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Activity Plan		
Activity: An outdoor activity that involves collecting and counting natural objects.		
Number of children: 12	Age of children: 3-years	Number of adults: 2
Location: Local nature reserve.	Preparation time: 15 minutes.	Activity time: No set time limit, approximately 90 minutes including the walk to nature reserve.
Resources: Children's resources: • Wellies if wet • Warm coat if wet • Loose parts- children will collect these in the nature reserve, pinecones, chestnuts, rocks and leaves. Adults resources: • Numicon • Chalk		
Aim/s of activity: • Learn the value of numbers 1-5. • Count out a specific number of items 1-5, taken from a larger group. • Identify numerals 1-5 and be able to match them to the quantity of objects they represent.		
Links to outcomes: • Welsh Government (2019) in their Draft Curriculum for 2022 emphasize the importance of understanding a number and its relation to quantity. The outdoor activity planned will promote this concept, as the children will be asked to place the numeral next to the matching quantity to show understanding of the relationship between a number and quantity. • Welsh Government (2016) discuss that in the Foundation Phase, nursery children should be able to confidently count objects 1-5 and also be able to identify the numbers 0-5 and be able to match them to the specific quantities they represent. In this activity, the children will be counting objects 1-5 then placing the numeral next to the quantity to achieve this outcome. • Welsh Government (2015) stated that children in Wales should be able to use their number skills in various contexts. This activity promotes this as once the children have learnt to count objects, they can apply this to count anything. For example, the children will be counting natural resources in this activity like acorns or pieces of bark, but once they learn how to count these, they will be able to transfer these skills and count other items, like pieces of paper or pens.		

Differentiation:

Children with higher ability that complete counting the objects 1-5 and matching the correct numerals quickly, can be further challenged by trying to count objects up to 10 and matching the numerals. Higher ability children can also be asked to count without the use of Numicon to create a harder task. Children with lower ability that are struggling to count the objects up to 5 can be given a different goal of counting out 3 objects to minimize the stress the child may feel if they are struggling with the activity. The adult can also go through a previously learned song with the child to familiarize them with the numbers. There is also a child with a severe reaction if stung by a bee, therefore, an EpiPen must be carried by participating staff member.

Health and safety:

- Children must cross a small road to enter the nature reserve, which may be a hazard.
- There are potentially sharp objects in the nature reserve that the children may cut themselves on.
- There are potential tripping hazards on the floor of the reserve that can cause a child to fall over.
- As mentioned above, a child has an anaphylactic reaction if stung by a bee, therefore, an EpiPen is required at the reserve.

Role of adult/adults:

- Provide location and activity.
- Both adults are to observe children and assess if a child has met the learning outcomes to track mathematical development.
- Both adults are to model math's vocabulary, whether through comments or open-ended questions. For example, "It looks like there is more than 3 acorns there."

The activity:

In the proposed activity, the children will be asked to collect objects they find in the nature reserve. When found, they must count out a specific number of that object. A child finds a bunch of acorns for example. They will then count out 4 acorns from the pile and then match the correct numeral to the quantity. Numicon will be provided to assist the children in counting, but as mentioned in 'Differentiation', the Numicon may be taken away if a child is appearing to complete the task easily. The purposes of this activity are to enhance the children's ability to count objects 1-5, as specified as a required outcome by the Welsh Government (2016). Another purpose is to develop the children's understanding that a number represents a quantity.

Evaluation

Upon further reflection of the above activity plan, it has been identified that the initial group size of 12 children is too large. (Wasik, 2008, p.516) states that when working on a specific task in the early years, any group with more than 5 children is too big. She explains that when working with 3-year olds, which is the age the activity is aimed at, the group number should be a maximum of 5 to ensure each child has the required attention and an opportunity to join in. When reflecting on the plan, a strength that has been noted is the appropriateness of the age of participants and what is being asked of them. The Welsh Government (2016) expect children in nursery to be able to count objects 1-5 and be able to link them to the correct quantities, this activity will enable to reach this outcome in line with Government expectations.

Further analysis of the activity plan has also raised a flaw with the number of adults involved. The NSPCC (2019) explain that there is no set rule on the adult to child ratio, but that many factors should be considered, such as the type of activity, where it is, medical requirements of children as well as the children's behavior and abilities. However, the Care Inspectorate Wales (2021) require that early years settings ensure that the ratio of adults to children over three years work on a ratio of 1:8 (National Minimum Standards, 2016).

On reflection, there should have been more thorough planning as there are children with behavior issues in the group and children with mixed abilities and medical needs, so it would be advised to increase the number of staffs present. This is supported by De Schipper, Riksen-Walraven and Geurts (2006) who argue that when an adult is allocated a smaller group of children, a study has found that they are more attentive to each child and feel calmer in their work environment. Litijens and Taguma (2010) also support the views of an increased adult to child ratio and suggest that in the early years, there should be a minimum ratio of 1 adult to 4 children. Chetty *et al.* (2011) also conducted a study called "Project STAR", in which they found that when an adult is responsible for a small number of children, learning outcomes are more likely to be achieved.

Moving on, a strength of the plan is choosing the local nature reserve as the location of the activity. Tovey (2013) explains how Friedrich Froebel was an early year's pioneer that founded the first ever kindergarten. Tovey (2013) is supportive of

Froebel's theories and discusses how Froebel emphasized the importance of all children being able to be in the outdoors at some point every day. Froebel viewed the outdoors as an opportunity for children to have a wealth of learning experiences. Laurie (2020) is in agreeance that outdoor learning is beneficial and argues that if children are only taught math's in an indoor classroom, they will find it difficult to relate and transfer the math's skills they have learned in the classroom to their life beyond the school day. Whereas, when children learn math's outdoors, it is easier for them to understand that math's is something they can use inside and outside of school. Pratt (2011) as cited by Tucker (2014) reinforces Laurie's (2020) ideas and explains that when children are learning math's outdoors, children identify that math's surrounds every aspect of their life. Moreover, Knight (2011) argues that math's outdoors will better stimulate children than if they were inside, which will promote and strengthen their mathematical abilities as they will be more engaged.

When analyzing the activity plan, it was identified that a potential weakness of the plan was the duration of activity. Kimberley (2016) explains that if an activity goes on for too long, the children may become frustrated and lose interest. During the early years of a child's life, they have short attention spans and will find it difficult to stay engaged for so long, a shorter time limit may be more effective (Kimberley, 2016). Upon further evaluation of the activity, it has been recognized that there is a flaw in regards to the resources.

The activity plan states that children are required to bring a coat and wellies. What is not taken into consideration is if the weather is sunny. De Bellefonds (2020) explains that in hotter weather, young children are more susceptible to overheating than adults. It is important that they wear loose, comfy clothes to keep them cool and also wear a hat and sun cream, all of which should have been noted in the resources section of the activity plan. An additional barrier regarding the clothing and footwear required by the children is the rising rates of poverty in Wales. Save the Children Wales (2020) state that in Wales, 50,000 under-fives live in poverty and because of this some parents cannot even afford essential products, let alone extras like wellies if it is wet or sun hats and glasses if it is hot. Therefore, the activity may not be inclusive. The Welsh Government (2015) state in their 'Early Years Outcomes Framework' that all activities should be inclusive and that a child should never miss out on opportunities because they live in poverty.

A strength of the activity plan is that the activity will meet outcomes specified by the Welsh Government (2016). The Welsh Government (2016) desire that in nursery, children will be able to count up to 5 objects. This is an aim covered in the activity. The Government also states that nursery children should be able to recognize numbers up to 5 and be able to match numerals to the correct quantity. This is something also covered in the proposed activity.

However, a drawback of the activity plan is that it states that the children will be able to identify numbers 1-5 and match them to the quantity they represent, whereas the Welsh Government (2016) explain that children should be able to identify and match quantity in numbers 0-5. The activity plan does not account for the number 0 and this is something to be reconsidered to meet Welsh Government outcomes.

After reflecting on the activity plan, a strength identified is that the task can be altered to challenge and accommodate children with higher and lower academic ability. Taft (2019) explains that it is important to differentiate work as if children find work too easy and are not challenged, they will become uninterested and distracted. Similarly, if a child finds the work too hard, they will become frustrated and disengaged. Therefore, Taft (2019) highlights the need to cater for different abilities so children remain stimulated and can academically progress.

A weakness of the differentiation section is that it would have been beneficial to pair up a lower ability child with a higher ability child. Vygotsky (1978) as cited in Taylor (2013) argues that when a lower ability child is paired with a peer who is a 'more knowledgeable other', they will watch what their peer does until they are able to complete the task themselves.

Upon reflection and further research, a weakness of the plan is that a thorough risk assessment form has not been completed. Pilcher (No date) states that Early Year Practitioners are expected to undertake risk assessments often. She states that completing a risk assessment is particularly important when taking children off site, as it is a new environment. Child safety is key and any potential hazards should be considered. A strength of the plan is that the hazards that have been identified are minor. Ball (2002) argues that in society, there is an unnecessary heavy focus on child safety and whilst it is important to keep children out of harm's way, protecting children too much comes with its own problems as children need to experience risks in order

to grow physically and mentally. Knight (2013) supports Forest schools, which is where children work outdoors and face risks. She says children are most creative when facing a potential hazard. A further weakness identified in the activity plan is that the adult chooses the activity and instructs the children what to do. Bruce's (1991) research has found that when an activity is selected and carried out by the child, with no expectations from the adult, the child will enjoy the activity and show more interest. There Bruce (1991) argues that when there is a child-led math's activity, the child will enjoy it and find it useful.

Discussion

This section of the portfolio will focus on the range of diversity of resources specified in the activity plan and how these are implemented in the activity. In the activity plan, a variety of resources have been selected, with key components being loose parts. Flannigan and Dietze (2017) conducted a study in which they observed young children using loose parts in the outdoors. They found that children display positive social attitudes and challenge themselves. Flannigan and Dietze also found that when playing with loose parts, children do not show stereotypical characteristics relating to gender and age, which lets children develop and play freely. Contrastingly, Gibson, Cornell and Gill (2017) also conducted a study to identify if Loose parts had a positive impact on a child's mathematical development. Their findings showed that whilst the children enjoyed the loose parts there is not strong enough evidence to suggest that loose parts do improve a child's mathematical development. Additionally, Houser *et al.* (2016) also carried out research and stated that evidence to support loose parts as an effective development tool is too weak. This is partly down to the fact that it is impossible to know the way in which children will engage with the parts, which makes progression hard to track. Neill (2013) would disagree with these findings as her research shows that loose parts stimulate a variety of play types and also enable children to think more creatively which encourages their development in all areas. This is also supported by Sutton (2011) who believes loose parts make children see things in a different way which can promote learning mathematics through play by trying different solutions.

The loose parts required in this activity were pinecones, chestnuts, leaves and rocks. Play of the Wild (2019) suggests that children seem to be intrigued by these objects

and want to engage with them. As mentioned, a variety of loose parts were required in the activity plan, however, a mathematical resource is also required as part of the activity, in the form of Numicon. Goodsir (2017) argues that with some plastic mathematical resources, once the child has figured out what to do, it is unlikely they will be interested in it again. However, she also recognizes that there are some plastic mathematic resources that are flexible and suggests that plastic resources like Numicon can be used alongside loose parts to enhance learning opportunities. Inspire my play (2019) would agree with Goodsir (2017) as they also believe in a combination approach between Numicon and loose parts to stimulate a child's mathematical learning. Inspire my play (2019) suggest that when Numicon is used in collaboration with Loose parts, the child is able to use visualization and touch to identify different numbers and the amount they represent. The combination allows a child to build a picture of the number system. The Welsh Government (2019) state that in the new curriculum, there will be emphasis on children understanding the number system and being able to identify a number and know the quantity that the number represents. Therefore, Goodsir (2017) and Inspire my Play (2019) theories of combining loose parts and a math's resource will assist in meeting this outcome.

Explanation

This final section of the portfolio will be based on the role of the adult. The role of the adult during the activity is to observe the child carrying out the activity and assessing if they meet the set learning outcomes. The Welsh Government (2008) explain that in the Foundation Phase, a practitioner can plan an activity in which they can observe children. There will be set outcomes and the practitioner can record if the child has met in order to monitor and track progress.

The Welsh Government (2008) emphasizes the benefit of observation and assessing children to know where they are currently and inform the planning of future activities to develop the child further. The role of the adult is also to model math's vocabulary. Dancer (No date) explains the importance of modelling math's in discussion, as a child will have to listen to mathematical vocabulary in context to grasp it. She suggests that practitioners make use of comments, statements and open- ended questions to help a child with the activity. Although practitioners should model math's talk, it is also important to know when to intervene. The practitioner should be patient and listen

before interjecting with a comment. The Welsh Government (2008) also agree with this statement, indicating that practitioners must know when to speak and when to step back to allow to children to explore freely.

In the Reggio Emilia Approach, the role of the adult to be the facilitator or pedagogue. The adult is in learning partnership with the children rather than just their authoritative figure. The adult observes children and allows them to explore their interests. There is no pre-planning in Reggio, the pedagogue waits for activities to present themselves based on the interests of the children. An approach in Reggio is provocation. This is when the pedagogue provides the children with the opportunity and stimulus, but then steps back and lets the child lead with no specified outcome (The Compass School, 2017).

McLeod (2019) discusses Jerome Bruner's views on the role of the adult. Bruner's views were that an adult should be an active part of aiding a child's developmental progression. Bruner introduced the theory of scaffolding, this is when an adult will step in to guide a child during a task so that they can focus on the main goal they are trying to achieve. McLeod (2019) then goes on to compare the similar views of Vygotsky. Vygotsky introduced his 'more knowledgeable other' theory and the 'Zone of Proximal Development. Similar to Bruner's scaffolding, Vygotsky also believed that adults should be involved in a child's learning and that by a child being helped by a 'more knowledgeable other' they will learn what to do for themselves. McLeod (2019) finally goes on to discuss how Piaget did not agree that Scaffolding or the Zone of Proximal Development would have a significant impact on a child's learning. Siraj- Blatchford (2005) explains the concept of Sustained Shared Thinking, where at least two people come together to solve a problem for example. In the early years the practitioner can assist a child's sustained shared thinking, by really listening to what the child is saying and watching how they say it.

The adult should also display a genuine care for what the child is saying and show them their listening by looking them in the eye and smiling. The practitioner can also encourage the child to extend their conversation, by commenting 'I would like to hear some more on that.' The way questions are asked are important to extend sustained shared thinking. If a child is getting a math's question wrong, the practitioner can suggest "You may want to see if you can do it like this" (Siraj-Blatchford,2005).

References

- Ball, D.J. (2002) *Playgrounds- risks, benefits and choices*. London: Middlesex University.
- Bruce, T. (1991) *Time to Play in Early Childhood Education*. London: Hodder& Stoughton.
- Chetty, R. et al. (2011) 'How Does Your Kindergarten Classroom Affect Your Earnings? Evidence from Project Star', *The Quarterly Journal of Economics*, 126(4), pp. 1593-1660.
- Dancer, J. (No date) *Problem- solving Activities for Early Years Settings*. Available at: <https://www.teachearlyyears.com/learning-and-development/view/problem-solving> (Accessed: 26th February 2021).
- De Bellefonds, C. (2020) *Toddler Summer Clothing Tips*. Available at: <https://www.whattoexpect.com/toddler/toddler-summer-clothing-tips.aspx> (Accessed: 25th February 2021).
- De Schipper, E.J., Riksen-Walraven, M.J. and Geurts, S.A. (2006) 'Effects of Child-Caregiver Ratio on the interactions Between Caregivers and Children in Child-Care Centers: An Experimental Study', *Child Development*, 77(4), pp. 861-874.
- Flannigan, C. and Dietze, B. (2017) 'Children, Outdoor Play, and Loose Parts', *Journal of Childhood Studies*, 42(4), pp. 53-60.
- Gibson, J.L., Cornell, M. and Gill, T. (2017) 'A Systemic Review of Research into the Impact of Loose Parts Play on Children's Cognitive, Social and Emotional Development', *School Mental Health*, 9(1), pp. 295-309.
- Goodsir, K. (2017) *Loose Parts Theory: Less Toys More Materials*. Available at: <https://www.geteduca.com/blog/loose-parts-theory/> (Accessed: 25th February 2021).
- Houser et al. (2016) 'Let the Children Play: Scoping Review on the Implementation and Use of Loose Parts for Promoting Physical Activity Participation', *AIMS Public Health*, 3(4), pp.781-799.
- Inspire my play (2019) *Getting started with Numicon*. Available at: <https://inspiremyplay.com/getting-started-with-numicon-at-home/> (Accessed: 26th February 2021)
- Kimberley (2016) *Optimum activity length for children in the early years*. Available at: <https://www.earlyyearscareers.com/eyc/learning-and-development/optimum-activity-length-children-early-years/> (Accessed: 25th February 2021).
- Knight, S. (2011) *Risk and Adventure in Early Years Outdoor Play: Learning from Forest School*. London: Sage.
- Knight, S. (2013) *Forest School and Outdoor Learning in the Early Years* 2nd ed. London: Sage.

Litijens, I. and Taguma, M. (2010) *Literature overview for the 7th meeting of the OECD Network on Early Childhood education and Care*. Paris: OECD.

McLeod, S. (2019) *Bruner- Learning Theory in Education*. Available at: <https://www.simplypsychology.org/bruner.html> (Accessed: 26th February 2021).

National Minimum Standards (2016) *National Minimum Standards for Regulated Childcare for children up to the age of 12 years*. Available at: <https://careinspectorate.wales/sites/default/files/2018-01/160411regchildcareen.pdf> (Accessed: 28th February 2021).

Neill, P. (2013) 'Open- Ended Materials Belong Outside Too!', *HighScope Early Childhood Specialist*, 27(2), pp. 1-8.

NSPCC (2019) 'Recommended adult to child ratios for working with children'. Available at: <https://learning.nspcc.org.uk/research-resources/briefings/recommended-adult-child-ratios-working-with-children#article-top> (Accessed: 24th February 2021).

Pilcher, M. (No date) *Health & Safety in the Nursery*. Available at <https://www.teachearlyyears.com/nursery-management/view/health-safety-in-the-nursery> (Accessed: 25th February 2021).

Play of the wild (2019) *Using Autumn Nuts*. Available at: <https://playofthewild.com/2019/09/24/counting-with-numicon-using-autumn-nuts/> (Accessed: 25th February 2021).

Save the Children Wales (2020) *Children in Wales May Never Catch Up*. Available at: <https://www.savethechildren.org.uk/news/media-centre/press-releases/wales--missed-milestones-by-age-5-means-many-children-may-never-#:~:text=In%20Wales%2C%20almost%20one%20in,children%20are%20living%20in%20poverty.&text=By%20the%20time%20they%20start%20school%2C%20children%20experiencing%20poverty%20are,them%20at%20an%20unfair%20disadvantage> (Accessed: 25th February 2021).

Siraj- Blatchford, I. (2005) 'Birth to Eight Matters! Seeking Seamlessness- Continuity? Integration? Creativity?', *TACTYC Annual Conference*. Cardiff, 5th November.

Sutton, M. J. (2011) 'In the Hand and Mind: The Intersection of Loose Parts and Imagination in Evocative Settings for Young Children', *Children, Youth and Environments*, 21(2), pp. 408-424.

Taft, L. (2019) *Strategies for Differentiation in the Classroom That Actually Work*. Available at: <https://www.twinkl.co.uk/blog/strategies-for-differentiation-in-the-classroom-that-actually-work> (Accessed: 25th February 2021).

The Compass School (2017) *Key Elements of the Reggio Emilia Approach*. Available at: <https://www.thecompassschool.com/blog/key-elements-reggio-emilia-approach/> (Accessed: 26th February 2021).

Tovey, H. (2013) *Bringing the Froebel Approach to your Early Years Practice*. Oxon: Routledge.

Tucker, K. (2014) *Mathematics Through Play in the Early Years* 3rd Ed. London: Sage.

Wasik, B (2008) 'When Fewer Is More: Small Groups in Early Childhood Classrooms', *Early Childhood Education Journal*, 35(6), pp. 515-521.
DOI: [10.1007/s10643-008-0245-4](https://doi.org/10.1007/s10643-008-0245-4)

Welsh Government (2008) *Observing Children*. Available at: <https://hwb.gov.wales/api/storage/74f7c7cc-d337-4fd0-9604-27b3d1a5746d/observing-children.pdf> (Accessed: 26th February 2021).

Welsh Government (2015) *Early Years Outcomes Framework*. Available at: <https://gov.wales/sites/default/files/publications/2019-07/early-years-outcomes-framework.pdf> (Accessed: 25th February 2021).

Welsh Government (2015) *The four purposes of the curriculum for Wales*. Available at: <https://gov.wales/sites/default/files/publications/2018-03/the-four-purposes-of-the-curriculum-for-wales.pdf> (Accessed: 24th February 2021).

Welsh Government (2016) *Numeracy*. Available at: <https://hwb.gov.wales/api/storage/2b2b4da6-a24a-4925-b519-d2b1130371a2/170601-numeracy.pdf> (Accessed: 24th February 2021).

Welsh Government (2019) *Statements of what matters*. Available at: <https://hwb.gov.wales/curriculum-for-wales/mathematics-and-numeracy/statements-of-what-matters/> (Accessed: 24th February 2021).