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Section 1



(Source: Lavender, 2021)

Section 2

Feature 1-Trees- Identify living things, prints and patterns on bark, leaves, grouping in order of colour, shape and pattern.

I have chosen trees as a feature of this photograph as I feel learning about trees and playing amongst them offers a wide range of developmental benefits to children of all ages. Outdoor learning enhances the child's knowledge and understanding of many things relating to the woodland. They will learn to distinguish the different trees with their leaves of different shape and colour and bark of various texture and of their purpose too. They will see that some trees will lose their leaves whilst others do not. They will learn of the animals and insects that live in, on and around the trees and how shadows are made as light travels through the trees, leaves and branches.

In order for scientific concepts to be developed, a visit to the woodland would enhance the child's understanding of how trees look during a specific season. For example, during the autumn children would see the seasonal changes as the leaves change from green to gold, to orange to red. They would see the leaves fall from the trees and hear the crunching sound the leaves make under foot or how slippery they get when wet. To develop this feature further, re-visiting the woodland area each season and observing the changes the season brings would not only enhance the child's knowledge and understanding of the woodland area, but how the outdoors and all living things within it are ever changing. During each visit I would provide the children with a bucket for collecting leaves of different size, shape and colour, and magnifying glasses as a tool to study the leaf structure and investigate other living things within the environment, such as small insects. In line with the progression steps within the Science and Technology Area of Learning and Experience under the Curriculum for Wales, this supports the child's curiosity and their knowledge of life cycles within the learning environment (Welsh Government, 2020a).

To support the development of the child's fine motor skills, string could be added to thread the leaves in order of size. This will develop children's social and language skills, as well as mathematical concepts as they arrange the leaves in order of size, discuss key words, such as biggest, smallest, shortest and longest and roughest, smoothest, thinnest and thickest. This supports the Mathematics and Numeracy Area of Learning and Experience within the Curriculum for Wales (Welsh Government, 2020b).

In order to support multiple areas of learning, although climbing a tree or balancing across a log has a potential risk, it promotes the children's physical and emotional wellbeing, and their ability to develop social and language skills while playing with friends. During this activity the children use various muscle groups in their body. This physical activity strengthens the core muscles as well as those of the arms and legs and supports the development of the child's gross motor skills, hand to eye co-ordination, their critical thinking as they move from branch to branch and their capability to judge their own physical abilities.

Feature 2- Natural Slopes- Forces, movement, balance, energy.

Natural slopes and uneven surfaces have been chosen as a feature of this photograph as I feel it provides children with the opportunity to investigate scientific concepts of force and energy. To support this feature, the rolling of a variety of resources, including tyres, balls, hoops and barrels allows children to observe the movement of different objects and encourages them to predict whether less or more force is required to influence their motion. This supports Isaac Newton's Laws of Motion (Make Me Genius, 2013), as well as supporting the Science and Technology Area of Learning and Experience within the Curriculum for Wales (Welsh Government, 2020a). This develops the children's knowledge and understanding relating to this learning outcome, as well as supporting additional

learning outcomes, for example, when rolling a ball, the ball could crash against another object, promoting the children's learning relating to sound.

To develop this feature further, I would provide the area with a large cardboard box, open at the top, with the inside base of the box covered with paper, on which I would randomly place blobs of paint. I would supply a range of balls of differing size, shape and pattern, which in their groups, the children would be encouraged to work as a team and roll a ball of their choice through the blobs of paint by lifting and tilting the cardboard box. Experimenting with their peers, this activity allows for creativity and excitement and for the development of problem-solving skills as the children play co-operatively, whilst investigating and realising that the movement of the ball can be altered, depending on how the cardboard box is tilted, whilst exploring which ball moves the fastest or makes the best pattern. In line with the Science and Technology Area of Learning and Experience within the Curriculum for Wales, this promotes children's language development and the communication of their discoveries (Welsh Government, 2020a).

Feature 3- Muddy Play- Floating, sinking, jumping

I have chosen mud as a feature as I feel that mud is an open-ended resource that provides a multisensory play experience and therefore there is no worry of making mistakes as there is no right or wrong way to play with it. This feature allows children to be creative and play freely to feel the texture of mud and how its consistency texture changes when water is added, without the worry of making mistakes.

Although muddy puddles are not visible in this photograph, beyond the trees there are opportunities for muddy play experiences. Dressed in the correct clothing, muddy puddles enable children to experience jumping and splashing in mud and water. This allows for their vocabulary to be extended, as they describe the sounds and the texture of mud, for example, the mud being squishy or soggy.

To develop this activity and to support the progression steps withing the Mathematics and Numeracy Area of Learning and Experience under the Curriculum for Wales (Welsh Government, 2020b), I would provide buckets for the children to collect natural recourses from around the woodland. Children could explore with these natural materials by adding them to the muddy puddles to see what would happen to them, enhancing their language skills, as the children discuss their finding, for example, does the material sink or float, or which resource is the heaviest or lightest. Children could become creative by collecting a selection of sticks and creating their own rafts to experiment whether they sink or float. This activity could be developed further by children creating rafts from bigger sticks and placing lose parts, such as pebbles on them, to see which raft held the most pebbles before it sank. These activities would develop their knowledge and understanding of sinking and floating in an enjoyable way.

Many children are not provided with the opportunity of muddy play therefore I feel that although there are multiple benefits to muddy play, the greatest benefit is the happy memories children create from the experience they gain from learning in the natural world environment.

ECEY5005
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Section 3 **RISK BENEFIT ASSESSMENT**

Location / Activity:	Woodland	Date:	September 12 th 2021
Assessor:	Louise Lavender	Review date:	March 12 th 2022

ACTIVITY	How will young people BENEFIT from this activity?	Possible hazards	Who is at risk?	PRECAUTIONS in place to reduce the risk of injury	Overall risk RATING: L/M/H
Collecting natural materials	Children are able to use their senses to investigate different materials, such as their textures. Different materials can be chosen and used for a specific task. Children gain opportunities to count and group materials. Working with natural materials allows children to make connections with the outdoors. Supports certain schemas.	Children may cut themselves on a broken collecting pot. Children may collect inappropriate materials, such as litter.	Children and adults	Health plan to be completed by the parent stating all allergies and health conditions. Staff to ensure all medication is taken to the woodland area, including asthma pumps and epi pens. Antihistamines could be administered prior to the outdoor activity to prevent or lessen a known allergic reaction. Children should wash their hands after playing with materials. Staff to ensure all collecting pots are checked for any breakages prior to the activity. Discuss with children what items are safe for them to collect for their activity.	L

Exploring the outdoors- trees, flowers, plants, rocks, insects and bugs.	Children gain opportunity to explore in an open-ended environment, make observations and communicate their ideas, developing language skills. Children learn to be cautious of materials which could be harmful to them or others. Children develop their knowledge and become aware of the relationships between living things, their habitats and their life cycles. Children become ethical citizens by being kind to other living things. Gross and fine motor skills are enhanced as children walk, run, bend and stretch.	Children may pick up inappropriate materials, such as litter. Children may touch poisonous or irritant plants, such as stinging nettles and may have an allergy to certain things, such as pollen, stings and bites. Low level tree branches or plants could cause scratches, infections and eye or head injuries. Children may wander off from the woodland and become lost. Children could put something in their mouths.	Children and adults	Parents should complete a health plan to inform staff of any medical needs or allergies their child has. All medication, including asthma pumps, epi pens and first aid kit should be taken to the woodland area. Antihistamines could be administered prior to the outdoor activity to prevent or lessen a known allergic reaction. Discuss boundaries- children should be made aware of where they can and cannot go without an adult, which materials are safe to touch and the golden rule- nothing should be put in the mouth and hands should be washed at the end of the activity. A game could be played to support these boundaries.	L
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ACTIVITY	How will young people BENEFIT from this activity?	Possible hazards	Who is at risk?	PRECAUTIONS in place to reduce the risk of injury	Overall risk RATING: L/M/H
Soil and Water	Children are able to experiment and observe how one material alters when mixed with another material, gaining a multisensory experience. Children can explore their sense of touch with their hands or feet. Children can get to know about their own likes and dislikes.	Children may slip on muddy surfaces. Children may have an allergic reaction.	Children and adults	Children must be supervised at all times when experimenting with water or muddy surfaces. Ensure children wash their hands and feet once the activity has ended.	L

ACTIVITY	How will young people BENEFIT from this activity?	Possible hazards	Who is at risk?	PRECAUTIONS in place to reduce the risk of injury	Overall risk RATING: L/M/H
Climbing trees	Tree climbing allows children to connect to nature. The physical activity of climbing a tree supports children's gross motor skills, hand and eye co-ordination, and critical thinking skills. Children negotiate risk by tree climbing and become aware of their own physical abilities. Socialisation and communication skills are developed as children enhance their language by using vocabulary such as higher or lower.	Children may get cuts or grazes from climbing. Falling from a tree may cause broken bones, spinal injury or concussion. Children may climb too high. Unforeseen circumstances may arise, such as a gust of wind or an attack from a protective wildlife parent.	Children and adults	Trees should be inspected for external hazards before children climb them. A tree that shows signs of weakness is not suitable for children to climb. A safe tree for climbing should have strong branches that are not brittle and are low to the ground for children to easily start the climb. Discuss with children the maximum height to which they can safely climb. Branches can be painted to remind children of the height limit. A soft surface, such as foam mats can be provided around the base of the tree. Adults should be alert to danger and children should be supervised at all times. Children should wear suitable closed footwear, such as boots or trainers.	L

ACTIVITY	How will young people BENEFIT from this activity?	Possible hazards	Who is at risk?	PRECAUTIONS in place to reduce the risk of injury	Overall risk RATING: L/M/H
Slopes/ uneven ground	Children become aware of slopes and gradients. Children develop their balance as they become aware of how their body feels when walking or running down slopes or on uneven grounds.	Children may fall or trip over, causing injuries such as cuts, grazes, sprains or breaks. Ground may be slippery during wet weather.	Children and adults	Until they become familiar with the surface, children should be encouraged to walk slowly over uneven grounds. A fun wobble wobble game can be played to help children develop their sense of balancing sense. Ensure children wear appropriate clothing and footwear, such long trousers, long sleeve top, wellies and raincoat if needed.	L

ACTIVITY	How will young people BENEFIT from this activity?	Possible hazards	Who is at risk?	PRECAUTIONS in place to reduce the risk of injury	Overall risk RATING: L/M/H
Outdoor in different weather	Children develop awareness of different weather and temperatures, and vocabulary will be developed as they use key words, such as hot, cold, wet and dry. Children develop skills to identify risks within the environment, providing self-care and care to others.	The sun can cause children to be too hot, leading to sun burn, heat stroke or in extreme cases, hypothermia. Slippery surfaces during rainy days and winter months. Trees and branches could fall due to bad weather and high winds, causing significant injuries or even death. The rain can cause children to become wet, making them feel cold and uncomfortable.	Children and adults	Weather must be monitored. No outdoor activities should take place during high winds or stormy weather. Appropriate clothing and footwear should be worn, such as waterproof boots, trousers and coat during the winter. During the summer children should wear sun hats. Sunscreen should be applied prior to children going outdoors. A shaded area can shelter children from the sun, reducing the risk of sunburn and heatstroke.	L

Section 4

Croner-I (2021) suggests that the child's development is enhanced when experiences with the natural world are provided.

National Association for the Education of Young Children (2017) recognises that time spent in the outdoors offers natural materials to develop mathematical and scientific learning. As suggested by Woodland Trust (no date), there are a multitude of beneficial lessons learnt from the outdoors that support all areas of the curriculum, with the advantage of children not considering the outdoors as 'learning', whilst getting hands on experience of subjects through the use of their imagination (Massey, no date). Community Playthings (2018) suggests that the adult should ensure outdoor areas are safe and inviting, where the children are stimulated and challenged to learn with few difficulties experienced. In agreeance, Moser and Martinsen (2010) describe the outdoors as a learning environment that is appealing, stimulating and fundamental for the child's social development, as children are provided with challenging opportunities to investigate and experience with their peers, as well as with adults.

As cited in Aubrey and Riley (2019) Bruner identifies the scaffolding theory as a support structure involving the adult or a more capable child, that supports the child's development and understanding to independently succeed in new tasks or achieve a set goal. It is suggested that scaffolding warrants teachers who are educated to recognise when the child needs support, how the child can be inspired in their learning, and who are aware of the individual needs that the child may require.

As cited in PACEY (2016), Piaget believed that children's knowledge of the world around them was established through the experiences they gained and through implementing their schemas. It is suggested that Piaget's theory of cognitive development is influenced within the Foundation Phase Framework, with the belief that children learn best through play and investigation of the world around them, in an environment that provides the children with stimulation and challenge, in order to build on existing knowledge that

will develop their own learning (Welsh Government, 2012). In line with this, Teach Early Years (2021) recognises that a practitioner's role is most beneficial through understanding children's schematic behaviours. Recognising repetitive behaviours, enables practitioners to provide extended learning in the outdoors by combining the curriculum with the child's specific interest, supporting children to progress in their individual learning.

Furthermore, Massey (no date) recognises that part of the adult's role in the outdoors is to provide children with opportunities to independently implement activities safely, enhancing the child's ability to assess the risk of an activity within the discussed boundaries, aiding in the development of their decision making and problem-solving skills. Gill (2010) recognises that the risk of harm should not be removed completely, as children should be encouraged to develop self-resilience in order to overcome life's challenges. In addition to this, Nursery World (2017) suggests that a Froebelian approach to learning offers opportunities that encourage children to take risk at their own accord. It is suggested that Froebel stipulated that those children who are prevented from experiencing risk and challenges are unlikely to recognise their capabilities, when compared to children who have been encouraged to experience risk, and therefore are likely to be exposed to injuries from hazards. Cowgate Under 5's Centre (2021) suggests that play was identified by Froebel as a strategy to provide children with opportunity to gain knowledge from experiencing enjoyment and challenge.

Tovey (no date) suggests that a Froebelian approach refers to the outdoors as an open-ended environment which allows for imaginative play and investigation. It is suggested that through playing in the outdoors, in an environment such as the one shown in section 1 of this portfolio (Lavender, 2021), children learn to be grateful for the magnificence of the natural world and learn how to nurture it. As well as this, the outdoors provides space for whole-bodied movements, and the opportunity for purposeful, first hand experiences, encouraging children to interconnect the environment with scientific concepts, such as forces, gradient, gravity, speed, energy and movement, as well as opportunities that support all areas of learning withing the curriculum (Learning Through

Landscapes, 2021). The Welsh Council for Outdoor Learning (2018) acknowledges that the skills learnt from experiencing outdoor learning contribute to the development of children's knowledge relating to the outcomes which correspond to the four purposes within the curriculum for Wales.

Furthermore, it is recognised that a Froebelian approach takes a holistic view of children's development in the outdoors, recognising the uniqueness of every child (Cowgate Under 5's Centre, 2021). According to Foundation Education (2018) a holistic approach makes it possible for children to explore in their natural environment, giving the advantage of learning and engaging with others while encountering challenges, risk-taking and social advancement. A holistic approach is the basis for the child's physical, personal, social, emotional and wellbeing needs, including their cognitive development (Scottish Social Services Council, no date), and when these skills are developed to their full potential, children are more competent in their learning (Welsh Assembly Government, 2009).

According to The Montessori School (2020) children should be provided with the opportunity to instigate their own learning outcomes through self-directed play, inspiring their creativity and imagination as they develop the skills to transform a natural material into something other than its original use, for example, a cardboard box used as a vehicle (Gull *et al*, 2019). Nicholson (1971) supports this and suggests that children enjoy exploring the different variables within the environment, such as smells, gravity and sounds. Campbell and Speldewinde (2020) acknowledge that outdoor environments provide children with loose and fixed resources which facilitate in their scientific learning through play. Community Playthings (2015) recognises that a range of opportunities for open-ended learning are provided to children through the use of loose parts. It is suggested that children's mathematical skills are enhanced through the provision of loose parts, such as building blocks, and as children combine loose parts in their play, mathematics can be further developed through counting and sorting objects into certain groupings, such as colour and shape. It is recognised that loose

parts also support the development of scientific skills, as they encourage children to explore the physical properties in the environment, enhancing children's knowledge and understanding of motion, gravity, force, weight, distance and height. This supports the Progression Steps within the Science and Technology Area of Learning and Experience (Welsh Government, 2020a) and the Mathematics and Numeracy Area of Learning and Experience within the Curriculum for Wales (Welsh Government, 2020c). In addition to this, Froebel claimed that various open-ended resources aid in the way children think, feel and experience, referring to this as 'forms of knowledge, life or beauty', representing in the understanding of scientific and mathematical skills (Tovey, no date).

Furthermore, Rahardjo (2019) suggests that the use of loose parts creates challenges for learners, and for this reason are beneficial in assisting in the learning of science, mathematics, engineering and technology. Through merging loose parts in their learning, the child's knowledge and understanding relating to measurement, patterns, geometry, and number will be enhanced. A variety of materials create different challenges for the child, therefore allowing the child to examine the natural elements of materials, and encouraging trial and error, will support the child to determine which material is best. As well as this, loose parts support a child's creativity and imagination, serving as a support element for incorporating art into the child's education.

Research carried out by Campbell and Speldewinde (2020) suggests that practitioners function as part of the 'affordances' as they promote children's learning by effectively making use of the natural environment and support learning according to their previous experiences, giving children the opportunity to take an independent role in their learning. The environment identified in section 1 and 2 (Lavender, 2021) provides children with high affordance, as the fixed and loose materials in the environment, permit children's scientific learning (Chemero, 2003; Gibson, 1979, cited in Campbell and Speldewinde, 2020).

According to Learning Through Landscapes (no date), learning in the outdoors is as important as learning indoors. It is essential for adults to recognise why being in the outdoors is crucial to a child's learning and development, therefore creating an environment which meets the objective for stimulating and challenging play, allows the child to experience the feeling of achievement as they encounter risk through their play (Little and Eager, 2010). It is acknowledged that children who lack in experiencing what the outdoors has to offer are considerably disadvantaged (Learning Through Landscapes, no date).

However, some challenges may arise for the adult during outdoor learning. Chantrell (2015) recognises that an insufficient personal experience of the outdoors has a negative influence on how the advantage of outdoor learning is perceived for the children in their care. Because of this, practitioners do not have the skills or confidence to make use of the outdoors as a classroom (Rickinson *et al.*, 2004, cited in Chantrell, 2015). In agreement, White (2011) identifies that the adult's role is as important in the outdoors, as it is indoors. The importance of adults displaying a positive attitude towards learning outdoors is essential, as showing children the adult's enjoyment of the outdoor environment will successfully support child-led learning. Further research by White (2014) acknowledges that barriers to learning are created when adults work in environments which are not tailored for outdoor activities, or by adults having insufficient knowledge of their role to support children in outdoor learning. It is suggested that adults gain training and show commitment to develop their knowledge for successful activity preparation and planning, allowing them to deliver an outdoor learning experience that is rich in challenging play-based activities, supporting the child's problem-solving skills (White, 2014).

Similarly, research carried out by Tinney *et al* (2020) acknowledges that although practitioners have an important role in engaging children in problem-solving, critical thinking and science, it is suggested that the negative feelings that adults recall from their own school experiences provides them with a lack in confidence and acts as a barrier, as these negative memories impact their ability to scaffold children in science related learning. Andersson and Gullberg (2014), cited in Tinney *et al* (2020), suggests that these negative

memories are linked to the adult's insufficient knowledge of the related subject, causing them concern when the need to respond to a question arises, and the disadvantage in their ability to recognise and plan learning opportunities for children. It is suggested that through receiving sufficient training in the outdoors, practitioners are supported to confidently scaffold scientific learning, allowing for hands on experiences that will strengthen the child's curiosity as they investigate and develop problem solving skills in their natural world, alongside a supportive adult. This supports sustained shared thinking and metacognitive talk, as children are encouraged to think for themselves, rather than be provided with answers to problems, creating challenges for a greater learning experience that will be rewarding for both the adult and the child (National Quality Standards, 2012).

According to Aubrey and Riley (2019), Piaget identified that children are fascinated by their interaction with the environment and believed that learning occurs through the connections made between the environment and their understanding of the experiences gained from the world around them, considering them as 'little scientists'. His theory, based on the four stages of development for children suggested that each stage occurs at a specific age, and each stage is influential on the next, therefore no stage could be forgotten about. Like Froebel, he acknowledged and valued play as a means to learning (Bonnay, 2017), and amalgamated this to his theory, suggesting that through each stage, children would play differently (Aubrey and Riley, 2019). However, Vygotsky believed that learning was based on the existence of social interaction, and with this in place, the child would reach developmental maturity earlier than expected, provided from their partnership with the more knowledgeable other (Aubrey and Riley, 2019). Like Vygotsky, Bruner believed that learning was enhanced through communicating with others, however, Piaget's theories are echoed in Bruner's work, with the similarity that children facilitate in their own learning through demonstrating curiosity (Aubrey and Riley, 2019).

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