Reflective learning: Children's views of their classroom environment as a tool to support independent learning

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1. Introduction

This small-scale research project aims to explore children's perspectives on their learning environment as a tool to support independent learning. The decision for this focus was based on the impact that the cost-of-living crisis is having on schools, specifically regarding the limited number of support staff in schools (NFER, 2023) and the impact this has on class teachers ensuring all children are receiving necessary support. This study explores the benefits of developing reflective and independence skills in children through the learning environment. It can be argued that developing these skills can lead to increased motivation for learning and overall academic performance (Zimmerman, 2010; Smith, 2017; Pang, 2020). Whilst independence does not mean there is an absence of teacher support (Healey, 2014), it can help ensure all children are learning and developing, with direct teacher support when needed. This is particularly important considering the increased number of children with Special Educational Needs and/or Disabilities (SEND) (NFER, 2023). This study is also inspired by research by Robson and Mastrangelo (2018). It explored young children's views of their learning environment and it found that they view it as valuable. This study was conducted in the Early Years Foundation Stage (EYFS) and it is widely known that the learning environment is viewed as a vital part of development at this age (DfE, 2023). As the early years largely influence future development (UNICEF, n.d.), I decided to see how we can utilise the learning environment in Key Stage One (KS1) to benefit learning.

The research was conducted in a final year placement school, where a class of Year

2 children (19 participants) were asked to photograph and explain what areas of the classroom support their learning. A questionnaire was also conducted to provide a deeper insight into why children valued particular areas of the classroom.

This research project aims to support teachers in ensuring classrooms can be used as an effective learning tool, through exploring what children value as important.

2. Literature Review

This literature review will explore three themes that will provide an insight into how children reflect on their learning environments:

- Children as reflective learners
- The value of the learning environment
- Children taking responsibility of their learning: independent learners

2.1 Children as reflective learners

Reflective practice is arguably a highly researched and defined skill with an abundance of definitions that have been proposed (Osterman and Kottkamp, 1993; Phillip, 2006; O'Sullivan et al, 2008 Akturk and Sahin, 2011; Thompson and Wolstencroft, 2021). Definitions summarise that reflection is a vital skill that requires critical analysis and evaluation of one's own knowledge, understanding and experiences to progress (Hinett, 2002; Biggs, 1999; Boud et al, 1985). Research shows a link between reflection and learning (Race, 2002). Key educationalists explore reflection as an effective metacognitive skill that can advance learning through strategies that promote the evaluation of knowledge and understanding, specifically exploring strengths and limitations (Flavell, 1979; Dewey,

1997; Schon, 1983; Moon, 2006; Zimmerman, 2010; Pang, 2020).

Reflective practice has been highly recommended within the education sector (Lubbe and Botha, 2020), resulting in teachers obtaining and maintaining a deeper understanding of effective skills and relevant knowledge (Shek et al 2021). Mohamed et al (2022) and Zelazo (2004) suggest that reflective skills are affected by experience (Kolb, 1984), suggesting why research surrounding this topic is often limited to adults (Pollard, 2002). Therefore, reflection is very limited in young children due to them having less experiences to draw upon (Zimmerman, 1990; Flavell, 1979). However, Mohamed et al (2022) further state that these skills can be taught and modelled (Grant et al, 2017). It is argued that young children can show awareness of reflective traits such as self-regulation and emotions (Leigh, 2019), through the guidance of a teacher (Stueck et al 2016; Cullen-Powell and Barlow, 1995). This results in children managing their own thinking (Reynolds and Wade, 2011). This research by Leigh (2019) involves children in the study; prior to this Pinter and Zandian (2015) highlighted the limited number of studies that involve children in the data collection process. Whilst some studies have used children as participants to explore their reflective skills, such as, Robson and Mastrangelo (2018), many focus on adults and their views on reflection in children (Cavilla, 2017). Robson and Mastrangelo (2018) used these reflective skills to find that young children value mathematics areas the most for their learning, further demonstrating that these skills can be prevalent in children.

There are conflicting views regarding the age in which children can demonstrate reflective skills. Whilst research suggests that this age is eight to ten years old

(Veenman et al, 2005), recent research suggests that children can showcase this more complex way of thinking from a young age (Chen et al, 2022), with Leigh (2019) stating that this age is as young as four. Effective reflection is complicated with it being much more than simply thinking back to what happened – it is about utilising experiences as learning opportunities (Helyer, 2015). The Education Endowment Foundation (EEF) (2021.a, p.6) explore metacognitive skills in children and highlight the importance of teachers 'explicitly teaching pupils metacognitive strategies, including how to plan, monitor, and evaluate their learning', further supporting that with the correct guidance and collaboration, children can develop this skill (Gray, 2007). This follows a similar structure to Zimmerman (2010) which explores reflective learners as those who can set individualised goals, use these to monitor their performance, reflect on this (looking at strengths and limitations) and then using this to identify next steps (Pollard et al, 2014; Clarke, 2008). From this, Zimmerman (2010) argues that children will feel more motivated to learn, develop a sense of achievement and understand the steps required to succeed (Graham, 2004). Through developing self-awareness, including strengths and weaknesses (Brown and Ryan, 2003), it can impact learning as specific goals can be set (Loon and Bell, 2017).

2.2 The value of the learning environment

The importance of the learning environment is a topic that is not new, with the Plowden Report in 1967 stating that the intended purpose is to help learning. This is supported by O'Brien (2012) who states that the physical environment is one of the most useful resources for learning, essentially acting as the third teacher (Edwards, Gandini and Forman, 1998).

The learning environment, more specifically the classroom, can include a range of resources to support learning, with displays being viewed as effective in stimulating enquiry (Roberts, 2012). Classroom displays can be defined as visual representations that children can access to support learning (Schraw and Richmond, 2022). There has been research surrounding the impact of classroom displays on learning, specifically that they can be viewed as distracting (UCU, 2013). This is particular for those with SEND as a loss of focus reduces learning time (Fisher et al, 2014). More recent research acknowledges the value of displays when utilised effectively. For example, taking down overstimulating 'word walls', replacing them with relevant vocabulary and making children aware of the changes to displays; this will bring more attention and encourage the use of them further (Enser, 2019). This helps children understand the purpose of the displays and provides them with more responsibility as they know how to use them (Sandberg, 2016). Whilst this research lacks reliability due to its data only being taken from one class, further research acknowledges the benefits of bringing attention to displays and involving the children; it creates children who are more respectful, know where to access support and resources and can use the classroom to develop their learning (Beadle, 2010; Packard and Race, 2000; Kershner and Pointon, 2000).

Displays can be an effective tool for highlighting key vocabulary, recapping prior knowledge and modelling information (Fisher et al, 2014). Lehr, Osborn and Hierbert (2004) argued that skimming over key vocabulary (particularly in reading) does not result in information reaching the long-term memory. However, they argue that by using working walls (that include this vocabulary) it can support this retention,

ultimately impacting the children's learning and progress. There is limited research surrounding working walls, however, these can be defined as displays that change and evolve over a series of lessons, and act as a scaffold to encourage children to become independent learners (Collins, n.d.). Key vocabulary has been highlighted by OFSTED (2023) as being important, specifically in subjects, such as, science. Without this, they argue that children are susceptible to developing misconceptions. Furthermore, displays help information retention as they recap on previous learning (Fisher et al, 2014). Recapping on prior knowledge is included in Rosenshine's Principles of Instruction (2012) as it helps children make connections and it increases the chances of the information reaching the long-term memory. This is supported by the EEF (2021.b) arguing that weak prior knowledge can result in more misconceptions.

As discussed in section 2.1, children can reflect through the guidance of teachers; they can use these reflective skills to know how and when to use displays to support their learning. In doing so, they are taking an active learning approach and will be able to understand more complex information and develop their critical reasoning skills (Schraw and Richmond, 2022). However, it has been highlighted that a certain understanding of visual literacy is required for children to be able to successfully use displays (Yeh and Cheng, 2010). This could be an issue for children who have difficulties processing and retrieving information (Whole School SEND, 2020), specifically children with cognitive and learning difficulties (DfE, 2015). It is the duty of a teacher to meet the needs of all learners in the class (DfE, 2011) and it widely known that children learn through a range of ways (Honey and Mumford, 1986; Pritchard, 2018). This being said, the use of visual aids has shown to be highly

effective for children with autism and English as an Additional Language (EAL), as the use of images and visual representations can often be more accessible because potential language barriers can be removed (Grandin, 2006; Shabiralyani et al. 2015; Bennie, 2017; Quecan, 2021). The positive impacts that visual aids have on learning and development are beneficial for all learners, with it impacting academic outcomes (Sein, 2022).

2.3 Children taking responsibility of their learning: Independent learners

As explored in section 2.2, making children aware of changes to displays and ensuring they know how to use them, can provide them with a sense of responsibility, which has shown to increase motivation and learning (Smith, 2017). Research by Ayish and Deveci (2019) highlight the importance of children taking an active role in their learning, arguing that their specific needs can be met and result in successful learners. Whilst it is acknowledged that many children understand why they should take responsibility for their own learning, many do not know how to do so (Ayish and Deveci, 2019). This is where teacher interference is important. Research by Corcoran (2020) explored the value of giving children choices in how they access their learning. This ensures that children are taking ownership and making choices that they feel will help them (Bucknall, 2012). Through this sense of ownership and responsibility, independent learners can be developed. Fostering independence has shown to lead to increased confidence, self-esteem, motivation and curiosity which can have an impact on learning and development (Meyer et al 2008; Cerino, 2021). This is supported by Clarke (2021) who argues that simply giving children information does not support learning and limits their opportunities to think deeply.

This being said, Yancey (1998) shows that students often see the ability to evaluate and reflect on learning as the role of the teacher. The teacher's ability to assess progress and learning is a vital role in promoting student achievement (Black and Wiliam, 2010). However, creating a shared understanding of the learning purpose and encouraging children to reflect on their own work is argued to be highly effective in promoting deeper learning (Clarke, 2021). This active approach can instil motivation and a love for learning, promoting what Dweck (2008) postulates as a growth mindset. She argues that learners with a growth mindset are internally motivated to succeed, as opposed to being encouraged through external factors. Whilst her work has been critiqued due to its data-based inconsistencies (Brown, 2017), more recent work has been conducted and this has continued to strengthen the importance of a growth mindset (Yeager and Dweck, 2020).

The importance of developing independent children is highly beneficial for teachers (Meyer et al, 2008); when children are taking an active role in learning and seeking information themselves, it can ensure teachers are left with more time to support elsewhere. This is particularly important considering the increased class sizes (NASUWT, n.d.) including the increased number of children with SEND attending mainstream schools (Office for Statistics Regulation (OSR), 2023). This, as well as the limited number of support staff available (due to financial issues schools are facing) (Skipp and Hopwood, 2019), means teachers may struggle to provide one to one support. Therefore, promoting independence skills using the learning environment may support teachers, whilst ensuring the children are continuing to develop their learning.

3. Methodology

3.1 Research approach

This project adopts a case study approach which can be defined as a type of research that is conducted in real life contexts (Crow et al, 2011) and explores experiences and opinions (Punch and Oancea, 2014). As this research was conducted using a small sample size, a case study was appropriate due to them being suitable for small scale research studies (Roberts-Holmes, 2018). This is because they focus on achieving an in-depth, context-specific understanding of the research topic, so a large sample size is not always necessary (Thomas, 2023). Although small sample sizes can be viewed as a limitation, due to its less rigorous approach and inability to generalise to a wider population (Yin, 2009), Thomas (2023) highlights that the aim of case studies are not to generalise to others; they should develop a strong understanding of attitudes and views of participants (Creswell and Creswell, 2018). This approach was appropriate for the research project as it relies on children being reflective. Although it is argued that case studies lack generalisability, due to them focusing on a specific context (Yin, 2009), they allow for first hand experiences that can inform future practice (Leymun et al, 2017).

3.2 Pilot study

Prior to collecting the data, a pilot study was conducted to see if the methods chosen would work and to highlight any limitations or external factors that may affect the study (Van Teijlingen and Hundley, 2002). Pilot studies are often carried out on a smaller scale and around a topic that has little research. As discussed, this area of research is relatively limited, therefore a pilot study was appropriate to see if this topic could be explored on a slightly larger scale. Van Teijlingen and Hundley (2002)

acknowledge a limitation of pilot studies being that wrong assumptions can be made. If the same participants are used in the pilot study and in the real study, it could affect results as they have already experienced the questions previously. With this in mind, the pilot study took place in a different school (albeit in the same year group-Year 2), to ensure that no presumptions were made. Therefore, I focused solely on the effectiveness of the methods. As the study is based on the work by Robson and Mastrangelo (2018), I followed similar data collection methods, one being focus groups. These can be time effective in identifying views (Kumar, 2019). However, I found these to be ineffective for my research; individual interviews worked better as the children were less distracted due to less classroom disruption.

3.3 Participants

For this study, data was collected from a class of 19 Year 2 children (ages 6 to 7 years old) in a small one form entry school. Convenience sampling was used as this was my final year placement class (Kumar, 2019). As the class size was small, I included the whole class as participants to achieve the best possible data. However, should the class have been larger, I would have used random sampling to ensure bias was limited and to increase the generalisability of the research (Cohen, Manion and Morrison, 2017; Kumar, 2019).

3.4 Data collection

This study draws upon both qualitative and quantitative research, utilising a mixed method approach (Creswell and Creswell, 2018). Whilst there can be time-related issues surrounding the use of this mixed approach (Punch, 2009), it ensures possible limitations of each approach are counteracted (Creswell and Plano Clark,

2017). For example, quantitative data can be more time effective and therefore 'bring breadth to the study' and qualitative provides rich data that brings the 'depth' to the study (Dawadi, Shrestha and Giri, 2021, p.27). Therefore, this approach can result in a broad understanding gathered from a range of viewpoints (Noble and Heale, 2019; Cohen, Manion and Morrison 2017) which is appropriate for the research study. Questionnaires, image-based data and semi-structured interviews were used in this study. This use of multiple methods can be defined as triangulation, which uses different data collection methods to broaden the researcher's understanding of the topic by looking at different perspectives (Bekhet and Zauszniewski, 2012; Flick, 2018). Whilst Thomas (2023) highlights that some researchers argue that one method is enough to form plausible arguments, triangulating data increases the validity of the research as multiple aspects are considered (Moon, 2019).

Image based data and semi structured interviews (see appendix 1.) The use of image-based data has shown to be an engaging method for research involving children, as they are viewed as fun but provide the researcher with in-depth understandings (Punch, 2002). The form of image-based data used in this study was photo elicitation, which uses photographs to evoke a response from participants (Prosser and Loxley, 2008). A type of photo elicitation- 'reflexive photography'- was used in which participants reflect upon photographs they took themselves (Hurworth, 2003). Whilst other researchers have used drawings to explore children's views (Mukherji and Albon, 2018), Punch (2002) highlights a possible limitation with this: information cannot always be captured this way. Image-based data, specifically photographs, can be more accessible for children as the photographs can be used to evoke a response as opposed to relying on spoken language (Thomas, 2023). As

part of the photo elicitation process, the participants were given the opportunity to take up to five photographs of areas in the classroom that they felt supported their learning. They then explained their thoughts behind the photographs in semi structured interviews (Pyle, 2013). A semi-structured approach was taken in which open questions were prepared and asked but further questions could be asked to achieve a deeper understanding (Jamshed, 2014). This was chosen as it ensured all relevant information was obtained, but there was flexibility to explore further ideas (Lambert, 2012). The interviews were conducted on a one-to-one basis as it was shown to be the most effective approach from the pilot study, with a maximum of 10 minutes per interview. This ensured that the children were comfortable and distractions were limited (Baker and Edwards, 2012).

Questionnaires (see appendix 2.)

Questionnaires were conducted after the interviews to gain a deeper understanding as to why children chose particular areas. I noticed that in the interviews, children referred to areas being important due to them providing support for difficult subjects. Therefore, the children were asked one rank order question: 'Please rank the different subjects in order from the easiest to the most difficult.' This was read aloud to the participants to ensure that they understood the question (Thomas, 2023). A possible limitation of questionnaires is that they can be interpreted in different ways, especially for children (Ravitch, 2020). This means only one open question that I could gain lots of data and understanding from, was asked.

3.5 Limitations

It is important to consider the limitations of a study as this can affect its validity and reliability (Ioannidis, 2007). The most important limitation of this study is that it is a small-scale research project. This means that a small sample size was used which affects its ability to be generalised to a wider population (Atkins and Wallace, 2016; Bryman, 2012). However, as discussed, the purpose of a case study is not always to generalise but to explore views in that context. The findings could be used to influence a larger study that could be generalised (Thomas, 2023).

3.6 Ethical considerations

Prior to the research taking place, ethical consent was approved by the York St John University ethical clearance form (see appendix 3.) and ethical guidelines were adhered to throughout. Adhering to ethical guidelines are vital when completing educational research to ensure all participants are treated fairly and kept safe (BERA, 2024; Punch, 2009). Written gatekeeper consent was granted by the headteacher prior to the research taking place (see appendix 4.). They were made aware of the nature of the study through a research proposal form and an ethical approval form. Verbal consent was granted by all participants, and they were reminded that they have the right to withdraw from the study at any point (BERA, 2024). All participant names were anonymised to ensure full confidentiality and protection from harm (Hammersley, 2021). All raw data was kept confidential and stored appropriately, then destroyed after the study (The Data Protection Act 2018; Kumar, 2019). As image-based data was used in this study, all participants were reminded not to take pictures of any other children or themselves. Only images of

the classroom were allowed to ensure privacy and all photographs were deleted after the study to ensure full confidentiality (Thomas, 2023).

4. Findings

After thematic analysis of the data collection, three key themes were identified (Naeem et al, 2023): The value of the classroom in supporting learning, children taking an active approach to their learning and children reflecting on their environment.

The data analysed from the image-based data, semi-structured interviews and questionnaire suggested that children value and know how to utilise the classroom to support their own learning.

4.1 Theme 1: The value of the classroom in supporting learning
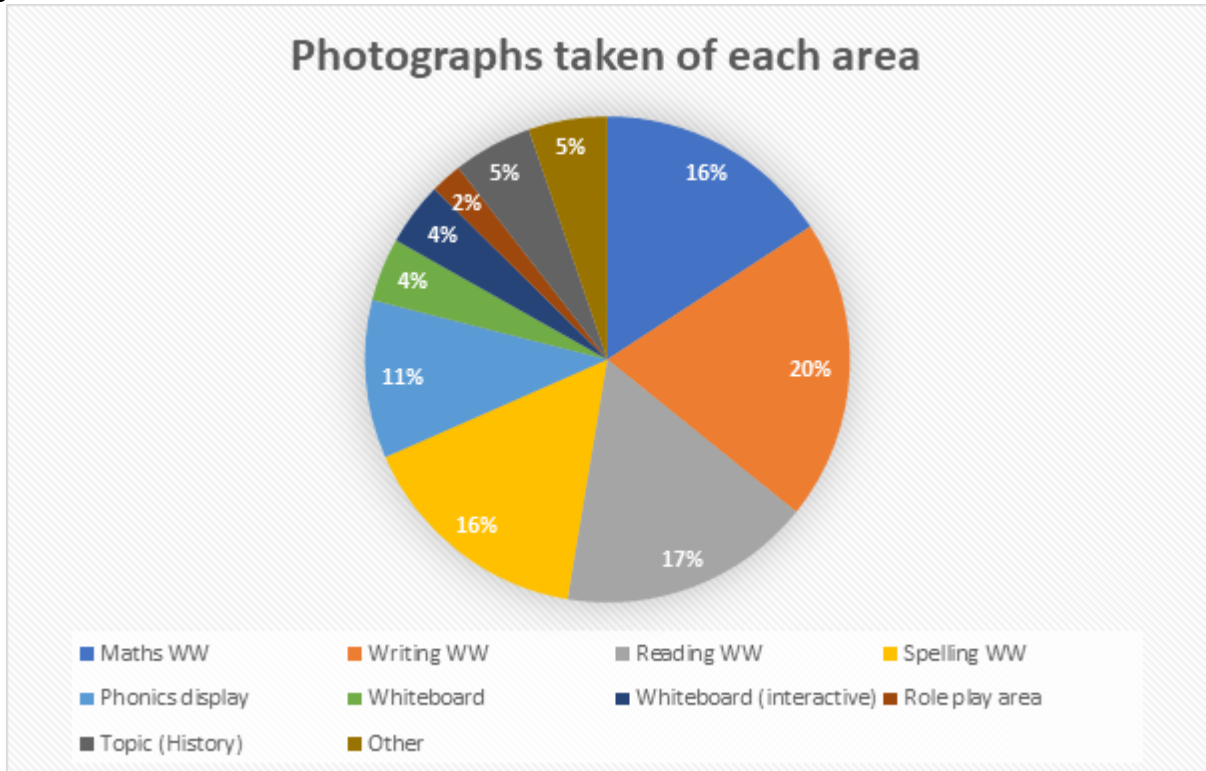
Figure 1.

Figure 1 shows the total number of photographs taken of each area. 'WW' has been used as an acronym for 'working wall'.

In the study, the participants were asked to photograph five areas of the classroom that they felt best supported their learning. A range of areas were identified and these can be seen in *figure 1*. From this range of areas, it can be suggested that the children valued the majority of the classroom with 100% of the participants being able to identify areas that help them learn. As shown in *figure 1*, the writing working wall had the greatest number of photographs taken, with every participant photographing this area. This suggests that the writing working wall is a key aspect of the classroom that the children use to help them learn. However, as the children had a writing focus the week that the data was collected, this finding may have differed on a different week.

Furthermore, *figure 1* shows that the children value displays the most for their learning. 85% of the total photographs taken were of displays, showing that displays are commonly used amongst the children to support learning. This percentage, in addition to the finding that every child photographed the writing working wall, shows that all children value the use of displays, with common responses from the semi structured interviews referring to the displays being 'easy to look at' (Child 9) and having 'everything they need' (Child 10). Interestingly, when looking closely at *figure 1*, it was noticed that of all displays photographed, the working walls were photographed the most. This can be evidenced below in *figure 2*.

Figure 2.
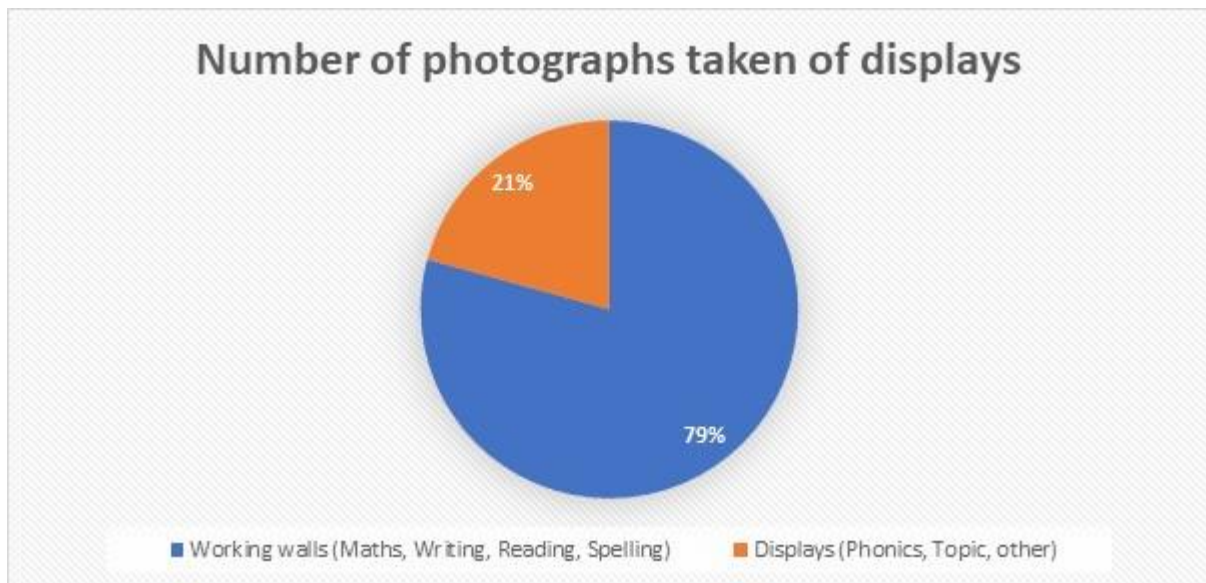
It is clear that the working walls were perceived to be the most important for learning in comparison to other displays.

4.2 Theme 2: Children reflecting on their environment

As discussed in section 4.1, all participants were able to take photographs of areas that supported their learning. From the semi structured interviews, it was evident that the participants could also use their photographs to explain what the area was and how it helped their learning. This is exemplified through child 12's responses:

Researcher: What is this a picture of?

Child 12: The phonics wall.

Researcher: Why did you take a picture of the phonics wall?

Child 12: It helps me when I spell words so I can see which spelling it is.

Within the interviews, the participants could also reflect on their photographs and choose one that they perceived to be the most important for their learning. The areas that were viewed as most important consisted of: writing (5), mathematics (5), reading (3), spelling (4) and phonics (2). These correlate with the areas with the most photographs taken, further suggesting that these children value these areas the most. This data has been combined with the data taken from the questionnaire that asked participants to rank all subjects from what they find the easiest to the most difficult to form *Figure 3.*

Figure 3.

Child number:	The most important area to support their learning (data from interview)	The subject they find most difficult (data from questionnaire)
1.	Reading	Writing
2.	Reading	Reading
3.	Mathematics	Mathematics
4.	Spelling	Spelling
5.	Mathematics	Spelling
6.	Writing	Writing
7.	Writing	Mathematics
8.	Spelling	Writing
9.	Writing	Writing
10.	Reading	Reading
11.	Spelling	Phonics and writing
12.	Phonics	Spelling
13.	Writing	Writing

14.	Mathematics	Mathematics
15.	Phonics	Reading
16.	Mathematics	Mathematics
17.	Mathematics	Mathematics
18.	Writing	Writing
19.	Spelling	Writing

Figure 3 compares the semi structured interview data with the questionnaire. It shows that most children viewed the most important area for their learning as the same subject that they find most difficult. These children are highlighted in green, for example, child 3 stated the mathematics area as being the most important to them and also viewed mathematics as the most difficult subject. The yellow rows show children that identified subjects that were different but were closely linked. For example, child 15 viewed phonics as the most important area but chose reading as the most difficult subject. The red rows show children that did not chose subjects that linked. For example, child 7 perceived writing to be the most important area but viewed mathematics as the most difficult subject. The majority of children fall under the green and yellow categories, with only 2 children choosing subjects that do not directly link. From this, it can be suggested that children seek out information from their environment to help their learning, specifically in areas that they find most difficult. It shows that the children could reflect on their strengths and weaknesses (as shown in the questionnaire) and use this when utilising their environments to further their knowledge and understanding.

4.3 Theme 3: Children taking an active approach to their learning: Independence

A key theme that was identified through the data collection process was that children take an active role in their learning and utilise their classroom to be more independent. As discussed, working walls were viewed as a valuable tool in the classroom. Working walls are designed to help encourage independent learners (HFL Education, 2021) and it was evident that children understood this, as exemplified by child 6 and child 8:

> Child 6: It *(the writing working wall)* gives us really good ideas for writing, it's really helpful when we have to do independent writing and we can see what step we are on.

> Researcher: When do you use the spelling working wall?

> Child 8: When Mrs **teaching assistant name** isn't here and Mrs **class teacher name** is helping somebody else I look at it to help me spell.

It was clear that the children knew how the working wall could help them, with links to prior learning and key vocabulary being shown. This suggests that the working walls are viewed as supportive to their learning. This can be seen through child 7's response:

> Child 7: They (*working walls) show us what we did yesterday and (points to key words on photograph)* when we talk in pairs, we can look to see which

key words to use. But each time we have a different topic they change.

The children could explain the value of working walls regarding its ability to help them when completing independent tasks. It was also viewed as a helpful tool when the teacher was not available to help. This demonstrates that the children use their classroom to take an active approach in their learning.

Overall, the findings are as followed:

1. Children value their classroom as a place that helps them learn. 2. Through using reflective skills, children can identify areas of the classroom that support learning. Displays, specifically working walls, were valued as the most important.

3. Children can reflect on their learning and identify independent approaches that they can take to support this.

5. Discussion

This section will discuss the findings in relation to existing literature surrounding how children utilise their learning environment to take an independent approach to their learning. For clarity, the discussion will be explored across three themes.

5.1 Theme 1: The value of the classroom in supporting learning

The findings from this small-scale research project concluded that 100% of the children viewed their classroom as a tool to support their learning and could share how it does so. From analysing research by Robson and Mastrangelo (2018), from which the research was based, it was likely that this result would emerge.

In each case, the children could identify the areas they had taken a photograph of and provide a follow up explanation of why and how the area supports learning. This is comparable to findings from Robson and Mastrangelo (2018) who found a similar result from children in the EYFS. Whilst Robson and Mastrangelo (2018) and further research by Explore Learning (2017) found that children perceive mathematics to be the most important subject, within this study the children valued writing the most. Although there is limited research surrounding children's views on what they perceive to be important subjects, this finding reflects what the Department for Education (DfE) (2014) state as being important subjects, with literacy-based subjects and mathematics being viewed as important, as they are vital in ensuring children can access other aspects of the curriculum. One possible limitation of this finding however, is that the children were completing an independent writing task the week that data was collected. The area that they viewed as being most important may have changed depending on what the learning focus was that week. However, it can be concluded that the children did value their classroom for learning and understood how each area could help.

The findings suggest that the children valued the displays the most for their learning, with over 85% of the photographs being of displays and every child photographing the writing working wall. This use of visual aids supports research by Grandin (2006), Shabiralyani et al (2015), Bennie (2017) and Quecan (2021), as it was clear that all children could access the displays and highlighted this as a tool to help learning. When exploring the benefits of displays on learning, children referred to the key vocabulary that they could use. This supports research by Enser (2019) that explores the value of key vocabulary and the importance of making children aware of changes

to this. Children are then more likely to use the displays, which supports information retainment (Lehr, Osborn and Hierbert, 2004). From the interviews, it was found that children understood that the key words changed on the working walls depending on the topic, showing that they are attentive and notice when displays change and use this to support learning (Collins, n.d).

Working walls were valued as important, with interview responses predominantly consisting of the links to prior learning that they provide. Rosenshine (2012) and the EEF (2021.b) support the importance of recapping on prior learning to strengthen understanding and ensure information is being retained. It is clear that the children in this study understood its value also. The findings also showed that working walls are helpful in ensuring children understand what step they are on (Graham, 2004) which gives them more control over their learning, resulting in increased motivation (Smith, 2017).

5.2 Theme 2: Children reflecting on their environments

A key finding from the study found that children could reflect on their strengths and weaknesses and use this to further their learning. They could reflect on areas of the curriculum that they found difficult (as demonstrated in the questionnaire) and use their classroom to better their knowledge and understanding in the area (as shown in the image-based and interview data). Due to the limited research surrounding this topic, this result was unexpected and could act as a starting point for further research.

The participants were aged 6 to 7 years old (Year 2) and demonstrated reflective skills through identifying the subjects they find the easiest and the most difficult. They showed that they used areas of the classroom to support this which are highlighted as reflective traits (Flavell, 1979; Dewey, 1997; Schon, 1983; Moon, 2006; Zimmerman, 2010; Pang, 2020). As these children were this age, it contradicts research that suggests children's ability to self-reflect starts to develop at age 8 to 10 years old (Veenman et al, 2005). From their ability to reflect on important areas of the classroom, subjects they struggle with and then expand on these during the interviews, high levels of reflection are presented for their age. It demonstrates complex thinking, supporting work by Chen et al (2022) and Leigh (2019).

Whilst this research does not show that being reflective has a direct link to academic attainment, as suggested by Race (2002), it supports research that suggests that reflective traits can be prevalent in young children (Leigh, 2019). This showcased their ability to manage their own thinking (Reynolds and Wade, 2011) and further supports findings by the EEF (2021.a) that state that children can monitor and evaluate their learning (looking at subjects they find easy or difficult) and then use this to inform next steps and plan (seeking resources and displays that support a specific subject) (Clarke, 2008; Zimmerman, 2010; Pollard et al, 2014). This could have implications for academic performance as it was clear that the children understood steps required to succeed (Graham, 2004). They understood that to help themselves in a difficult subject, they can seek information. This demonstrates a motivation to learn, which Dweck (2008) has argued to result in greater attainment. However, further research investigating academic links would need to be explored, as this research was a small-scale study.

The findings contradict research by Yancey (1998) who argues that students do not take responsibility over evaluating and reflecting on their learning. This study however shows that children can reflect. This is further supported by Mohamed et al (2022) and Shek et al (2021) who explored the benefits of reflective practice for teachers in maintaining knowledge and understanding, however, this study shows that this is also the case for children. It shows that children can use reflective skills to build on what they do not know but also strengthen what they do know as shown in child 7's response (section 4.3).

5.3 Theme 3: Children take an independent approach to their learning

The findings suggest that children utilise their classroom to take an active and more independent approach to their learning, with children making reference to displays being supportive when the teacher was not available. It was evident that the children knew how to be responsible for their learning and could share exactly how their classroom helps them learn (Beadle, 2010; Packard and Race, 2000; Kershner and Pointon, 2000), contradicting work by Ayish and Deveci (2019). They could identify an area that they struggled with and then used the classroom to support this area (as shown in *figure 3).*

Data from *figure 2* shows that working walls were perceived to be a valuable tool for learning by the children. As existing research highlights, a key purpose of working walls is to develop independence through relevant information that is accessible for children (HFL Education, 2021); through the interviews it was evident that the children used the working walls for this purpose. Children made links to working walls being an immediate source of help (as exemplified by child 8 in section 4.3).

This is particularly important due to the limited number of support staff available in schools as a result of the cost-of-living crisis (Skipp and Hopwood, 2019) and increasing class sizes (NASUWT, n.d.) making it more difficult for teachers to directly support each child (EEF, n.d.).

6. Conclusion, limitations and implications for practice

This study aimed to explore children's perceptions on their learning environment and from the research it was found that the children valued their classroom as an effective learning tool. Within their learning environments, displays, particularly working walls, were highlighted as an important learning aid and this was consistent across the participants. Furthermore, it was found that the children could demonstrate reflective skills when identifying areas of the classroom that supported learning. However, a finding that was unexpected was that children could take independent approaches towards their learning based on specific areas that they deemed to be the most difficult.

As research in the literature review has highlighted, teachers play a key role in ensuring children can be reflective, independent learners through their environment, therefore, it may have been beneficial to look at teacher perspectives also. However, as this was a small-scale study, focusing on children's views was appropriate. Furthermore, existing research explored in the literature review highlighted conflicting views regarding how children with SEND perceive their learning environment (Fisher et al, 2014). For future practice, it would be beneficial to explore views of those with SEND considering the increasing number of children with additional needs (NFER, 2023).

This research provides an insight into the importance of the learning environment. It shows that children use and value their environments as an effective learning tool. Promoting independence using the classroom environment (for example, displays), helps ensure children are not as reliant on direct teacher support. When considering the limited number of support staff in schools, it allows teachers to encourage independent learners, whilst ensuring direct support is available for children who may need it. Therefore, this research suggests that teachers utilise their displays and working walls by making children aware of changes and remind children to use them. This research shows that in doing so, the children use them, in turn helping them to take an independent approach to learning. As research has shown, independence can impact academic outcomes, resulting in more motivated learners that enjoy learning. This being said, it is important to remember that each class is different and children learn in a variety of ways (Honey and Mumford, 1986; Pritchard, 2018). The children in this study valued working walls, however other classes may benefit from other aspects of the classroom. As Sandberg (2016) highlighted, some children interpret their learning environments in different ways, so it is about finding approaches to independent learning that work for each class.

Word count: 6,448

Reference List

Akturk, A. O. and Sahin, I. (2011) 'Literature Review on Metacognition and its Measurement', *Procedia- Social and Behavioural Sciences.* 15(1), pp. 3731-3736. DOI: https://doi.org/10.1016/j.sbspro.2011.04.364

Atkins, L., and Wallace, S. (2016) *Qualitative research in education*. London: SAGE. Available at: https://doi.org/10.4135/9781473957602 (Accessed: 11.05.24).

Ayish, N. and Deveci, T. (2019) 'Student Perceptions of Responsibility for Their Own Learning and for Supporting Peers' Learning in a Project-based Learning Environment', *International Journal of Teaching and Learning in Higher Education,* 31(2), pp.224-237

Baker, S.E. and Edwards, R. (2012) *How many qualitative interviews are enough?* Available at: https://eprints.ncrm.ac.uk/id/eprint/2273/4/how_many_interviews.pdf (Accessed: 22.05.24)

Beadle, P. (2010) *How To Teach.* Carmarthen: Crown House

Bekhet A. K. and Zauszniewski J. A. (2012) 'Methodological triangulation: an approach to understanding data.' *Nurse Res*. 20(2), DOI: 10.7748/nr2012.11.20.2.40.c9442.

Bennie, M. (2017) *Visual supports for autism: a step by step guide.* Available at: Visual supports for autism: a step by step guide - Autism Awareness (autismawarenesscentre.com) (Accessed: 18.05.24)

Biggs, J. (1999). *Teaching for Quality Learning at University*. Buckingham: Open University Press.

Black, P. and Wiliam, D. (2010) 'Inside the black box: raising standards through classroom assessment: formative assessment is an essential component of classroom work and can raise student achievement.' *Phi Delta Kappan*. 92(1) DOI: 10.1177/003172171009200119 ·

Boud D., Keough, R., Walker, D. (1985) *Reflection: turning experience into learning*. London: Kogan Page.

British Educational Research Association (BERA). (2024). *Ethical Guidelines for Educational Research* (5th ed.). Available at: www.bera.ac.uk/publication/ethicalguidelines-for-educational-research-2024 (Accessed: 27.05.2024)

Brown KW, Ryan R (2003) The benefits of being present: mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology* 84(4): 822–848.

Brown, N. (2017) *In which science actually self-corrects, for once.* Available at: Nick Brown's blog: In which science actually self-corrects, for once (steamtraen.blogspot.com) (Accessed: 22.05.24)

Bryman, A (2012). *Social Research Methods*. 4th edn. Oxford: Oxford University Press

Bucknall, S. (2012) *Children as Researchers in Primary Schools: Choice, Voice and Participation*. London: Routledge

Cavilla, D. (2017). The Effects of Student Reflection on Academic Performance and Motivation. *Sage Open,* 7(3). https://doi.org/10.1177/2158244017733790

Cerino, A. (2021) 'The importance of recognising and promoting independence in young children: the role of the environment and the Danish forest school approach' *Education*, 51(4), pp.685-694 DOI: https://doi.org/10.1080/03004279.2021.2000468

Chen C, Wu J, Wu Y, Shangguan X, Li H. (2022) 'Developing Metacognition of 5- to 6-Year-Old Children: Evaluating the Effect of a Circling Curriculum Based on Anji Play.' *Int J Environ Res Public Health*. 19(18) DOI: 10.3390/ijerph191811803

Clarke P. A. (2008). 'Reflective teaching model: a tool for motivation, collaboration, self-reflection, and innovation in learning'. *Georgia Educ. Res. J.* 5, 1–18

Clarke, S. (2021) *Unlocking learning intentions and success criteria.* London: SAGE

Cohen, L., Manion, L. and Morrison, K. (2017). *Research Methods in Education*. 8th ed. New York: Routledge.

Collins, D. (n.d.) *Engaging active learners by using working walls.* Available at: https://lbhflearningpartnership.com/wp-content/uploads/2020/01/Brackenburybrochure-teaching-learning-and-assessment.pdf (Accessed: 21.05.24) Corcoran, L. (2020) *How I can Foster Independence in Primary School Children by*

Encouraging Choice in Learning. Available at: 1399176940-54136_LAURA_MARY_THERESA_CORCORAN_MEd_157174_498700746.pdf (maynoothuniversity.ie) (Accessed: 25.05.24)

Creswell, J., and Plano Clark, V.L. (2017) *Designing and conduction mixed methods research*. 3rd edn. London: SAGE

Creswell, J.W. and Creswell, J. D (2018) *Research Design. Qualitative, Quantitative, and Mixed Methods Approaches.* 5th edn. California: SAGE

Crowe S, Cresswell K, Robertson A, Huby G, Avery A, Sheikh A. (2011) 'The case study approach,' *BMC Med Research Methodology*. DOI: 10.1186/1471-2288-11-100.

Cullen-Powell, L. and Barlow, J. (1995) 'Promoting inner stillness: the value of a selfdiscovery programme for children with social, emotional and behavioural difficulties.' *British Journal of Special Education* 32(3): 137–143.

Dawadi, S., Shrestha, S., and Giri, R. A. (2021). 'Mixed-Methods Research: A Discussion on its Types, Challenges, and Criticisms.' *Journal of Practical Studies in Education*, 2(2), 25-36 DOI: https://doi.org/10.46809/jpse.v2i2.20

Department for Education. (2011) *Teachers' Standards.* Available at: https://assets.publishing.service.gov.uk/media/61b73d6c8fa8f50384489c9a/Teachers__Standards_Dec_2021.pdf (Accessed: 20.04.24)

Department for Education (2014) *The national curriculum in England.* Available at:

[The national curriculum in England - Framework document (publishing.service.gov.uk)](publishing.service.gov.uk) (Accessed: 12.05.24)

Department for Education (2015) *Special educational needs and disability code of practice 0 to 25 years.* Available at: [SEND_Code_of_Practice_January_2015.pdf (publishing.service.gov.uk)](publishing.service.gov.uk) (Accessed: 02.05.24)

Department for Education (2023) *Early years foundation stage statutory framework*. Available at: [Statutory framework for the early years foundation stage for group and school providers (publishing.service.gov.uk)](publishing.service.gov.uk) (Accessed: 18.04.2024)

Dewey. J. (1997). *How we think.* New York: Dover

Dweck, C. (2008) *Mindset: the new psychology of success.* New York: Ballantine Books

Education Endowment Foundation (2021.a) *Metacognition and self-regulated learning* available at: https://d2tic4wvo1iusb.cloudfront.net/production/eef-guidancereports/metacognition/EEF_Metacognition_and_selfregulated_learning.pdf?v=1697155929 (Accessed: 15.10.2023)

Education Endowment Foundation (2021.b) *EEF Blog: ECF– Exploring the Evidence: Prior knowledge and Pupil Misconceptions.* Available at: EEF Blog: ECF–

Exploring the Evidence: Prior knowledge and… | EEF
(educationendowmentfoundation.org.uk) (Accessed: 12.05.24)

Education Endowment Foundation (n.d.) *Reducing class size.* Available at:
https://educationendowmentfoundation.org.uk/education-evidence/teachinglearning-
toolkit/reducing-class-size (Accessed:25.05.24)

Edwards, C., Gandini, L., & Forman, G. (1998). *The Hundred Languages of Children*
(2nd ed.). Greenwich, CT: Ablex.

Enser, M. (2019) *4 reasons to ditch your classroom displays*. Available at: 4 reasons
to ditch your classroom displays | Tes Magazine (Accessed: 22.04.24)

Explore Learning (2017) *Maths tops poll as children's favourite subject!* Available at:
Maths is children's favourite subject! | Explore Learning (Accessed: 21.05.24)

Fisher, A. V., Godwin, K. E., & Seltman, H. (2014). 'Visual Environment, Attention
Allocation, and Learning in Young Children: When Too Much of a Good Thing May
Be Bad.' *Psychological Science*, 25(7), pp. 1362-1370.
https://doi.org/10.1177/0956797614533801

Flavell, J. H. (1979) 'Metacognition and Cognitive Monitoring', *American
Psychologist,* 34(10), pp.906-911. Available at: Flavell (1979).pdf (uga.edu)
(Accessed:21.10.2023)

Flick, U. (2018) *The SAGE Handbook of Qualitative Data Collection*. London: SAGE.

Graham,S.J. (2004). 'Giving Up on Modern Foreign Languages? Students' Perception of Learning French,' *Modern Language Journal*, 88, pp.171-191.

Grandin, T. (2006) *Thinking in pictures. And other reports from my life with autism.* New York: Random House Inc.

Grant, A., McKimm, J., and Murphy, F. (2017). *Developing reflective practice: A guide for medical students, doctors and teachers*. West Sussex, UK: John Wiley & Sons.

Gray, D.E. (2007), 'Facilitating management learning: developing critical reflection through reflective tools', *Management Learning,* 38(5), pp. 495-517.

Hammersley, M. (2021). *Research Methods and Methodologies in Education.* London: SAGE

Healey, M. (2014) *Developing Independent & Autonomous Learning*. Available at: https://www.swansea.ac.uk/media/Mick-Healey-Independent-Learning-WorkshopHandout.pdf (Accessed: 22.05.2024)

Helyer, R. (2015). Learning through reflection: The critical role of reflection in work based learning (WBL). *Journal of Work-Applied Management*, 7(1), 15-27. Available at: https://doi.org/10.1108/JWAM-10-2015-003 (Accessed: 22.05.24)

HFL Education (2021) *4 ways to make your maths working wall work*. Available at: https://www.hfleducation.org/blog/4-ways-make-your-maths-working-wallwork#:~:text=The%20main%20purpose%20of%20a,on%20there%20is%20genuinely%20%20relevant (Accessed: 22.05.24)

Hinett, K. (2002), *Developing Reflective Practice in Legal Education*, UKLE. http://www.ukcle.ac.uk/resources/reflection/index.html

Honey, P. and Mumford, A. (1986) *Manual of learning styles.* Maidenhead: Peter Honey.

Hurworth R (2003) Photo-interviewing for research. *Social Research.* 40(1), pp. 1-4.

Ioannidis JP. (2007) 'Limitations are not properly acknowledged in the scientific literature.' *J Clin Epidemiol*. 60(4), 24-9. DOI: 10.1016/j.jclinepi.2006.09.011.

Jamshed S. (2014) 'Qualitative research method-interviewing and observation.' *J Basic Clin Pharm.* 5(4), 87-8. DOI: 10.4103/0976-0105.141942.

Kershner, R. and Pointon, P. (2000), 'Children's views of the primary classroom as an environment for working and learning', *Research in education,* 64(1), pp. 64-77,

Kolb, D. (1984). Experiential learning: Experience as a source of learning and development. *Englewood Cliffs*, NJ: Prentice Hall

Kumar, R. (2019) *Research Methodology. A step by step guide for beginners.* Fifth Edition. London: SAGE

Lambert, M. (2012) *A Beginner's guide to Doing Your Education Research Project.* London: SAGE.

Legislation.gov.uk (2018) *Data Protection Act 2018*, 12. Available at: [Data Protection Act 2018 (legislation.gov.uk)](legislation.gov.uk) (Accessed: 11.05.24).

Lehr, F., Osborn, J. and Hierbert, E. (2004) *A Focus on Vocabulary (ResearchBased Practices in Early Reading Series)* Available at: [(PDF) A Focus on Vocabulary (Research-Based Practices in Early Reading Series) (researchgate.net)](researchgate.net) (Accessed: 22.05.24)

Leigh, J. (2019) 'Using creative methods and movement to encourage reflection in children', *Journal of Early Childhood Research,* 18(2), pp.130-142. DOI: https://doi.org/10.1177/1476718X19885992

Leymun, Ş.O., Odabaşı, H.F. and Yurdakul, I.K. (2017) 'The importance of case study research in educational settings', *Journal of Qualitative Research in Education,* 5(3), pp. 1–17. DOI:10.14689/issn.2148-2624.1.5c3s16m.

Loon M, Bell R (2017) The moderating effects of emotions on cognitive skills. *Journal of Further and Higher Education* 42: 694–707.

Lubbe, W., and Botha, C. S. (2020). The dimensions of reflective practice: a teacher educator's and nurse educator's perspective. *Reflective Pract.* 21, 287–300. DOI: 10.1080/14623943.2020.1738369

Meyer, B., Haywood, N., Sachdev, D. and Faraday, S. (2008) *What is independent learning and what are the benefits for students?* Available at: Whatisindependentlearningandwhatarethebenefits.pdf (curee.co.uk) (Accessed: 18.04.24)

Mohamed M, Rashid RA and Alqaryouti MH (2022) Conceptualizing the complexity of reflective practice in education. *Front. Psychol.* 13:1008234. DOI: 10.3389/fpsyg.2022.1008234

Moon, J. (2006) *Learning Journals: a handbook for reflective practice and professional development.* Second edn. London: Routledge

Moon, M. (2019) 'Triangulation: A Method to Increase Validity, Reliability, and Legitimation in Clinical Research', *Journal of Emergency Nursing* 45(1), pp.103-105, DOI: 10.1016/j.jen.2018.11.004

Mukherji, P. and Albon, D. (2018) *Research methods in early childhood. An introductory guide*. London: SAGE

Naeem, M., Ozuem, W., Howell, K., and Ranfagni, S. (2023). 'A Step-by-Step Process of Thematic Analysis to Develop a Conceptual Model in Qualitative

Research', *International Journal of Qualitative Methods*, 22.

https://doi.org/10.1177/16094069231205789

NASUWT (n.d.) *Class sizes guidance.* Available at: NASUWT | Class Sizes Guidance (Accessed: 25.05.24)

National Foundation for Educational Research (NFER) (2023) *Cost of living crisis: Impact on schools.* Available at:

https://www.nfer.ac.uk/media/442hax54/cost_of_living_impact_on_schools_full_report.pdf (Accessed: 26.05.2024)

Noble, H. and Heale, R. (2019). Triangulation in research, with examples. *Evidence based nursing*, 22(3), pp.67-68.

O'Brien, D. (2012) 'Pupil perspectives on the physical learning environment: a study of how Year 3 pupils see learning spaces,' *Journal of Trainee Teacher Education Research Journal of Trainee Teacher Education Research.* Available at: 2012PPGCE003OBrien (cam.ac.uk) (Accessed: 13.04.24)

Office for Statistics Regulation (OSR) (2023) *Special Educational needs in England.* Available at: Special educational needs in England, Academic year 2022/23 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk) (Accessed: 26.05.24)

OFSTED (2023) *Finding the optimum: the science subject report. Available at:*

[Finding the optimum: the science subject report - GOV.UK (www.gov.uk)](#) (Accessed: 12.05.24)

Osterman K and Kottkamp P (1993) *Reflective practice for educators*. Newbury Pak, CA: Corwin Press

O'Sullivan, M Tannehill D and Hinchion, C (2008) *Teaching as professional enquiry*. Limerick: University of Limerick

Packard, N. and Race, P. (2000) *2000 Tips for Teachers*. London: Kogan Page.

Pang, N. (2020) 'Teachers' Reflective Practices in Implementing Assessment for Learning Skills in Classroom Teaching', *ECNU Review of Education*, 5(3), pp. 470 490. DOI: https://doi.org/10.1177/2096531120936290

Philip, L. (2006). 'Encouraging reflective practice amongst students: a direct assessment approach.' *Planet*, 17(1), 37–39.

https://doi.org/10.11120/plan.2006.00170037

Pinter, A., & Zandian, S. (2015). 'I thought it would be tiny little one phrase that we said, in a huge big pile of papers': children's reflections on their involvement in participatory research. *Qualitative Research*, 15(2), 235-250.

https://doi.org/10.1177/1468794112465637

Pollard A (ed.) (2002) *Readings for Reflective Teaching.* London: Continuum.

Pollard A., Black-Hawkins K., Hodges G. C., Dudley P., James M., Linklater H., et al.. (2014). *Reflective teaching in schools* (4th edn.). London: Bloomsbury Publishing Plc.

Pritchard, A. (2018) *Ways of Learning.* 4th edn. New York: Routledge.

Prosser, J. and Loxley, A. (2008) 'Introducing visual methods,' *ESRC National Centre for Research Methods review paper*. Available at: http://eprints.ncrm.ac.uk/420/1/MethodsReviewPaperNCRM-010.pdf (Accessed: 09.05.24)

Punch, K. and Oancea, A. (2014) *Introduction to research methods in education.* 2nd edn. London: SAGE

Punch, K.F. (2009) *Introduction to Research Methods in Education.* London: SAGE

Punch, S. (2002) 'Research with Children: The Same or Different From Research with Adults?' *Childhood,* 9(3), pp. 321–41

Pyle, A. (2013). 'Engaging young children in research through photo elicitation.' *Early Child Development & Care,* 183(11), pp.1544–1558. DOI: 10.1080/03004430.2012.733944

Quecan, L. (2021) 'Visual aids make a big impact on ESL students: A guidebook for

ESL teachers', *Master's Projects and Capstones.* Available at: Visual Aids Make a Big Impact on ESL Students: A Guidebook for ESL Teachers (usfca.edu) (Accessed date: 13.05.24)

Race, P. (2002). *Evidencing reflection: putting the 'w' into reflection*. Available at: http://escalate.ac.uk/resources/reflection/ (Accessed: 22.05.2024)

Ravitch, S. (2020). *Qualitative Research. "Bridging the Conceptual, Theoretical, and Methodological."* 2nd edn. California: SAGE.

Reynolds, R. and Wade, S. (2011) Thinking about Thinking about Thinking: Reflections on Metacognition. *Harvard Educational Review*. Available at: https://doi.org/10.17763/haer.56.3.a2v45g440pg45173

Roberts, H. (2012). *Oops! Helping children learn accidentally*. Carmarthen, Wales: Independent Thinking Press

Roberts-Holmes, G. (2018) *Doing Your Early Years Research Project. A Step by Step Guide.* 4th edn. London: SAGE

Robson, K. and Mastrangelo, S. (2018) 'Children's Views of the Learning Environment: A Study Exploring the Reggio Emilia Principle of the Environment as the Third Teacher', *Journal of Childhood Studies* 42(4), pp.1-16, DOI:10.18357/jcs.v42i4.18100

Rosenshine, B. (2012) *Principles of Instruction*. Available at: Principles of Instruction:

[Research-Based Strategies That All Teachers Should Know, by Barak Rosenshine; American Educator Vol. 36, No. 1, Spring 2012, AFT (teachertoolkit.co.uk)](#)
(Accessed: 22.05.24)

Sandberg, G. (2016) 'Different children's perspectives on their learning environment', *European Journal of Special Needs Education,* 32(2), pp. 191-203, DOI: http://dx.doi.org/10.1080/08856257.2016.1216633

Schon, D.A. (1983) *The Reflective Practitioner: How Professionals Think in Action.* New York: Basic Books

Schraw, G., & Richmond, A. S. (2022). Using visual displays to improve classroom thinking. *Educational Research: Theory and Practice*, 33(2), 80-102.

Sein, N. (2022) 'Enhancing the Educational Environment: Improving Student Outcome Using Visual Supports,' *PANDION: The Osprey Journal of Research and Ideas.* 3(1), pp. 1-9 https://digitalcommons.unf.edu/pandion_unf/vol3/iss1/7

Shabiralyani, G. Hasan, K. Hamad, N. and Iqbal, N. (2015) 'Impact of visual aids in enhancing the learning process', *Journal of Education and Practice.* 6(19), pp. 226234. Available at: [EJ1079541.pdf (ed.gov)](#) (Accessed date: 08.05.24)

Shek, M. M. P., Leung, K. C., and To, P. Y. L. (2021). Using a video annotation tool to enhance student-teachers' reflective practices and communication competence in

consultation practices through a collaborative learning community. Educ. Inf. Technol. 26, 4329–4352. DOI: 10.1007/s10639-021-10480-9

Skipp, A. and Hopwood, V. (2019) *Deployment of Teaching Assistants in schools*. Available at: [Deployment of teaching assistants in schools (publishing.service.gov.uk)](publishing.service.gov.uk) (Accessed: 26.05.24)

Smith, J. (2017) *The lazy teacher's handbook*. Wales: Independent Thinking Press

Stueck, M. Villegas, A. Lahn, F. Bauer, K. Tofts, P. and Sack, U. (2016) 'Biodanza for kindergarten children (TANZPRO-Biodanza): reporting on changes of cortisol levels and emotion recognition.' *Body, Movement and Dance in Psychotherapy* 11(1): 75–89.

The Plowden Report (1967). *Children and their Primary Schools*. Available at: [Plowden Report (1967) Volume 1 (education-uk.org)](education-uk.org) (Accessed: 12.05.24)

Thomas, G. (2023) *How to do your research project.* London: SAGE

Thompson, C. and Wolstencroft, P. (2021) *The Trainee Teacher's Handbook.* London: Learning Matters

UCU (2013) *Classroom Management*. London: UCU.

UNICEF (n.d.) *Early childhood development.* Available at : https://www.unicef.org/early-

childhooddevelopment#:~:text=In%20the%20first%20few%20years,health%20and%20behavi our%20throughout%20life (Accessed : 02.02.24)

Van Teijlingen, E. R. and Hundley, V. (2002) 'The Importance of Pilot Studies', *Nursing standard: official newspaper of the Royal College of Nursing*, 16(40), pp. 3336 DOI:10.7748/ns2002.06.16.40.33.c3214

Veenman M.V., Wilhelm, P. and Beishuizen, J. (2005) 'The relation between intellectual and metacognitive skills from a developmental perspective.' *Learning and Instruction.* 14(1), 80-109 https://doi.org/10.1016/j.learninstruc.2003.10.004

Whole School SEND (2020) *Cognition and Learning.* Available at: Cognition and Learning | Whole School SEND (Accessed: 02.05.24)

Yancey K. (1998). 'Getting beyond exhaustion: Reflection, self-assessment, and learning.' *Clearing House*, 72, 13-17.

Yeager DS, Dweck CS. (2020) 'What can be learned from growth mindset controversies?' *Am Psychol.* 75(9), pp.1269-1284. DOI: 10.1037/amp0000794.

Yeh, H., & Cheng, Y. (2010). 'The influence of the instruction of visual design principles on improving pre-service teachers' visual literacy.' *Computers & Education,* 54, 244-252. https://doi.org/10.1016/j.compedu.2009.08.008

Yin, R. K. (2009) *Case Study Research: Design and Methods.* London: SAGE

Zelazo, P. (2004). 'The development of conscious control in childhood.' *Trends in Cognitive Sciences*, 8 (1), pp. 12–17. DOI: https://doi.org/10.1016/j.tics.2003.11.001

Zimmerman, B. J. (2010) 'Becoming a Self-Regulated Learner: An Overview', *Theory into Practice*, 41 (2), pp. 64-70

Zimmerman, B. J. 1990. "Self-Regulated Learning and Academic Achievement: An Overview." Educational Psychologist 25 (1): 3–17.

Appendices

Appendix 1. Semi-structured interview questions

Child number:

What areas of the classroom did you take pictures of? What learning takes place in those areas?

1.

2.

3.

4.

5.

Which area do you think is the most important for your learning? Why is it the most important?

Are there any questions you would like to ask me?

Can I repeat your answers back to you to make sure that I have understood your answers correctly and that you are happy with them?

Note any extra questions added or comments from the child:

Appendix 2. Questionnaire

Rank the order of these subjects from the easiest (1) to the most difficult (13).

Subject	Rank
Maths	1.
Writing	2.
Reading	3.
Spelling	4.
Phonics	5.
Science	6.
PE	7.
DT	8.
Art	9.
PSHE	10
Topic	11.
Music	12.
RE	13.

Note: These were cut out so children could move the subjects to rank them.

Appendix 3. Approved ethical consent.

Section 7: Declaration

Declaration – I have read the ethics policy and guidance and the general data protection regulation information alongside abiding by the practice in place within my research discipline. The information supplied here is accurate to the best of my knowledge.

Student Signature	*Elise Safianyk*
Name	Elise Safianyk
Date	27.11.23
Staff Signature for approval	Manjinder K. Jagdev
Name	Manjinder K. Jagdev
Date	8 January 2024

Appendix 4. Written consent given by the headteacher.

Headteacher permissions:

I have read this student's ethical clearance form and give my permission for the conduct of this small-scale research project.

Additional parental passive consent is not required/~~has been obtained~~ (pleased delete as applicable)

Headteacher's name: █████████████████████

Headteacher's signature: ███████████

Date: 22.01.24

Students:
This completed form must be scanned or photographed and uploaded to the permission submission area on Moodle **prior to commencing your research project and by 29 January 2024 at the latest**