an active network of researchers and academics with an interest in issues related to early childhood education, PA, and health, PE, physical development (PD), and sport pedagogy (AIESEP, 2018b). During the AIESEP International Conference 2021 in Banff, (Canada), the Early Years SIG organized a pre-conference seminar in which different countries presented the current ways in which physical play (PP) occurs within the policy of their early years' curriculum (0-8 years). Also, the practice of how this policy is implemented into settings and how educators in early childhood education and care (ECEC) may inspire and motivate children in various educational settings to engage in PP. The policy and practice content analysis were examined through the use of six questions, three focusing on policy guidelines and three focusing on implementation of policy into practice which will be examined in detail within this paper.

Policy guideline focused research questions:

- How is PP defined within the current national policy guidelines (curriculum)?
- How long do children physically play for within the curriculum? Is it stated in the curriculum?
- What is the purpose of PP within the curriculum?

Practice implementation focused research questions:

- In terms of implementing the policy into practice, does the curriculum suggest ways to physically play?
- Who supports PP in the curriculum?
- How do they support play and physical learning in the curriculum?

The AIESEP pre-conference went beyond the community network approach of the European Commission (2014), to extend the discussion on a global level. As such this paper represents a policy and practice analysis of the twelve countries involved in the pre-conference seminar with the aim to enable effective advocacy for new global PA and PP recommendations, guidance and support for implementation of PP for the 0–8 years age range. The focus of this age range is wider than anticipated by some, and wider than the age range of young children defined by the WHO. However, this is due to ensuring

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from an educational viewpoint that the AIESEP Early Years SIG group were able to discuss the global varied ages that attend preschool educational settings as previously analyzed by Howells and Sääkslahti (2019). Within this 12 sample countries paper, the ages of children who are attending preschool range from 0-8 years and the focus of the curricula analysis and policy implementation lies in the Early Years educational settings. Therefore, curricula of primary / elementary school settings were excluded from this analysis.

The aim of the abovementioned pre-conference seminar was to examine the role of PP in children's health and wellbeing at the same time respecting the Rights of the Child. Play is an essential part of the children's life and development, bringing pleasure, enjoyment and increases children's PA (UN Committee, 2013). Additionally, the child has a right to rest, play, enjoy leisure activities, and to have an artistic and cultural life (De Martelaer et al., 2000; UN Committee, 2013). The UN Committee on the Rights of the Child (2013) continues to examine the role of adults and states it is the responsibility of adults to encourage a child to grow and develop at their own pace. Since ECEC staff interact with children on a daily basis, it is important to examine how they foster PA in children and encourage children's PP.

It is important to emphasize that play and PA are often discussed together within early childhood PD as interwoven activities for young children. This has been highlighted by the WHO (2019), which stated that PA in young children is largely expressed in the form of active play and does not necessarily involve or take the form of structured exercise, PE, or sport. Play can be a mechanism by which young children undertake various levels of intensity of PA and has the potential to be the place in which PA levels could be increased. Thus it is important to define the terms of PA and play, as well as defining them separately. However, it is vital to note that while PA for young children is most often playful, not all play can be considered PA.

WHO recommendations on PA

Caspersen et al. (1985) regarded PA to be composed of "*movement of the body produced by the skeletal muscles, resulting [in] energy expenditure which varies from low to high [and has] a positive correlation with physical fitness*" (p. 127). Global recommendations on PA for health were launched by the WHO (2010) and these initially did not include children under the age of 5 years. However, in 2019 new guidelines focusing on PA, sedentary behavior (SB) and sleep for children under 5 years of age were introduced. The WHO (2020) highlighted the health benefits for young children by increasing the amount of suggested moderate to vigorous intensity physical activity (MVPA), while reducing the suggested amounts of sedentary time, in particular sedentary screen time and restrained time. The PA recommendations offer ways for children's PA linked to everyday educational activities such as play and interactive learning through play.

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The WHO (2019) recommends that (on a daily basis):

- Children less than 1 year of age (infants) should be physically active “*particularly through interactive floor-based play, the more the better...., for at least 30 minutes in the prone position (tummy time), spread throughout the day whilst awake*”. Children should “*not be restrained for more than 60 minutes at a time*”, and they should have zero minutes of screen time and between 12–16 hours of sleep (p. vii-ix).
- Children aged 1 – 2 years of age should be physically active for at least 180 minutes and, not be restrained for more than 60 minutes at a time, for 1-year olds to have zero minutes of screen time, whilst for 2-year-olds to have no more than 60 minutes of screen time and to have 11–14 hours of sleep (p. vii-ix).
- Children aged 3 – 4 years of age should be physically active for at least 180 minutes of which at least 60 minutes should be at a moderate to vigorous intensity level, not be restrained for more than 60 minutes at a time, not to have more than 60 minutes of screen time and to have 10–13 hours of sleep (p. vii-ix)

WHO definitions of Play

The WHO (2019) guidelines on PA, SB and sleep for children under 5 years of age also define play and identify different types of play. The WHO (2019) states that play is “*being for its own sake (without a specific goal), voluntary, enjoyed by participants and imaginative. It can be solitary or social, and with or without objects. Young children acquire and consolidate developmental skills through playful interactions with people*” (p.v). Although they do not use the exact phrase PP, the WHO (2019) does identify different types of play, including energetic play; floor based play; interactive play; active play and quiet play.

- Energetic play is defined as “*active play that is equivalent to MVPA, when children get out of breath and feel warm. This may take many forms and may involve other children, caregivers, objects or not*” (p. iv).
- Floor based play is defined as “*supervised play for infants, where children move on the floor and develop motor skills*” (p. iv).
- Interactive play is defined as “*play with a parent or caregiver where the child and adults / older child interact and engage in play for both cognitive and motor learning*” (p. iv).

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- Active play is defined as “opportunities for structured and unstructured PA to contribute to the development of motor skills and exploration of the physical environment” (p. 1).
- Quiet play is defined as “play that is not energetic... may be done while sedentary... is very important for development and can take many forms” (p. 3).

Besides these different types of play being listed above, it is important to note quiet play exists and is different to SB was excluded from this paper. While quiet play is an important aspect in children’s development, yet the term and type of play that was used within the pre-conference discussions of the AIESEP Early Years SIG as well as presented within this paper ‘PP’. Energetic, floor based, interactive and active play, structured and unstructured play, child led play, educator led play were all discussed within the phrasing ‘PP’. This was due to the focus of the overarching research question of how to inspire and motivate young children to be physically active and play? The paper does not focus on quiet play nor SB or sleep.

National Policy for PP for children –Twelve examples

This paper presents an international analysis and comparison of both the current policy curriculum and the context of the learning settings (see Table 1). As well as the implementation of the policy into the educational settings, and thus the provision and practice in the context of the learning settings for young children (see Table 2).

The focus for the national policy for PP is centered within early years’ childhood education settings, not the family provision or home environment, to allow for an international comparison between these particular educational settings. Also as the expert members of AIESEP and the early years’ SIG group focuses on the training of early years, primary / elementary educators, the sharing of knowledge and the comparison of policy and practice globally would allow for mapping of good practice as well as barriers to be considered. The sharing of knowledge is particularly important as the qualifications of ECEC staff varies globally from no universal requirements or qualifications, up to Master’s degree level 7, and yet these staff members are the key staff (employees) who support such a vital time in young children’s lives (Howells & Sääkslahti, 2019). It is believed strongly by the AIESEP Early Years SIG group that knowledge is powerful and value the importance of learning from each other, as this paper aims to do.

Children’s living environment supporting the (motor) development also varies based on the country in which they live. Moreover, national early education systems vary a great deal across countries, including the age at which children start attending early years’ educational settings (e.g., nursery; preschool; kindergarten; childcare; toddler care), the

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number of hours spent within the early years' setting and the qualifications of those teaching in the early years' educational settings (Howells & Sääkslahti, 2019).

It is also important to note that education systems also vary within countries and not just between them. For example, UK has a four Home Counties education system, with England being the example home county explored within this paper. Belgium has a community based ECEC system in which education and care are independent domains, and Flanders is the example here. Canada has a provincial education system, and Alberta is the example province within this paper. The USA, guided by national / federal guidelines, delivers their educational systems at a state level, which reserves power over education to the states and local authorities, (US DfE, 2022) with Indiana, Florida and Kentucky the example states drawn upon within this paper. Australia has both states and territories, within the paper the example is a state and is Victoria.

Table 1 illustrates the current national policy linked to PP and the variance in how it is defined within the twelve countries, how long children play for within the curriculum and the set purpose of the play. All data within the paper is presented in country alphabetical order.

Table 2 illustrates the implementation of the current national policy linked to PP into practice in the twelve countries, how the countries are applying the policy, how children play within the educational settings, how children are supported in their ways of playing, and how play is linked to learning.

TABLE 1 Current policy linked to PP

<i>COUNTRY</i>	<i>PP DEFINITION WITHIN THE CURRICULUM</i>	<i>LENGTH OF TIME CHILDREN PHYSICALLY PLAY FOR WITHIN THE CURRICULUM</i>	<i>THE SET PURPOSE OF PLAY WITHIN THE CURRICULUM</i>
Australia (Victoria)	Not defined, currently. A Discussion Paper prepared for review of the national early years framework (due end of 2022) has identified PP and learning, risk and fundamental movement skills as areas to be explored further.	No stated time at a state or national level.	To promote children's physical and cognitive development and their ability to assess risk. To help children to learn to manage and move their bodies in space in a range of environmental settings. To provide children with the foundations for growing independence and satisfaction in being able to do things for themselves.
Belgium [Flanders]	PP is not specifically defined. It is linked to a holistic approach in which play is referred to as a significant medium for children's overall development in ECEC settings. Play includes motor activities, sensory play, expressive activities, movement patterns, games, constructive play and routine household role play activities, but also rhythmic and expressive movements.	In care settings, no stated time, however promoted to implement within daily routine care settings - free play, and structured (outdoor) play and are common. In education settings the Early Years curriculum (2.5 – 5 years) includes a PE assurance scheme of two teaching periods (50 min) per week. In addition (outdoor) free play sessions are common.	To support children's exploring, experimenting and practicing. To contribute to a child's development and wellbeing in a holistic manner. To develop a child's sense of connectedness, and social development. To develop strength, speed, endurance, balance, flexibility and coordination. To develop body, time and spatial awareness and perception.
Canada [Alberta]	Education in Canada functions at the individual province level and no province has a set 'curriculum' for early years but several have 'frameworks' and regulations documents for licensed childcare facilities. The term PP is not defined in any of these frameworks. Most do mention active play or energetic play but do not always define them.	In the Alberta framework and regulations there are no stated time requirements. Some provinces have identified desired amounts of daily PA.	Active play is a form of gross motor or total body movement in which young children exert energy freely chosen, fun and unstructured. Energetic play is more contextualized for the way young children move. These types of play are for creativity, exploration, socialization, risk taking, exposure to outdoors / nature and to have fun.

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China	<p>PP is greatly stressed as important within the curriculum. Emphasis is also on fitness within curriculum linked to play. There are 5 major areas of focus within kindergarten including health which includes physical and mental conditions, movement development and living habits.</p> <p>Also through aesthetic aspects and most recently through the campaign of Campus Soccer, promoted by Ministry of Education.</p>	<p>2 hours a day dedicated to PA, which may include PP.</p> <p>Kindergartens are allowed to develop own curriculum.</p> <p>At least once a day structured outdoor play, many kindergartens have two sessions a day of approximately 15 – 30 mins a time.</p>	<p>To support children health and reduce children’s levels of obesity.</p> <p>To develop imagination, creativity, coordination and communication skills.</p> <p>To develop moral and cognitive development.</p>
Finland	<p>Playing is directly related to key themes of the curriculum – PP – “<i>Liikuntaleikki</i>”. PA– “<i>fyysinen aktiivisuus</i>”. Movement – “<i>Likkuminen</i>” and Body – “<i>keho</i>”. Overall PA and movement are considered an essential part of the child-focused curriculum and seen as natural part of being, playing, and learning (by doing).</p>	<p>No stated time.</p> <p>However so highly valued that PP occurs both indoors and outdoors every day in every season. Typically physically active free play (in ECEC settings) happens twice a day at 9.30am~10.30am and 3pm~4 or 5pm</p>	<p>To support the children’s holistic growth and development, including physical, social, emotional, and cognitive development.</p> <p>Playing is used as a tool for learning.</p> <p>To support children’s wellbeing and health in their everyday living.</p>
Ireland	<p>PP is defined within the Aistear curriculum as physical, exploratory, manipulative, and constructive play.</p> <p>PP involves children developing, practicing and refining bodily movements and control. It includes whole body and limb movements, coordination and balance. These activities involve physical movements for their own sake and enjoyment.</p>	<p>No stated time.</p>	<p>Play is at the heart of the Aistear curriculum framework. With regard to PP, it is to develop, practice and refine bodily movements and control, and to develop motor competences.</p> <p>To develop coordination and balance, gross motor skills first and then refine fine motor skills.</p> <p>To enjoy movement and physically moving.</p>
Italy	<p>PP is generically called play. The developmental goal is focused on body and movement. Moving is first factor of learning and includes looking, discovering, playing, jumping running and expressive communication.</p>	<p>1 hour a week is dedicated to PP, but is not mandatory and is not in all kindergartens.</p>	<p>To develop psycho-physical balance and to be a source of wellbeing.</p> <p>To take pleasure in movement and experimenting with postural and movement patterns.</p> <p>To adapt to different environments and stimulus.</p> <p>To understand own body and how it moves and to socially interact with others.</p>

Portugal	Playing is understand as a privileged means of learning during childhood that leads to development of transferable skills for other areas of learning and development. It is considered a spontaneous activity of the child which links to an intrinsic interest. Characterized by pleasure, freedom of action, imagination and exploration	No stated time. Up to the educator to organize and plan time for experimenting, exploring and playing.	To develop the child holistically. To link, to interconnect to act together, between the physical, social, cognitive, cultural and emotional dimensions (domains) of learning.
Spain	PP is not specifically defined. Pedagogical principles are referred to with a focus on meaningful and emotionally positive learning experiences through play and experimental learning. This helps children to understand how their bodies move and interact with others. Play is applied as a means of enjoyment with others as well as to reinforce and build self-esteem.	No stated time. PP is encouraged in recess and within PE lessons, which are generally held once a week.	The focus is on motor, sensory, symbolic and rule based play. Linked to understanding how to move. The body is key in physically learning, relationships and expression.
Sweden	PP is not specifically defined, but is linked to children should be given the opportunity to develop comprehensive mobility by participating in PA and spending time in natural environments. Children should experience the joy of movement.	No stated time.	The focus on PA is to develop motor skills. To develop joy of movement and interests in being physically active To understanding how PA through play and movement can affect health and wellbeing.
UK [England]	PP is defined in several areas of the curriculum; the main area is physical development. Also within expressive arts and design where children are to play with a wide range of media and materials, as well as using props to help with role playing.	No stated time. However small bouts of activity and focuses on energetic play are encouraged within curriculum documents.	To develop fine and gross motor skills. To develop strength (specifically core strength), stability, balance, coordination and agility. To express themselves and develop sensory explorations. To develop social interaction through playing cooperatively. To develop positional and spatial awareness and object control.

USA [Indiana, Florida and Kentucky]	<p>PP is referenced as active play and is linked to PA within the curriculum, with preschool children should be physically active throughout the day.</p> <p>Fundamental motor skills are focused on as a building block for future engagement in PA.</p> <p>Expressive play occurs through dancing and responding to rhythms.</p>	<p>No stated time within the curriculum.</p> <p>Left up to the individual provider</p> <p>However, PA times are suggested, 2 to 3 occasions of active play outdoors, (1 – 6 year olds should be allowed 60 – 90 mins of outdoor play a day). Two or more structured activities or games to promote movement within the day either indoor or outdoor.</p>	<p>To enhance growth and development, balance, control and coordination.</p> <p>To develop physically, socially, emotionally and cognitively. Play is a key vehicle for these.</p> <p>To develop executive function, language and early numeracy skills.</p> <p>To develop social relationships with peers in particular.</p> <p>To cultivate the ability to negotiate, cooperate and problem solve.</p> <p>To develop independence and transmits cultural values</p>
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TABLE 2 Implementation of policy linked to PP

<i>COUNTRY</i>	<i>WAYS IN WHICH PPE IS IMPLEMENTED WITHIN THE CURRICULUM</i>	<i>WHO SUPPORTS PP IN THE CURRICULUM?</i>	<i>HOW IS PP SUPPORTED?</i>
Australia (Victoria)	<p>The pedagogical focus in ECEC settings of learning is through play. PP and movement are emphasized in relation to supporting children's health and physical wellbeing.</p>	ECEC educators	<p>A balance of child led and structured educator led / supported play based learning.</p> <p>Educators plan for and participate in energetic PA with children, including dance, drama, movement and games. A range of tools and materials to support fine and gross motor skill development.</p>
Belgium [Flanders]	<p>In child care settings the pedagogical framework of the curriculum supports 4 experience areas by means of PP: me and others; exploring the world; communication and expression; body and PA.</p> <p>In education settings learning through play is emphasized within the curriculum.</p>	<p>In care settings - ECEC professionals</p> <p>In education settings – Generalist teachers, PE teachers and specialist coaches</p>	<p>Through guided, free play, and intentional play.</p> <p>Large playing equipment is available for spontaneous use in view of opportunities for movement offered by the environment.</p> <p>Active playgrounds and PA school policy are key for play being a significant medium for learning.</p> <p>Opportunities to develop fine motor skills through gripping in the environment (e.g., picking flowers) and manipulating materials.</p> <p>There is a specific focus on water safety and basic aquatic skills in preschool.</p>

Canada [Alberta]	<p>Not overtly done in Alberta. However, guidelines created by the Canadian Society for Exercise Physiology (CSEP) offer suggestions for active play in the early years, but these suggestions are for all caregivers and not specifically for early learning center settings.</p>	<p>ECEC professionals Teachers Parents and families are encouraged to promote active play.</p>	<p>Active play is supposed to be closely adult monitored and some of the play is adult led, but typically with a free exploration or guided discovery approach. Manipulatives are provided and role modelling is used to demonstrate movement opportunities.</p> <p>Child initiated play is common especially in the outdoor facilities in childcare centers (e.g., climbers, sandboxes) designed to encourage active play and exploration.</p>
China	<p>PP strategies are linked to PE, fitness and play, and include activities such as martial arts, roller skating, outdoor activities, gymnastics, basketball and football.</p> <p>Also through new programs, such as sound world which focuses on responding to sound and rhythms.</p>	<p>Teachers, but there is a shortage of teachers and therefore intensity and quality of structured and free play cannot be guaranteed.</p> <p>Sports specialist do take sessions.</p> <p>Families and Communities are also encouraged to promote PP.</p>	<p>Through whole school and whole community approaches.</p> <p>Through Ministry of Education campaigns and programs.</p> <p>Through structured and free play opportunities provided daily.</p>
Finland	<p>Pedagogical focus on physically active learning methods, using the environments, particularly the body, as a learning tool.</p> <p>PP is part of everyday living, and both indoors and outdoors are used during all seasons.</p>	<p>ECEC staff are obligated to follow this within the curriculum.</p> <p>Peers, children are actively encouraged to physically play with others.</p> <p>Diverse environment.</p> <p>Multidisciplinary cooperation with guardians and the local community.</p>	<p>By creating an environment that offers variation in contexts, places/locations and available equipment. This stimulates, activates and motivates the children.</p> <p>Staff encourages and supports the children's learning through structured and unstructured play.</p> <p>Children are actively encouraged to share their ideas and ways of PP to motivate others.</p>

Ireland	PP is suggested through a variety of activities and these are different according to ages. Through PD, locomotion, balance and manipulation skills, such as jigsaws, sewing and building with construction toys. Through outdoor play opportunities and play using equipment such as wheeled toys and bicycles. Detailed specific examples are identified throughout the curriculum.	ECEC educators support children's learning and children's play.	In the Aistear curriculum, the educator is tasked with enhancing and extending play including: physical activities; through structured play; free play, and guided play.
Italy	Not specifically set, however implemented through informal routine, everyday activities, outdoor life and games. Through the use of small tools and instruments, free or guided movements in dedicated spaces and through psychomotor games.	Generalist teachers. In some kindergartens external PE expert are used.	Through children providing opportunities to express themselves and communicate through the body.
Portugal	Implemented through a playful approach where the teacher creates conditions for free exploration of space and movement, allowing child to invent movements, take advantage of materials and pose own challenge as well as risk.	Teachers Family, parents.	Through observation of playing, and linking to children's interests. Through the organization of educational space and different materials including outdoor spaces. Through child initiated activities to promote social learning, exploration of nature and PA within the outdoor environment.
Spain	Implemented through lived experiences, focusing on harmonious of PP. Also through implementing and understanding of body control as well as greater autonomy and independence rules.	Teachers, mainly those who have a degree in childhood education, who may have no specific qualification in PE. Also teachers who have chosen to be specialists in PE.	Through pleasurable learning, situations in which the child controls their body, feels confident in participating in spontaneous and directed play. They are able to accept rules and handle different materials. Through focusing on play as key element of children's overall general development.

Sweden	No ways suggested for PP within the curricula. Physical movements are focused on such as running, jumping, climbing. Pace and rhythm in games.	Teachers Environment Local community	Children need to use all different environments to move and be physically active. Specifically water and movement in water is named as is outdoor experiences (for later children aged 7 – 8 years) and activities within the community.
UK [England]	PP is implemented through movement experiences: object play - striking balls or suspended objects; exercise play - using wheeled toys; expressive movement, - encouraging expression, awareness of rhythm, and also outdoor adventure.	Educators Teachers Key workers Adults Peers.	Children learn by leading their own play or planned activities within child initiated play. Taking part in play which is guided by adults. Positive interactions, secure routines for play. Also supported outside of the curriculum in recess and lunchtime.
USA [Indiana, Florida and Kentucky]	Play ideas are linked to the PA guidelines and suggestions and include: Playing on playgrounds; tricycle or bicycle riding; walking; running, skipping; jumping; dancing and swimming. Playing games including catching, throwing and kicking. Gymnastics and tumbling.	Caregivers Parents and other adults Teachers Also supported outside of the curriculum in recess and lunchtime.	Specifically built environments to encourage movement. Explicit policies such as outdoor play policies. Suggested there is no such thing as 'free play', teachers organize the environment the learning goals and facilitate the play experiences. Teachers play alongside children to provide scaffolding and model activities. Children learn through prompts and open-ended questions set by teachers, to help develop and exploration.

Conclusion

Summary of current policy linked to PP

Overall the international policy analysis shows that most countries use the phrase play within their curriculum or refer to a type of PP without explicitly using the words or term 'PP'. This implies that there is a general lack of defining PP within the curriculum per se, which suggests that there may be an overarching assumption by policy writers that PP does not need to be specifically defined, since it is universally understood. Yet, the AIESEP Early Years SIG would argue and recommend more details are needed in policy statements to fully understand the true meaning of PP. Additionally with current policy's

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/curricula's dedicated limited focus and limited time on PP, it is important to stress the benefits of PP in children's overall growth and development. It is also recommended that curricula be regularly updated for example, at time of this writing the Australian early years' framework, for example, is thirteen years old.

Only two countries (Finland and Ireland) have specific definitions of PP within their current policy and curriculum. Almost all countries involved in the present analysis made reference to expressive play when referring to PP within the curriculum. Expressive play included children responding to rhythm through dancing, and developing their own movements. Expressive play was also referred to role modelling, storytelling and linked to copying movements children had seen of role models such as educators and parents. This highlights that PP is not just about actively moving, but also developing curiosity and understanding of spatial awareness and social interaction. Australia [Victoria], Belgium [Flanders] and Ireland also refer to constructive play when examining PP within the curriculum, which is linked to fine motor skill (motor competence), sensory development and the theme of building using objects.

There are many similar references between the different types of PP across countries. However, there is an inconsistency between the language and phrases used to describe PP. Learning occurs through: motor activities; games involving sensory experiences; expressive movements; constructive play; manipulative play; exploratory play; household related activities; rhythmic activities; aquatic activities; sand based activities; energetic play and exploratory inquiry based aspects. Almond and Lambden (2016) highlighted that all these different ways of learning in early childhood were in fact 'purposeful play' and needed to be recognized as such. They emphasized that movement is key in learning, as moving helps develop the structure and function of the brain. These authors proposed that every child has the urge to move and to then make sense of their world around them, this would enable them to build independence, self-control, meaning making, and a sense of belonging (Almond and Lambden, 2016). These ideas are seen and reflected in the current policies, even though the word play may not have been included within all of the policy documents. There is also the challenge that within public health and PA promotion literature, as there are variations in the terms of play (Truelove, et al. 2017) and as found within this paper, the phrases active play, PP, play, outdoor play, free play and (un)structured play are often found to be used interchangeably.

There were multiple references linked to play and PA and to different levels of intensity. This was identified in particular as energetic play within both curricula in Canada [Alberta], and the UK [England]. Only China and Italy had suggested time lengths for the amount of PP within the day. China dedicates two hours a day to PA which includes PP, especially structured outdoor play on a daily basis. Also, Italy, highlighted that 1 hour a

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week is recommended to be dedicated to PP a week. In Belgium [Flanders], the Early Years curriculum (2.5–5years) includes PE assurance scheme of two teaching periods (50 mins) per week. The other countries did not state the amount of time for PP per day in their curricula which highlights the potential wide variability of the amount of PP that may or may not be occurring within the early years' educational settings. The purpose of PP is very similar across all cultures and countries with most of them stating that PP supports strength, speed, balance, coordination, control, creativity, as well as developing holistically (within the physical, cognitive and social learning domains). Several countries (Australia [Victoria], Belgium [Flanders], China, Finland, Sweden, USA) emphasized the purpose of PP as being for supportive for children's growth, health and for children's overall wellbeing.

Summary of current implementation of policy to practice

Previous research by Soini et al. (2014) proposed that Finnish (ECEC) educators rarely organized PP nor encouraged children to engage in physically active play. Yet this policy analysis found that there were many similar ways in which PP is supported through: structured adult-led learning, child initiated learning, and movement opportunities created through the environments. Belgium [Flanders] and Sweden emphasized the use of water and / or an aquatic environment to support PP. Educators were recommended as the key to support PP for all countries, as they can play alongside children to provide scaffolding to model activities. Children can learn through PP by educators / caregivers offering them open ended prompts to help develop their physical curiosity and the joy of movement (Sweden), but, also, through offering structured and free play opportunities daily (China). PP is part of everyday living and can transcend across countries and cultures. Many countries (Belgium [Flanders], Finland, Italy, Portugal, Spain, UK [England], USA) recognized the benefits of how PP can help holistic learning and interconnect to other domains of learning, (cognitive, social, emotional, cultural), and by emphasizing the need for various movement opportunities.

Finland extend PP perhaps one step further than most countries in that the pedagogy of early years includes PA and PP. These are expected to occur within everyday activities and throughout the whole day, with the responsibility for implementing this high quality pedagogy belonging to all staff members regardless of their professional title or the ECEC operating form (Soini et al., 2021). In addition to educators, who play a fundamental role in encouraging children to participate in active play activities the parents, family, and local community (stakeholders) are essential and must be involved within the education at these ages. Silva et al. (2016) suggest that the participation of these different stakeholders and other community members in planning, carrying out and evaluating educational opportunities are essential for an enriched educational process.

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The key to implementation of policy into practice is time, place, and space as well as permission for children to experience PP both indoors and outdoors. Indeed, as the EECERA (2017) group proposed when considering play that a “*facilitated play environment should suggest children’s’ exploration and curiosity allowing potential for exploration and experimentation of interests, ideas, materials, emotions and social relationships*” (p. 3). Ireland and Finland were the only two countries being obligated and having guidelines and activities set out to follow in order to support young children’s PP. Within the Irish Aistear curriculum, educator and child interactions are emphasized to help meet the child’s needs. Whilst Australia, Belgium [Flanders], China, Ireland, England UK [England], and USA recommend that PP is a way in which children learn to balance, coordinate, learn control of their own bodies, and develop both fine and gross motor skills. China and USA specifically suggested activities based on wheels, with China recommending roller skating as one of the suggested activities whilst USA recommended both tricycle and bicycle usage.

The importance of PP as a multidisciplinary area

Whitebread et al. (2017) reviewed research around play in different scientific disciplines, such as Evolutionary Psychology, Developmental Psychology, Anthropology, Neuroscience and Educational Sciences. They recognized PP as one of the five different play types. The other play types identified were: play with objects; symbolic play; pretend play and games with rules. They stated PP as the earliest to evolve and the most observed type of children’s play. The authors concluded that PP provides exercise and consequent health benefits, it associates academic progress, cognitive self-regulation and social competence. Moreover, rough-and-tumble play support social competence and emotional awareness of specifically boys.

Recent Sport Sciences research has recognized several characteristics of PP that should be understood when implementing PP in different settings, such as the explorative nature of play and physically exploring the world around us (Stodden et al., 2021). Foweather et al. (2021) proposed that PP helps to challenge children’s movement abilities such as balance, agility, coordination and spatial awareness, as well as nurturing PA behaviors through activities that conjure up feelings of thrill and excitement. Active play is also a term previously used by Foulkes et al. (2017), who suggested that this type of play helps to increase young children’s PA, fundamental movement skills, motor competency, self-confidence, strength, agility, coordination and balance. The American Psychological Association (APA, 2022) acknowledges exercise play to offer a multidisciplinary lens of combining play and PA intensity levels together.

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The use of phrases such as active play, risky play (Liu & Birkeland, 2022) and outdoor play could all be also linked to PP, yet have emphasized cultural differences in perceptions and implementation of such play. This is not the first time that a lack of consensus of what is play, and how play is implemented within ECEC setting has been noted (Rentzou et al., 2019). There needs to be an acknowledgement that there is an interchangeable nature of the phrases of PP, play and PA as highlighted earlier by the WHO definitions that may be causing some confusion globally as to what really are the differences between the types of play. It at times, depends upon the context of the writing, about the different types of play and in some instances, there are even comingled so that the term ‘physically active play’ or ‘physical activity play’ is referenced. However, the first phrase physically active play embodies the way in which play is enacted i.e. through a physical means, whilst the second phrase ‘physical activity play’ is focusing more on the intensity levels of the play. Yet through all the multi usages of phrases and language linked to PP, the Early Years SIG group of experts emphasizes that all these types of play need to be celebrated, recognized and considered as being particularly beneficial for young children’s physical and overall development. This nuanced usage of these terms should not supersede the message that all children of all abilities regardless of culture/locale, should be offered and supported multiple opportunities for PA and play as a route of daily living as guided, supervised and supported by qualified personnel. It is proposed that more clarity when terms are used would help children, parents and educators.

Suggestions for ideal future recommendations for all nations

Based on the analysis and comparison of the policy and practice of PP of the twelve countries involved (Tables 1 and 2), there seems to be a need for an international global statement regarding young children’s PP, in order to celebrate more the clear benefits that are seen within the policy documents, but which are not fully captured in an international voice. It is recommended there is a need to make the links much more explicit between PA, play and movement, wider than just limiting the discussions and research to PA alone.

It is recommended to make international connections between the language used regarding the different types of play so that the benefits of play can be analyzed world-wide more effectively and efficiently, through the potential use of the same definitions. For example, to be clear of the difference between energetic and active play as these terms seemed to be used in similar ways in different countries. It is not surprising there are some cultural confusions in interpretation as even the WHO’s own definitions (2019) of quiet play are confusing. These are often not included within discussions of PP as this type of play can be seen as SB rather than quiet linked to loudness and if it is linked to more SB there is not specifically talked about in terms of play.

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Yet the purpose of play within the curriculum is to develop holistically: physically; socially; emotionally, and cognitively as well as in the view of motor competence. This highlights that play and PP does not always occur at a high intensity level. If intensity levels were to be linked to PP, then the language might help to distinguish the different types of plays cross culturally. For example, high intensity PP could then include play with lots of running, jumping, skating; moderate intensity PP could be play that includes: climbing; dancing; gymnastics. Low intensity PP could be play that includes walking, crawling, swinging, gliding and sliding. It is important to note that when PA intensity is discussed within the literature, it is mostly measured using accelerometers to measure the intensity levels, as such as done by Gao et al. (2018). We are proposing a more accessible method when considering quantifying intensity levels within the discussion of PP and propose the use of more observational systems, such as Loebach and Cox's (2020) tool for observing play behaviours. Or those proposed by Brown et al. (2006) who were able to code different activity times and link these to the speed of the movements. We feel that the ECEC staff globally effectively use observations within their practice, and that adding this type of observational technique could enhance PP assessments internationally within practices.

The other key recommendation for all nations is to prioritize and to clarify the amount of PP that should occur within the curricula, with ten out of the twelve countries involved in the present analysis having no set time frame, which could cause confusion or even a potential lack of opportunities for children to be playing. It would suggest a call for the need for more detailed guidance to help ECEC staff be educated within their training and within continuous professional development to support their PP understanding and knowledge. Another recommendation is to increasingly share with the children the ways in which they are learning through play so they can begin to understand how they are holistically developing and the importance of PA. It may be valuable to explore the potential of risky play in this context since engagement in risky play shows to be positively associated with children's PA and improved motor/physical competence (Brussoni et al., 2015; Fjørtoft, 2000; Sando et al., 2021).

Overall, the analysis revealed there are three different main strategies for implementing PP: a) pedagogical framework; b) active learning methods; and c) motor development. Further education on how to implement these three strategies could be provided within initial training or through continuous professional development for our ECEC staff. Globally, it was recognized that ECEC staff need recognition and support for their role in children's overall development, PA and wellbeing to enact the WHO guidelines through PP. Also, there is a need to encourage PP as a way of learning throughout the child's life and day, and to include more of the family, community life and use of the local environment to encourage opportunities for play using different equipment and tools.

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APPENDIX 1

Table 3 – National Curriculum Policy Documents used to undertake the policy analysis

Country	National curriculum policy documents references
Australia (Victoria)	<p>Department of Education, Employment and Workplace Relations (DEEWR) (2009) 0-5 years: <i>Belonging, being and becoming: The early years learning framework for Australia</i>. Australian Department of Education Employment and Workplace Relations, Canberra.</p> <p>Department of Education and Training, 2016. <i>The Victorian Early Years Learning and Development Framework (VEYLDF)</i>, State of Victoria, Melbourne. https://www.education.vic.gov.au/Documents/childhood/providers/edcare/veylDFramework.pdf</p> <p>Macquarie University 2021. Discussion Paper: 2021 National Quality Framework Approved Learning Frameworks Update, retrieved 15 March 2022, from https://www.mq.edu.au/faculty-of-arts/departments-and-schools/macquarie-school-of-education/our-research/research-groups/approved-learning-frameworks-update/stage-2.</p>
Belgium [Flanders]	<p>Agentschap voor Kwaliteitszorg in Onderwijs en Vorming (AKOV), Vlaams Ministerie voor Onderwijs en Vorming (2010). Ontwikkelingsdoelen en eindtermen voor het gewoon basisonderwijs. Informatie voor de onderwijspraktijk https://publicaties.vlaanderen.be/view-file/6912</p> <p>Decreet Basisonderwijs (10/2/2022). https://data-onderwijs.vlaanderen.be/edulex/document.aspx?docid=12254#306977</p> <p>Onderwijsinspectie (2018). Onderzoek lichamelijke opvoeding in het basisonderwijs. [online] Brussel: Lieven Viaene, inspecteur-generaal, p.68. https://publicaties.vlaanderen.be/view-file/26759</p>
Canada [Alberta]	<p>Makovichuk, L., Hewes, J., Lirette, P., & Thomas, N. (2014). <i>Flight: Alberta's early learning and care framework</i>. https://flightframework.ca/downloads/Flight%20Framework%20Document%20F.pdf</p>
China	<p>Ministry of Education. (2012). <i>Learning and Development Guidelines for Children Aged 3-6 Years</i>. http://www.moe.gov.cn/srcsite/A06/s3327/201210/t20121009_143254.html</p>
Finland	<p>Finnish National Agency for Education. (2018). <i>The National Core Curriculum for Early Childhood Education and Care</i> [Varhaiskasvatussuunnitelman perusteet]. Regulations and guidelines 2018:3a. https://www.oph.fi/sites/default/files/documents/varhaiskasvatussuunnitelman_perusteet.pdf</p>
Ireland	<p>Department of Education and Skills (2010). <i>Siolta The National Quality Framework for Early Childhood Education</i>. Government Publications. Retrieved May 20, 2021, from https://siolta.ie/media/pdfs/siolta-manual-2017.pdf</p> <p>National Council for Curriculum and Assessment. (2009a). <i>Aistear: The Early Childhood Curriculum Framework</i>, Retrieved May 20, 2021, from https://www.ncca.ie/media/2022/aistear_the_early_childhood_curriculum_framework.pdf</p> <p>National Council for Curriculum and Assessment. (2009b). <i>Aistear: The Early Childhood Curriculum Framework, Guidelines for Good Practice</i>. Retrieved May 20, 2021, from https://ncca.ie/media/4151/aistear_theearlychildhoodcurriculumframework.pdf</p>
Italy	<p>Ministero dell'Istruzione, dell'Università e della Ricerca. (2012). <i>Numero Speciale. Indicazioni Nazionali del curricolo della scuola dell'infanzia e del primo ciclo d'istruzione. Annali della pubblica istruzione. Le Monnier</i>. http://www.indicazioninazionali.it/wp-content/uploads/2018/08/Indicazioni_Annali_Definitivo.pdf</p>

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Country	National curriculum policy documents references
Portugal	Silva, I. L., Marques, L., Mata, L., & Rosa, M. (2016). Orientações Curriculares para a Educação Pré-Escolar. Ministério da Educação, Direção-Geral da Educação. [Retrieved May 11, 2021, from http://www.dge.mec.pt/ocepe/sites/default/files/Orientacoes_Curriculares.pdf]
Spain	Royal Decree Royal Decree 95/2022, of 1 February, which establishes the minimum teaching requirements for the second cycle of childhood education. Ministry of Education and Science "BOE" nº 28, of 2 February 2022 Reference: BOE-A-2022-1654. https://www.boe.es/buscar/act.php?id=BOE-A-2022-1654
Sweden	The Swedish National Agency for Education Läroplan för förskolan: Lpfö -18. [Curriculum for the Preschool, Lpfö 18] https://www.skolverket.se/undervisning/forskolan/laroplan-for-forskolan/laroplan-lpfo-18-for-forskolan https://www.skolverket.se/download/18.6bfaca41169863e6a65d5aa/1553968116077/pdf4001.pdf Läroplan för grundskolan, förskoleklassen och fritidshemmet (Curriculum for the compulsory school, preschool class and the school-age educare). (2018). Läroplan (Lgr11) för grundskolan samt för förskoleklassen och fritidshemmet - Skolverket
UK [England]	Department for Education. (2021). <i>Statutory framework for the early years foundation stage. Setting the standards for learning, development and care for children from birth to five</i> . London: Crown Copyright. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974907/EYFS_framework_-_March_2021.pdf
USA [Indiana, Florida and Kentucky]	Society of Health & Physical Educators [SHAPE] America. (2020). <i>Active Start: A Statement for Physical Activity Guidelines for Children from Birth to Age 5</i> . https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf https://www.oecd.org/education/school/46746291.pdf Kamerman, S.B., & Gatenio-Gabel, S. (2007). Early Childhood Education and Care in the United States : An Overview of the Current Policy Picture <i>ICEP</i> 1, pp.23-24 https://ijccep.springeropen.com/articles/10.1007/2288-6729-1-1-23