

<u>Targets</u>	<u>Targets</u>	<u>Action</u>
<u>Target 1</u>	Referencing	I have used the Harvard referencing and the link recommended in my previous assignment to guide me.
<u>Target 2</u>	Sentence Structure	This time I relied on a thesaurus to help shorten sentences and proofread my work to the best of my ability.

How do Nursery pupils and staff perceive the impact of outdoor learning on their wellbeing?

An Investigation on the wellbeing impact of engaging young children with the outdoors

The aim of this research project was to explore both Nursery students', and their respective teaching staff's, perspective on outdoor learning experiences, and the effect it has on their wellbeing. The recently published Non-Maintained Nursery Curriculum in Wales (2022) heavily emphasised the importance of young children experiencing outdoor opportunities. Being outdoors promotes a host of authentic opportunities that subsequently promote the development of integral skills linked to the 'four purposes' that form the basis of the new curriculum (Welsh Government, 2022). Outdoor environments additionally allow greater freedom of expression, reducing inhibition through the encouragement of imagination, creativity and curiosity in students (Welsh Government, 2022). The school in which the research took place has a purpose-built annexed site, 500 meters from the main school building, for Nursery and Reception age students, promoting a vast outdoor learning environment. The class at the heart of this

research is made up of 10 nursery children, no older than age 4, and their respective members of staff, belonging to school X. This research wished to address the considerable gap in previous studies on children of Nursery age (3 to 4 years old) engaging with the outdoors, and the subsequent positive effects on mental and physical wellbeing as a result. By doing so, the study aspired to gain greater overall insight, from both students and their enabling adults, as to what they find most beneficial to enhance my future work. Through identifying the most influential aspects of outdoor learning, I hope to promote positive play opportunities, that are effective and supportive of student's needs in my future practice. The question underpinning this research is: How do Nursery pupils and staff perceive the impact of outdoor learning on their wellbeing?

Literature Review

This research specifically aims to examine the relationship between wellbeing and the outdoor environment. Wellbeing can be defined as a feeling on both a personal and social level and is deemed to have great influence determining a person's emotion, behavior, cognition and relationships (Jarden & Roache, 2023). In younger children wellbeing can be difficult to measure. Greater emphasis is placed on a multi-dimensional focus, with various studies from OECD (2009) and UNICEF (2017) attributing: children's health, family relationships, material resources and education to their overall rating of subjective wellbeing (Statham, 2010). Despite little research on the subject with children belonging to this age group, it is widely concluded that maternal relations and access to their preferred environment, usually that of outdoor environments, is the biggest determinant of their wellbeing rating (Manning-Morton, 2009). In line with this, recent education policies Wales have placed greater emphasis on the outdoor opportunities and engaging with nature in the curriculum as it "supports wellbeing", an essential aspect to enable successful learning in the classroom (Welsh Government, 2022).

The same Welsh curriculum reform in 2022 completely shifted educational perspectives and promoted practitioners to fully adjust their way of thinking and designing the curriculum. According to the Non-Maintained Nursery Curriculum, legislation iterates the importance of allowing “space and freedom” for developing children to revisit and refine their new knowledge and skills, following a cyclical approach to progress through the learning journey (Welsh Government, 2022). Practitioners hold the responsibility to support learners at their own pace in their preferred learning environment, including outdoor provisions (Welsh Government, 2022). It is important that practitioners observe children, both indoors and outdoors, and use these observations effectively as a basis for planning of future learning experiences that promote wellbeing (Jucker & Von Au, 2022). Effective observations allow for reflection on what has been seen and heard, making appropriate judgements about how to respond in ways that allow children to progress further in both education and social emotional development (Jucker & Von Au, 2022).

There has been a multitude of research that suggests the implementation of outdoor learning opportunities and engagement with nature can increase wellbeing and positive emotions in children. Harvey et al (2019) suggested a significant increase in not only mood and well-being, but also an increased connection to nature in children who took part in activities related to a biodiversity-focused programme compared to those who did not. Furthermore, the recent COVID-19 Pandemic saw a drastic increase in mental health issues amongst young children. This provides substantial support around the importance of outdoor environments as blame is commonly attributed to lockdowns and lack of outdoor opportunities and activities available to the children during this time (Meredith, 2021).

Not only does nature promote wellbeing benefits, but research also suggests that learning in motion, and having the opportunity to learn from different perspectives, by touching or moving for example, to have a more profound and produce significantly increased long-term recall benefits (Dirinagl & Müller, 2016, cited by Jucker & Von Au, 2022). The creation of the ‘Health and Wellbeing’ Area of Learning in the new curriculum for Wales emphasises the potential benefits that promotion of whole-school

engagement with physical activity and active lifestyles can have on learners (Welsh Government, 2022). In fact, reduced exposure to outdoor play opportunities has the potential to harm both children's physical and cognitive health during their development (Wyver, 2019, cited by Padayichie, 2022). Learning in environments that activates a range of senses in authentic contexts that are applicable to later life situations promotes greater effectiveness (Dong, 2021).

On the contrary, meta-analyses have found that studies targeting wellbeing and nature often lack methodological accuracy and are prominent for having small participant involvement (Becker et al, 2017). Additionally, despite many studies suggesting statistically significant findings, upon conclusion the results are often weak to moderate and lack longitudinal research, reducing the generalisability of the findings (Liu & Green, 2023). Additionally, as highlighted in a citation from a UNICEF (2020) report, learners in "Western and especially Scandinavian countries" highly benefit from the implementation of nature in childhood education. These limited Geographical conclusions suggest again a small potential to generalise the report findings to the vast number of countries that fall outside of this bracket. Furthermore, there is still a lack of guidance for practitioners in successfully designing the outdoor area to promote learning and play simultaneously (Kiviranta, 2023). Previous research indicates need for guided interactions within outdoor environments to make it beneficial, however there are barriers such as low-income families and urban neighborhoods make this difficult to continue outside of school hours (Patchen et al 2021).

All of the above literature is relevant as it not only highlights the complexity when investigating wellbeing with young students, but also the gap in research studies investigating children of Nursery age (4 years old). Additional research with children of this age is relevant given not just the emphasis on student-teacher relationships in the promotion of wellbeing, but also the newly implemented 'wellbeing' pathway, as part of the 'five developmental pathways' outlined by the Non-Maintained Nursery Curriculum. (Welsh Government, 2022). This study aims to specifically identify the most influential aspects of the outdoor environment that produce positive effects on subjective wellbeing and mood in students in line with the Welsh Government legislation. The results from

this study will provide additional guidance for teachers when implementing the new curriculum and improving student's subjective wellbeing.

What is a case study?

Case studies are most defined as research methods that examine individuals or groups of people, otherwise known as bounded units, in real-life settings (Crowe et al, 2011). Case studies are a widely recognised tool in social science studies, especially in research related to education (Gulsecen & Kubat,2006), allowing in-depth investigation of variables (Heale & Twycross, 2018) where qualitative and quantitative data analysis is required to study complex phenomenon (Zainal, 2007) .

Given the aims and objectives of this study, adopting an exploratory Case Study approach was deemed the most applicable. Given the focus on complex variables; wellbeing, the natural outdoor environment, and the age of the participants (4 years old) (Crowe et al, 2011) the study required close data examination in the specific context children were most familiar with (Zainal,2007). The case study approach, using variation of viewpoints; questionnaires, observations and self-assessment scores, from teachers and students, allows for triangulation of data that produces a greater, in-depth conclusion overall.

Case-study approaches are specifically praised for the wealth of information they produce within the natural environment (Crowe et al,2018). Case study approach, as adopted by this research, allows the researcher to investigate what would otherwise be impossible to replicate in artificial situations, such as in a laboratory (Cherry 2024). In this scenario, removing children from school X where they are comfortable could have resulted in psychological harm (BERA, 2018). The lack of access to their regular

activities and equipment may have negatively impacted their mood and behaviours resulting in distress.

Research Methods

This research project heavily relied on Opportunity sampling, a method of acquiring participants who are most available and applicable to the aim of the research and target audience (Mcleod, 2023). The students and teachers involved in the study were readily available for the study, given that school X is affiliated with the University, UWTSD. Given that school X is situated in a deprived area with 55% of the school receiving FSM (Estyn, 2018), this study successfully targets the population of low-income families lacking outdoor access who are often unaccounted for in previous studies (Manning-Morton, 2007). However, sampling methods are strategies used to recruit groups of individuals who are representative of a larger population (Mcleod, 2023), and the group of individuals in this study (both students and teaching staff) are a considerably small sample of this.

This study was heavily dependant Qualitative research methods, specifically observations and open-ended questionnaires, to provide the greater insight the study aimed to achieve. However, the study additionally uses a Smiley Face Likert scale, a Quantitative method, given the age and understanding of the participants (Nursery students), which was also supported by open-ended questioning and informal observations. Qualitative research methods, otherwise known as the “umbrella term” to describe research techniques that investigate the meaning of complex social phenomena, such as wellbeing, were deemed most applicable to use in this study (Van Maanen, 1979, cited by Rahman, 2016 p.103). Qualitative research cannot be achieved through methods of quantification, instead focusing on people's real-life experiences, behaviours and emotions (Rahman, 2016). Given the complexity and depth of the variables in this study, wellbeing and the outdoors, and the young age of the participants involved, Qualitative methodology allowed for depth in questioning and understanding when considering the “how” and “why” behind reported feelings (Cleland, 2017). Qualitative methodology additionally allows greater understanding behind the

results for the quantitative measure, the Smiley Face Likert scale, and ensures participants understanding.

When researching with teachers, Qualitative questionnaires, otherwise known as a method of 'survey research' was used. When using survey research targeted at a specific audience however, it is important to acknowledge the potential bias that may occur and promote strategies to reduce the risk of them occurring (Ponto, 2015). Given that the study is being conducted amongst colleges, risk of common issues such as nonresponse error and samplings errors have been irradiated (Ponto, 2015). The use of open-ended questions and the qualitative design allowed for deeper insight into feelings, reducing the inability to determine motivations behind scores given in quantitative designs (Rahman, 2016 p.104). However, it was acknowledged, being a student in the same school, that staff were aware of the aims and proposed outcomes of the study and the potential for bias in the answers to the questions. Thematic analysis was the chosen methodology used to uncover any relevant trends in the questionnaire results. This is a highly beneficial technique that allows exploration when reviewing subjective opinions and views on a topic (Crosley, 2021).

When conducting research with the children as participants, to produce optimal responses Bell (2007) asserted that the children must be able to understand all the words in the question and relate the question to previous experience that they're being questioned about. Additionally, children must be provided with an effective way to communicate a response to these questions (Bell, 2007). Throughout this research the increased susceptibility to social desirability in my presence was consistently acknowledged, and obvious presence of researcher during observation was limited where possible (Read, MacFarlane & Casey, 2002, quoted by Hall, Hume and Tazzyman, 2016). As a familiar adult to the participants involved, the risk of social desirability was automatically reduced as routine remained similar to that of a regular school day.

To gain assent from the children in a way they could understand, smiley faces (both happy and sad) were made available to the children throughout the study, with additional explanation being provided to clarify how these emotions would be used.

Similarly, Smiley Face Likert scales were also used as a method of self-rating their overall feelings prior to and after the study ended. The use of emoticons and faces have vastly increased in popularity when conducting research, especially. With 92% of people using emoticons daily, they're widely accepted as a universal language and a method of quick feedback, preventing language barriers interfering with results (Dawer, 2024). Additionally, for those children who wish to give negative feedback, it has been proven to be more effective as people are usually reluctant to give negative verbal feedback (Dawer, 2024). Using previous research from Hall, Hume and Tazzyman (2016), the Smiley Face Likert scale provided the children with 5 points, all of which were different levels of happiness with only one neutral face. Through process of trial and error, previous findings suggested children's self-evaluations to mainly be positive, and more accurate results would be found when presented with greater range of happiness ratings as opposed to negative ones (Hall, Hume & Tazzyman, 2016).

Whilst playing in the outdoor classroom, children were observed and asked a range of open-ended questions related to the activity they were engaged with. Use of observations allowed for greater understanding of what children were engaging with in a natural environment (Cleland, 2017). However, observations alone lack scientific support, and it is important to recognise that no casual conclusions can be drawn without greater insight (use of Smiley Face Likert scale and further questioning (Kitsantas, Ware & Kitsantas, 2005). Working with participants of this age, their play and behaviors outdoors could be reflective of what their friends enjoy as opposed to how they individually feel about an activity they are engaging with.

Ethical considerations

Prior to the study, approval was granted by the Ethics committee at UWTSD (See Appendix.1 for ethics form). Furthermore, before conducting the research, all parents were given a participant information sheet, explaining the purpose true purpose of the study, and outlining all relevant information about anonymity, withdrawal and publishment of findings (See Appendix.2). If in agreement, parents were then required to sign an attached consent form (see Appendix.3). Research only proceeded with

children granted permission by their guardian, in accordance with section 16 of the BERA (2018) Ethical Guidelines. However, children were also informed of providing assent and freedom of withdrawal from the study, accordance with section 8 of the BERA (2018) Ethical Guidelines, if they wished to do so. Given the age and understanding of the children in the study, participants used smiley faces to indicate their mood regarding participation, sad faces indicating they wished to withdraw from the study, adhering to section 31 of the BERA (2018) Ethical Guidelines. All data collected from the study was stored via the UWTSD One Drive which is not accessible to anyone other than the researcher. All data gathered was not stored for any longer than necessary.

The study

Prior to the study, all parents/guardians of the participants read the information sheet and accordingly gave consent if they were happy for their child to take part. All 10 students were additionally required to provide daily assent during registration, using a simple self-report technique (smiley faces). To ensure students fully understood the study and concept of assent, I asked each to create both a smiley and sad face that they would use during the assent process (See example in Appendix). Once assent was gained, at the beginning of the week, prior to the study starting, there was a group discussion about the outdoor area and what elements students enjoyed most, to again confirm children's understanding but also gauge prior feelings about the outdoors and the different aspects available (activities, equipment, games). Prior to going outdoors each day, participants were also asked to rate their mood using a Smiley Face Likert scale (see Figure.1) as a control to assess any improvements in mood after study!

"If you enjoy being outside makes you happy can put your hand up?"

"Can you tell me what you enjoy most about our outdoor area?"

Over the week, students continued with the usual outdoor activities and daily routines. Whilst engaged with play and the environment, informal observations were ongoing by researchers. Daily observation notes consisted of answers to the following questions:

“Where is the child?”

“Who is the child playing with?”

“How would you describe their mood physically? (Happy=smiling, uninterested=disengaged, unhappy)”

Upon returning to the classroom after outdoor session, each day participants were given the 5-point Smiley Face Likert Scale (as seen in Figure.1) to complete during the final carpet time session of the day. They were asked to rate how they felt now they had been outside. Participants had to provide a rating, 1 being slightly unhappy, 5 being very happy, and were asked to describe the face they had chosen, allowing greater understanding of what feelings they associated with the emoticon they had chosen). After sharing feelings, they were asked “What part of being outside made you feel like that today?” with these responses also being recorded. These results were also compiled at the end of the week to evaluate trends and compared against observations made during the time outside.

Figure 1: Smiley Face Likert Scale used in study



5=Super happy face, 1=Unhappy face

Throughout the week, outdoor activities were alternated, with some of the identified children's preferred activities (shown in Figure 2). These simple changes in environment additionally acted as independent variables, being removed or altered to determine their influence and effect on mood and wellbeing. For example, on day 3 the class teacher had a lot of engagement outside with the children, whereas on day 4 she was completely absent from the class (See Figure 3). On day 2, activities, such as the sandpit and bikes, were removed, whereas on day 1 and 5 the outdoor area remained the same, again acting as a control measure when comparing results.

All members of the respective teaching staff were also provided with an information sheet and consent form, which was then followed up by a Questionnaire (See Appendix). Within the Questionnaire there were questions directly addressing the respondent's thoughts on the new Welsh curriculum and opinion on the outdoors, as these feelings may bias the other questionnaire results. The trends identified within each questionnaire's results, through Thematic analysis, were then compared with other members of staff.

Results

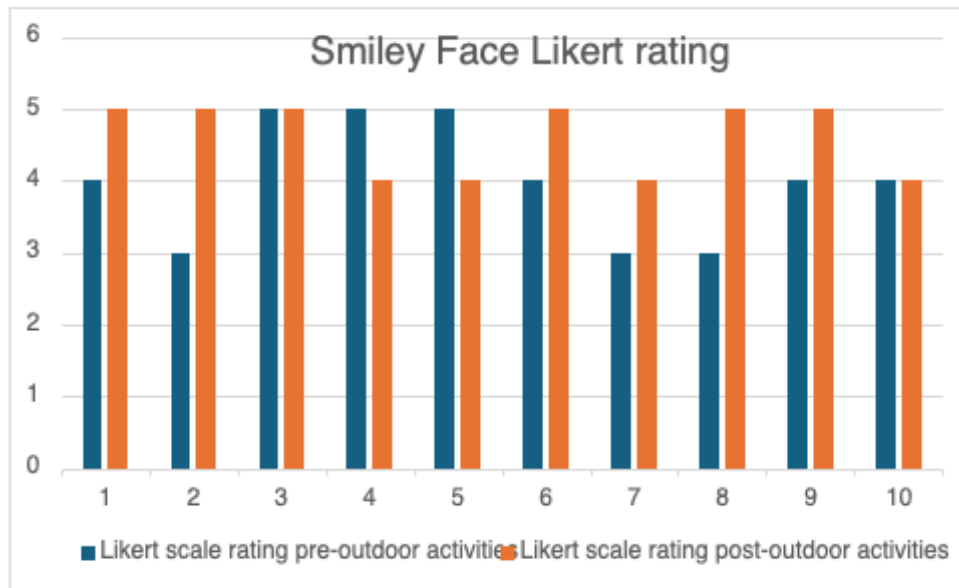
From the results, it is apparent that both students and members of staff highly rate the use of the outdoors and believe it has direct correlation to improved wellbeing. As seen in Figure.2, prior to the research, students all responded 'yes' when asked if they enjoyed being outside. They additionally shared what specific aspect of the outdoor environment they enjoyed, most of which recalled activities and toys readily available to them in the outdoor classroom. These findings signposted what variables could be altered throughout the week to evaluate any mood changes in their absence. Riding the bikes seemed to be most popular, followed by the freedom to run and access to the sand pit.

Figure 2: Table of results from questions asked at the beginning of week, establishing prior feelings related to the outdoor environment.

Participant	“Do you enjoy being outside?”	“What’s your favorite thing about being outside?”
1	yes	“bikes”
2	yes	“bikes”
3	yes	“playing”
4	yes	“bikes”
5	yes	“playing”
6	yes	“sand”
7	yes	“running”
8	yes	“running”
9	yes	“sand”
10	yes	“fun”

The participants' daily mood-ratings (using the Smiley Likert Scale), both prior to and after time outside, were also compared to evaluate any changes. As the week progressed, the daily ratings given by participants were averaged, before being combined and placed in a bar graph at the end of the week (see Figure.3 below).

Figure 3: Bar graph to show each participant's weekly average of their daily rating of their mood using the Smiley Face Likert Scale.



The mean mood rating for the week, prior to going outside, was 4 (very happy face), whereas the mean rating after being outside had increased to 4.6. Even on the days where the children's favorite activities, identified at the start of the week (see Figure 2), were taken away or adapted, children still rated their score either of the same value or higher than pre-outdoor rating. This suggests that the improvement in mood and wellbeing stems from variables outside the toys available to them, potentially from the quality of fresh air, change in setting, greater freedom for movement.

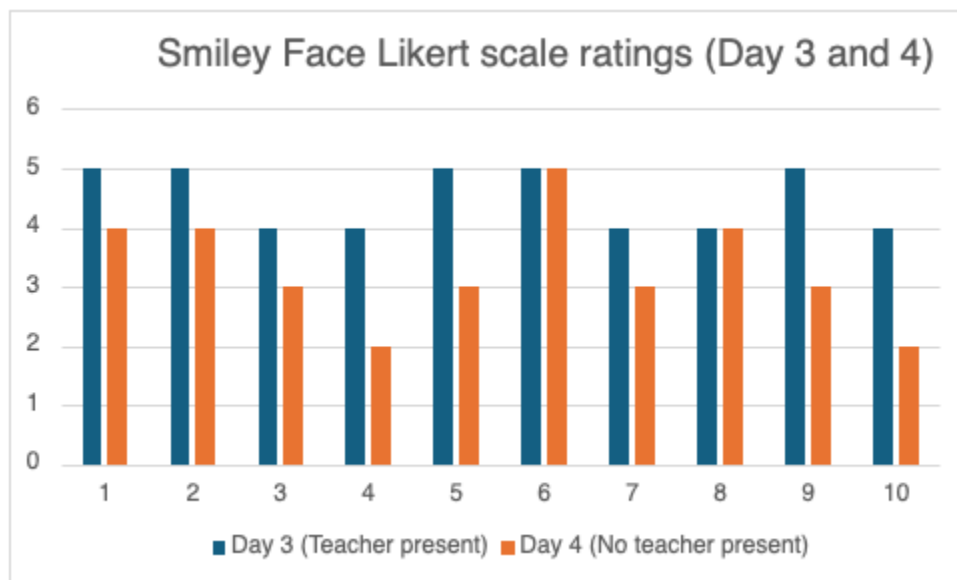
Similarly all 3-questionnaire respondents boasted an active, outdoor lifestyle, frequently acknowledging the high importance of implementation to "all people, not just children". Additionally, all staff were in full support of the new curriculum and believed the reform to have "substantial" benefits for children. Two responses to the questionnaire did not attribute the benefits of the outdoor environment to any specific activity, the general concept of being outdoors is the main "regulator of wellbeing" and the "change of scenery" from the classroom environment. All three respondents also strongly acknowledged the "physical side effects", seen on "rainy days", when students are

unable to go outside. Another frequently occurred theme was “regulation”, and the ability for children to “release” in the outdoor classroom that is not possible inside.

Discussion

Despite the outdoor activities available to participants outside varying daily, student’s mood rating remained consistently high throughout the study. This indicates that factors beyond the accessibility of toys and resources are most responsible for the increased wellbeing outcomes. Results on day 3, when the class teacher had high engagement with the children, were considerably higher for most students, compared to day 4 where the class teacher was absent (See Figure 4). In line with the Welsh Government’s guidance published in the non-maintained nursery curriculum, “feeling connected, secure and safe are key when developing a string sense of well-being”.

Figure 4: These are the results of the Smiley Face Likert scale on day 4 and 5. The results show higher ratings for day 3, suggesting something in their outdoor environment improved on day 3, which was not present on day 4.



The results of the studies are similar in comparison with previous studies. The non-maintained nursery curriculum promotes the importance of the outdoors as it promotes their wellbeing (Welsh Gov, 2022) whereas countries in East Asia for example, focus on the promotion of exceeding academic achievements. The annexed building that houses the class at the heart of this research in School X purpose built the building to house and promote an extensive outdoor area, not all schools have access to this.

Conclusion

To conclude, this research successfully explored the effect of outdoor learning and the influence of nature on the wellbeing of nursery aged children. The results of the study highlight the different aspects of the outdoor environment the children enjoyed most, and what the members of staff deemed most influential to their wellbeing. Even without the items the student identified as most influential at the start of the week, bikes, running, sand, wellbeing ratings were still statistically significant compared to ratings pre-study.

The use of both Qualitative and Quantitative results provided detailed conclusions, with issues surrounding the children's understanding being successfully addressed any prior concerns regarding the accuracy of the results provided by the participants. Despite addressing the gap in research focusing on children younger than 5 years old during research, this study was still conducted on an incredibly small scale. Additionally, School X is situated in an area of greater deprivation, as suggested by previous studies, this usually results in children spending limited time in nature (Strife and Downey, 2009). This suggests children might have rated their mood higher as they are not used to the level of freedom and engaging with new resources. Furthermore, this study also links to Hall, Hume and Tazzyman's (2016) finding that children only use very smiley faces when presented with the Likert scale as opposed to negative ones. This could however be due to social desirability given the age and understanding of the participants.

However, the Welsh Curriculum reform promotes strong encouragement on outdoor learning (Welsh Government, 2022). This may not be applicable to other countries who adhere to different legislation but also other schools who do not have outdoor accessibility. More research involving a greater range of participants and communities needs to be done for results to be applicable worldwide.

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