An Investigation of Primary School Children's Views of their Current Classroom Environment

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Abstract

Motivation for learning can be hindered or encouraged by classroom design, therefore highlighting how important it is to ask children how they would prefer their learning space designed (Aburas et al, 2014; Li & Sun, 2015). The aim of the research was to discover how pupils would prefer their classroom designed using the views of primary school children (aged 5-6). This research has created positive changes due to the school using the findings to adapt their classroom to satisfy and suit the needs of children. Using focus-groups, photo-elicitation, children's drawings and semi-structured interviews within an evaluative design frame, this research revealed that children are competent research participants giving creative and realistic ideas on how to improve their classroom. The findings established that within learning environments, children require access to a quiet space, an outside area to learn through first-hand experience and creative interactive walls. One question that arose from the data was what colour classroom walls should be to influence a calm and happy learning environment, which needs further research due to some colours negatively affecting children with Autistic Spectrum Disorder (Lawrence, 2010). In conclusion, primary school aged children were able to contribute realistic ideas to the study. Furthermore, most of the ideas proposed represented a Reggio Emilia style classroom with plain walls wanting to be covered and an outside area being most popular within the children's classroom drawings.

Therefore, classrooms within traditional schools could be suggested as not what children desire and should be adapted to benefit children's learning.

Keywords

classroom design, children's views, visual data collection, primary school children participants, valuing children's ideas

Introduction

Children spend around 630 hours at primary school each year, therefore learning environments are a major factor which should be designed to suit children's needs (Burgess, 2013). The Early Years Foundation Stage (EYFS) states, schools need to provide a learning environment which is empowering and supportive in order to enable children's education (DfE, 2014). The following research report focusses on children's ideas of their classroom to examine the learning environment and was undertaken in a local primary school with 25 year one students (key stage one, age 5-6). Asking the children for their views proved to be exciting for the children as their ideas were valued and acted upon and given this excitement it is surprising that many other research projects have not incorporated children's views (Oliver, 2010; Titman, 1994).

The aim of the research was to investigate what children liked and disliked about their current learning space and why. In context, the children were asked to provide ideas of how to improve their learning space to enable an enjoyment and excitement for learning. This then supports children's educational progression because when children enjoy learning they can achieve due to a heightened desire to discover and learn through interests and excitement (Li & Sun, 2015). A further aim was to explore how children envisioned their ideal classroom by asking their opinions. Investigating this further, sub questions were used:

- What were the main themes that the children would want in their ideal classrooms?
- How can we improve children's educational settings to suit their needs?

The qualitative data was collected through focus groups, children's drawings and semi-structured interviews. The study identified main themes which arose from the raw data. The collected data was rich in information and this study could not answer all the questions which arose from talking to the children, therefore further research questions have been suggested.

This research was influenced by a study carried out by Ghaziani (2010); his project examined the school as a learning environment using children's opinions. After reading this report I was instantly inspired to conduct my own research project using primary school children's ideas but specifically relating to the classroom. This was

due to his findings highlighting that children wanted a Reggio Emilia style classroom with lots of freedom and nature to explore. Considering there are not many Reggio schools this intrigued the researcher to discover whether more children would prefer a Reggio style classroom. Furthermore, understanding that adaptations to classrooms can make children feel more comfortable and happier to learn, inspired me further to conduct research that could make a positive change to children's learning (Kanyal & Cooper, 2012, cited in Papatheodorou & Moyles, 2012). From reflection on my placement, I was intrigued to discover whether children of this age (5-6) would prefer a classroom more suited to the foundation stage. Within the foundation stage, classrooms are usually open and free flowing due to the nature of learning through play, whilst key stage one classrooms are usually structured to suit the formal learning style (Whitebread *et al*, 2008). This project has positively impacted the participants within the study because the teacher made adaptations to their classroom, such as providing a rug for the children to sit on to improve comfort and updating displays to ensure the children found them interesting enough to look at and reflect upon their learning. Improving comfort and enabling learner reflection may have a positive effect on the children's academic achievement, due to enabling the students to have a clearer focus and motivation for learning (Li & Sun, 2015). This happened because the children's ideas were listened to, then acted upon during the project.

This report will look further into learning environments, children's voices and previous research within the literature review. Next, methodology will be discussed, followed by the findings. The findings will firstly discuss focus groups and secondly the children's drawings and semi-structured interviews.

Literature Review

Learning Environments

Weinstein (1979) claimed that academic achievement is affected by the educational environment due to the space positively or negatively affecting attitudes to learning. Although this research is almost forty years old, current research continually highlights similar outcomes. For example, motivation for learning can either be encouraged or hindered by classroom layout, school furniture and environmental factors (Edwards,

2005; Li & Sun, 2015; Troncon, 2014). However, choice on design is sometimes limited, with furniture, lighting, available space and technology affecting design choices (Aburas *et al*, 2014). Technology is particularly relevant because it is such a big factor in modern life and schools should assign areas for students to use technology (Aburas *et al*, 2014; Prensky, 2010). Therefore, because classroom layout restrictions may occur, learning spaces may not support learners' needs (Aburas *et al*, 2014). Due to this, Davidson (2001, cited in Marca, 2010) proposed creating coherent design plans for educational achievement and socialisation so that the layout can promote positive attitudes towards learning (Aburas *et al*, 2014), thus highlighting how planning classroom design can positively affect learning.

Ghaziani (2010) found that children would prefer their classroom design to reflect Reggio Emilia characteristics, for example, wanting to be with nature and having colourful and decorated walls. Reggio classrooms are child-centred, offering children access to natural light, inside vegetation, pale walls covered in children's work, colourful items hanging from the ceiling and space for children to independently explore the environment through their senses (Hall *et al*, 2010). This can be beneficial for children as learning through experience, discovery, play and with natural resources, children will develop academically and socially through their curiosity by easily engaging with outdoor items (Watts, 2013). From a Reggio perspective, having colourful decoration on walls and ceilings is beneficial by stimulating children's senses and helping them learn via curiosity (Hall *et al*, 2010). Launcher (2005) suggests that because television offers bright exciting images that entice children, schools should have colourful walls. This indicates that the Reggio approach to classroom design is more interactive and engaging. However, recently it has been suggested that plain walls are beneficial for children's learning as colourful and decorated walls can distract children from their learning (Fisher *et al*, 2014).

Moreover, children with Autistic Spectrum Disorder (ASD) prefer calm pastel colours because bright colours can cause anxiety and sensory overload that may provoke harmful behaviours (Holden & Cooke, 2005; Lawrence, 2010). Therefore, it could be questioned whether having colourful or decorative walls is beneficial for children, especially for those with additional needs. Research suggests children want colourful spaces, so more research is needed to determine which colours are inclusive in promoting learning.

Nevertheless, Rinaldi (2006) suggests that Reggio spaces are one of the best designs for education because they are based around childhood and sensory learning. Children can get rich educational and social learning experiences from the Reggio environment, allowing them to freely learn academically and socially (Hughes, 2007). Kershner (2000) claims that traditional classrooms are adult-centred and are designed for adults to dictate and direct learning to children, which hinders children's natural curiosity to learn through discovery. Also, Finland and Gonzalez (2011, cited in Aburas *et al*, 2014) claim that children view traditional classrooms as a passive space for learning because of the structured layout. In contrast, Steelcase (2014) has researched traditional classroom layouts and revealed that certain types of traditional collaborative designs can improve learning and engagement. In summary, this literature highlights that there are many different views on how classrooms should be designed, and we therefore should be asking and listening to the views of children to provide an interactive and effective learning environment for them. Therefore, researchers will need to consider four factors when involving children; the environment is safe and secure, children can freely discuss their views, children are listened to and their ideas are acted upon (Welty & Lundy, 2013).

Children's Voice

Much documentation suggests that listening to children's views is important, such as the United Nations Convention on the Rights of the Child (UNCRC) stating that as a right children should have the opportunity to propose their views (UNICEF, 2012).

Likewise, the EYFS states that children should have the freedom to speak so they can develop their language skills (DfE, 2014). Despite this, research rarely involves children's voices; integrity of the research can be questioned if it is believed that the children do not have a full understanding of processes within research (Kodish, 2005; Oliver, 2010; Titman, 1994). On the other hand, schools may not have the budget, space or equipment to provide children with their ideal learning spaces (Aburas *et al*, 2014). However, when designing learning environments children should be considered within the process as they offer insight into how the space will be used (Aburas *et al*, 2014). One previous study aimed to use the highest level of child participation, child-initiated with adult decision-making partnership, but it was not successful. The research was naturally being adult-lead and the adult practitioners disrupted child

participation by adding their views, consequently evaluating that full child participation was unrealistic (Cox & Robinson-Pant, 2008).

Nevertheless, more research is involving children's ideas, and views children as having a greater level of understanding (Burke, 2005; Graham *et al*, 2014; Morrow, 2012; UNICEF, 2012). Involving children within classroom design can improve the educational environment as the children's views will reflect their learning needs, thus facilitating how they wish to learn and allow practitioners to encourage studying (Barrett *et al*, 2013; Hirschy & Wilkinson, 2010; Kershner, 2000).

Relating to Harts ladder of participation, this research did not have full child participation because it was not child-initiated (Hart, 1995 cited in Shier, 2001). The researcher set the research questions and methodology based on their module, which is usually the case so researchers can gain control over their project (Alderson & Morrow, 2011). Still, the children were listened to and their views have been acted upon. Therefore, from analysing the literature it is questionable why schools do not often ask pupils how they would prefer their learning spaces designed (Titman, 1994). Moreover, I would argue that asking pupils for their ideas on classroom layout is not something that happens regularly because school designers, architectures and primary school teachers are not used to consulting children on such matters.

Previous Research

Ghaziani's (2010) findings highlighted that children wanted more inside plants, decorations, wall colour, light and space which resembles the outside environment and the Reggio approach. Kanyal and Cooper (2012, cited in Papatheodorou & Moyles, 2012) proposed that children want to be outside due to their natural wonder about nature and their freedom to explore and learn through experience (Watts, 2013). Burke and Grosvenor (2003) asked primary students to design their ideal school and found that participants wanted a decorated school, yet the writing submitted had been influenced by adults. Moreover, findings from The Sorrell Foundation (2007-2008) concluded that primary school students want more colour inside and outside.

Much research asking pupils about their ideas on learning environments involves students above the age of seven due to researchers being unsure whether young children will understand the project, which has now been disagreed with (Burke, 2005;

Kodish, 2005; Oliver, 2010). Involving young children within environmental research is a fairly new approach, therefore there is a gap within the literature about young children's views on classroom design (Aburas at al, 2014).

Methodology Research Design

Focus groups, photo-elicitation, children's drawings and semi-structured interviews were used to gather data for an interpretivist research project due to the collection of qualitative data (Prosser & Loxley, 2008 cited in Thomas, 2013). Additionally, an evaluative design frame was chosen because of the project setting out to research whether the children viewed their classroom as an effective space for learning and for this research to evaluate the effectiveness of classroom design for children and to create goals for design and layout improvements (O'Leary, 2014). Furthermore, this research was outsider based due to not knowing the participants beforehand (Merton, 1972 cited in Mercer, 2007).

Data Collection Techniques

Focus groups were used due to their ability to gather detailed qualitative data from a range of participants in one session (O'Leary, 2014). Children were asked to reflect upon their current classroom and as a group decide upon three areas they liked, three areas they disliked and why. Next, they stuck happy and sad faces on the chosen areas and photographed the space. The children were able to point out disliked and liked areas and were able to explain the reasons behind their views and why they were photographing the areas (to improve their learning environment), which demonstrated that the children within the study adequately understood the task and methods used for the research.

Photo-elicitation was used to encourage and focus the discussion on the children's ideas (Prosser & Loxley, 2008 cited in Thomas, 2013). Supporting Prensky (2010), the children were completely able to take effective photographs of chosen spaces.

Focus groups and photo-elicitation as a combined method was a valuable process due to participants enjoying the method; they found it easier to process their thoughts in a visual and a verbal manner, therefore suggesting the reasoning behind their thoughts providing valuable information about why children liked or disliked certain areas regarding the learning environment (Ghaziani, 2010; Kershner, 2000; Mallett, 1999;

Taylor & Pillets, 2010). This provided the researcher with a broad insight into the children's thoughts of their classroom.

Next, participants were asked to draw their ideal classroom to enable their learning, which has been suggested as a method for young children to easily express their likes and dislikes in a non-pressured atmosphere (Menter *et al*, 2011). Drawings were valuable as it allowed the children to express their ideas with confidence, which showed in the semi-structured interviews as they all took pride in and clearly explained their drawings (Shaffer & Kipp, 2010). Semi- structured interviews with the children were combined with the drawings (graphic- elicitation) as there was a fear of misinterpreting their ideas, which may have otherwise led to a negative impact on the research by incorrectly identifying what the children's ideas were to improve their classroom (Bober, 2011; Hang, 2013; Prosser and Loxley, 2008 cited in Thomas, 2013). The participants understood that explaining their drawings enabled the researcher to fully understand their thought process, which was clear when the children went into detail when describing their images.

Sampling

Convenience and purposive sampling was chosen due to a local primary school allowing the research to be conducted. 25 year one (aged 5-6) students were selected because of their verbal communication skills and existing experience of learning institutions gained over the past few years (Ghaziani, 2010).

Ethics

Ethics are important in any research to keep the researcher, research and the participants safe. Anonymity was important; it was not necessary to gather personal or sensitive data from the participants because the main aim of the research was to discover the children's views of their classroom.

Written consent was acquired from the gatekeeper, headteacher and parents whilst verbal consent was gained from the staff and children. Verbal consent was used for the children because parental consent was collected but the children also needed to be aware of the purposes and procedures of the research and the most inclusive method of relaying this information was through oral means, therefore verbal consent was collected. Verbal consent was gathered from the teachers because it was their

classroom being analysed but not their thoughts. Upon reflection it would have been beneficial to collect written consent from the staff to uphold ethically sound research (Cohen *et al,* 2011). However, during the verbal consent, the purposes, procedures, withdrawal methods and benefits of the research were discussed as well as confidentiality and anonymity (Cohen *et al,* 2011). Participants had the right to withdraw at any time during the research, but no-one withdrew.

Data management followed the Data Protection Act 1998 guidelines by protecting data with passwords (BERA, 2011; Institution, 2013). Finally, integrity was taken seriously by ensuring participants were safe, their emotional well-being was secure and all data was true (BERA, 2011; O'Leary, 2014).

Data Analysis

Constant comparative data analysis technique was utilised to study, code, theme and compare the data (Maykut & Morehouse, 2005; Silipigni-Connaway & Powell, 2010; Thomas, 2013; Yamagata-Lynch, 2010). The data has been coded into the children's main likes and dislikes of their classroom, creating main themes which have been collated and analysed to form firm deductions of how children would prefer their learning environment.

Children's Voice

Within this research the children were viewed as capable of expressing their thoughts and ideas that could invoke positive change to their learning environment. The children were told that their ideas were needed to improve their learning space to enable an enjoyment for learning, which allows children to progress academically because they have an excitement for learning and want to achieve (Li & Sun, 2015). Children are the individuals who are using the learning environment therefore may have ideas on how to make improvements to increase the well-being and educational achievement of their peers (Barrett *et al*, 2013). This research took a child-centred approach and therefore believed that the children would have ideas on what they liked and disliked about their classroom.

Feedback to Teachers

Listening to children's views is far more empowering for the children when their ideas are acted upon as they feel a sense of worth because their ideas are accounted for (Welty & Lundy, 2013). Therefore, this research chose to provide feedback to the teachers about their class' views of the learning environment. Teachers were asked if they would like to know the findings and all agreed it would be beneficial for their professional development and for the children's self-esteem. A written report was provided for the teachers which was discussed together to ensure the practitioners were comfortable with the findings. Next, the staff set targets of how they were going to improve their learning space based on the children's ideas. The teachers discussed the targets with their pupils in order for the children to feel empowered about their learning space and confident that their views were listened to. While I was finishing the research, teachers had already ordered a comfortable mat for children to sit on, had renewed the learning displays and were sharing the findings with the rest of the school.

Findings

Figure 1: The Classroom

The aim of the research was to discover how children viewed their classroom environment.

Focus Groups

Focus groups were used to ask the children to critique their classroom and chose areas they liked and disliked and how they would improve the areas. However, the children did not work as a team as much as anticipated, which could be due to the structure of the focus groups. Once participants gave their thoughts on an area, they were given a happy or sad face; after that the children did not contribute ideas to the group because they had already made their decision. This situation shows that there are risks when using focus groups as conversations may not be continual (Bell, 2010). In future projects, the researcher should wait for the whole group to decide on areas before handing out the faces. This was an interesting section to the research due to gaining knowledge on how children view their classroom.

The prominent themes established were; 'walls', 'quiet area' and 'smart board'.

Disliked Areas:

Walls

Walls were chosen because they were "too plain" (Figure 2). Improvement suggestions from the participants were to add colour. It has been suggested that children prefer coloured walls because of the visual pleasure (Sturt, 2012). Additionally, a Reggio view would suggest that colourful walls and ceilings may entice children's curiosity and therefore benefit their learning because the children would be learning from their interests and taking ownership over their education (Hall *et al*, 2010). Different colours have been claimed to invoke different emotions and reactions on children; violet and orange are the recommended colours for this age group because the colours invoke soothing and inspirational reactions (Lackney, 2003 cited in Reutzel & Jones, 2013; Wellhousen & Crowther, 2004; White and Gardener, 2012). The teacher has acted upon this feedback by displaying the children's colourful work (Figure 3).

Figure 2: Photo taken by a child illustrating the plain wall

Figure 3: The new use of the plain wall.

The second reason that the walls were chosen as a disliked area was because of the wall displays being old and dirty that need to be updated (Figure 4).

Figure 4: Photo taken by child showing the old displays.

Children take time to look at wall displays, therefore walls should be used to highlight and show off the children's work with equal responsibility between pupils and teachers to design and maintain the displays, so children can be acknowledged for their hard work (Daniels, 2003; Reutzel & Jones, 2013). Moreover, this relates to a Reggio view, for example having children's work easily available will allow children to reflect on their learning and allow a deeper understanding because they would be able to regularly revisit their learning (Hall *et al*, 2010). This shows that the displays need to be renewed so they are bright and fresh as they are acknowledged by children. However, colourful and decorated walls can distract children from their activities and bright colours can cause anxiety amongst children with ASD (Fisher *et al,* 2014; Holden & Cooke, 2005; Lawrence, 2010). Therefore, more research is needed to conclude whether colourful walls enable or hinder learning. Yet, with previous research highlighting the same results it is clear that walls and displays need to be accounted for when designing learning spaces (Reutzel & Jones, 2013).

Liked Spaces:

Quiet Area

The main liked space highlighted was the quiet reading area because the children were able to "take off your shoes and read what you want" and "because it's quiet" (Figure 5). Having a quiet area benefits children as it allows children to process their

thoughts, calm down, understand and gain control over their emotions and to withdraw

Figure 5: Photo taken by a child showing their appreciation for the quiet tent.

from any uninvited situations (Kearns, 2014). Therefore, this is an area which should be valued when designing classrooms (Kearns, 2014).

Smart Board

Participants liked the smart board because they can independently interact with the board and conduct their own independent learning (Figure 6). Relating to the Reggio approach, children's learning environments should be designed to enable children to actively interact therefore allowing children to independently explore their interests and learn from them (Hall *et al*, 2010).

Focus group 1: "I like to learn on it and use it"

Focus group 2: "I love learning using it on my own"

This finding was not surprising because children love technology and are digital natives within society (Prensky, 2010). Children have a natural understanding of technology and willingness to use it for learning, which has been argued as beneficial for their education (Prensky, 2010).

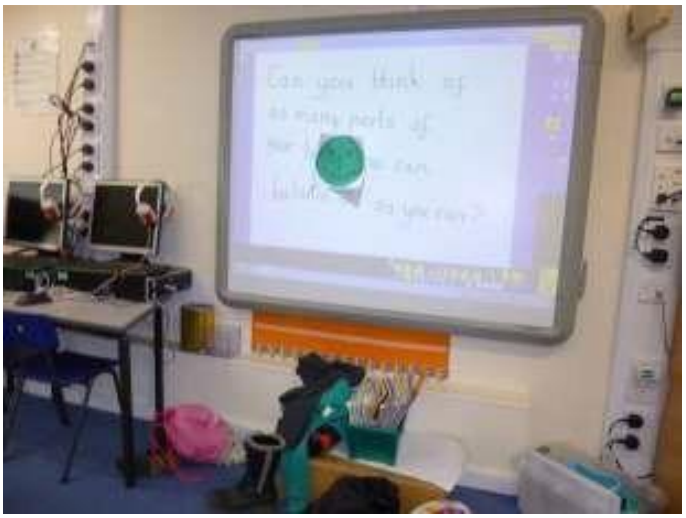

Figure 6: Photo taken by child signifying how much they like using the smart board to learn.

Drawings and Semi-Structured Interviews

The second part of the research used graphic-elicitation and semi-structured interviews. Here, the children were asked to draw their ideal classroom, which was then discussed with the researcher. This section of the research was enjoyable for the participants as they were able to confidently share their ideas in a non- judgemental, non-pressured environment (Menter *et al*, 2011). Participants ideas were coded and

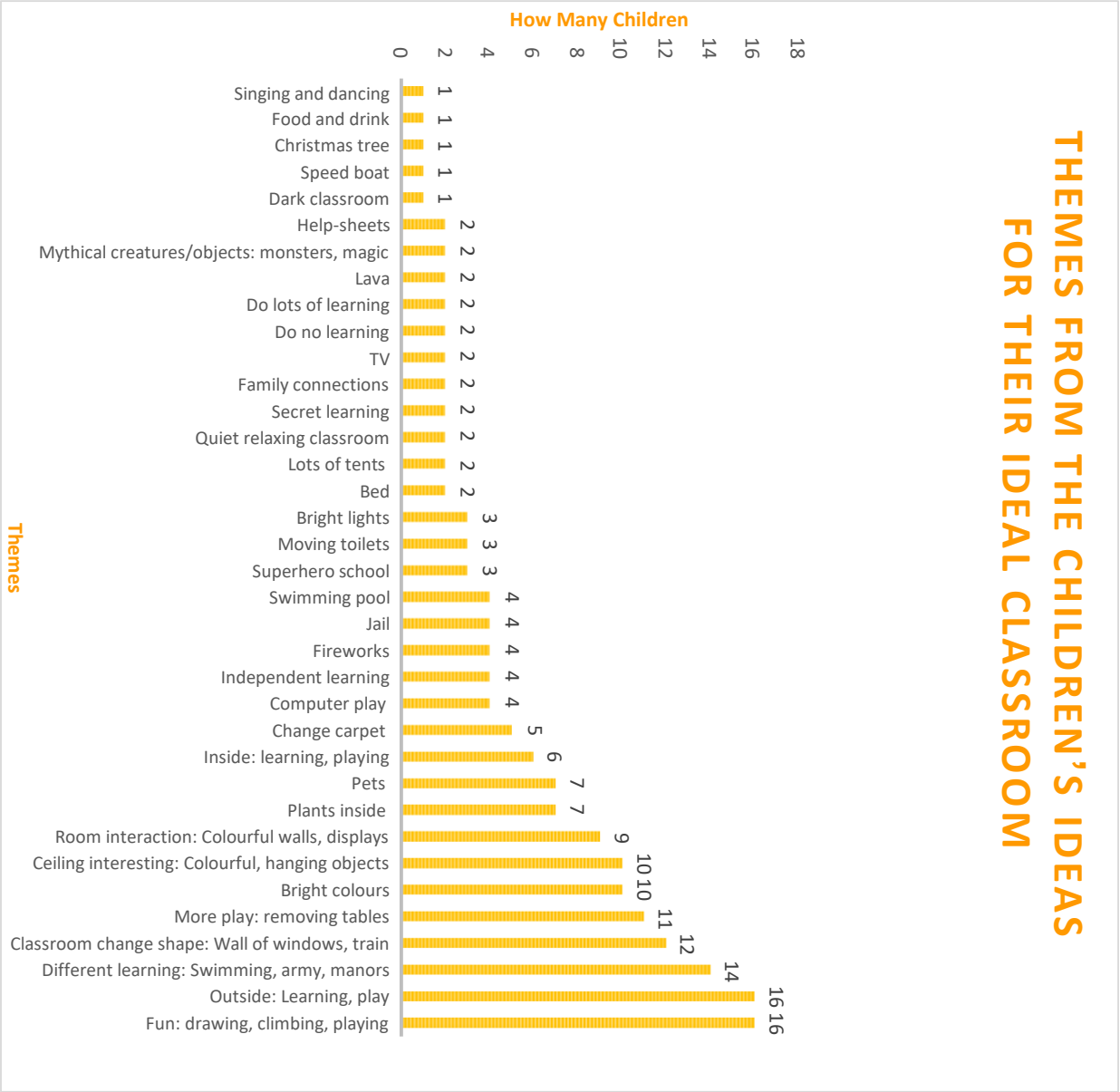

Table 1: Representing themes from the children's ideas.

then themed (Table 1). The main themes found and discussed are 'different types of learning', 'outside space' and 'room interaction'.

The end result for some of the children's drawings could be interpreted as not 'classroom-like', but still a learning space (Figure 7) (Appendix 1). Therefore, combining children's drawings with semi-structured interviews was very valuable to reduce the chance of misinterpreting the data (Bober, 2011; Hang, 2013; Prosser & Loxley, 2008 cited in Thomas, 2013).

Researcher: (Figure 7) Can you describe what you've drawn?

Child 10: An army school

Figure 7: Child 10. Drawing of ideal classroom. You learn how to drive tanks, shoot guns and ride motorcycles.

Different Types of Learning

This theme, including army schools, seemed to be highlighted throughout some of the drawings. Other types of learning (different from current school learning) mentioned were, swimming, looking after pets, politeness, painting, drawing, cleaning, digging, riding bikes, how to be a superhero, using computers and climbing. Again, relating to the Reggio learning approach, it is viewed that children should be allowed to choose their learning topics that interest them so they can be immersed in their learning curiosities (Hall *et al*, 2010).

Researcher: How would this classroom make it better for your learning? Why is this classroom good for learning?

Child 13: Because they can learn how to hold animals if they don't know

Researcher: (Figure 8) And what sorts of learning would you do?

Child 19: Erm.... digging

Researcher: What sort of learning would you do?

Child 21: Err.... how to be nice and how to be gentle

Interpreting these findings could suggest the children would like a less structured, more exciting and a more play involved curriculum that key stage one does not offer as well as the foundation stage. Therefore, children of the ages 5-6 still want more time to learn through play (Gestwicki, 2014; Schubert & Schubert, 2011). This is also visible within the children's drawings as the majority drew a large open space for play. This is supported further from this study's findings that 11 children stated they wanted more play when inside the classroom (Appendix 2 and 3).

Researcher: A school, what about your school?

Child 5: I play in it

Child 6: Because it's fun

Researcher: It's fun. Is your current classroom not fun?

Child 6: […] when we sit down for a long time it makes me bored

It has been suggested that because of the curriculum, children in year one cannot access the play that they require to learn and develop independently, further highlighting that children want to learn through play and maybe it should be offered to them in year one (Gestwicki, 2014; Schubert & Schubert, 2011).

Outside Space

This theme is one of the main themes due to children emphasising their love for the outdoors (Appendix 4). The Reggio Emilia approach to learning suggests that children should be allowed access to outside learning environments whenever they would like to access the outdoors, due to the physical and social benefits the outdoors offers, such as running, cooperative game designing, communication among peers and exploring nature (Hall *et al*, 2010). This was prevalent in the children's ideas:

Researcher: […] how often will you go on the (outside) play area in your ideal school?

Child 5: Everyday

Researcher: Everyday, for how long?

Child 5: 20 hundred minutes [...]

Researcher: […] Would you spend anytime inside?

Child 5: Only 1 minute

Figure 8: Child 19. Drawing of ideal classroom, showing lots of outdoor space.

Figure 9: Child 7. Drawing of ideal classroom showing lots of outside space.

Figure 10: Child 16. Drawing of ideal classroom, showing the outdoors.

Figure 11: Child 3. Drawing of a school with windows for walls and a worm farm.

Other research has found similar results from children stating that the outside environment is one of their favourite areas (Burke, 2005; Ghaziani, 2010). Exploring, discovering and freedom could be some reasons why children want to be outside and why it is the majorities favourite place (Norodahl & Einarsdottir, 2014; Watts, 2013). Highlighting this further, within the EYFS it states that young children must have access to an outdoor area (DfE, 2014). Illustrated within the children's drawings is their happiness when outdoors, for example happy butterflies, bright colours and sunshine (Figures 8, 9, 10 and 11). Therefore, signifying how an outdoor learning area should be provided for all students; in this case these children did not have access to a specific outdoor space apart from the playground.

Room Interaction

This theme linked with the focus group theme 'walls' and further highlighted the children's dislike for plain walls (Figure 2). Within the children's drawings they discussed inventive ways to make the room more interactive. Such ideas included hanging things from the ceiling (Figure 12), colourful walls (Figure 13) and secret underground dens (Figure 14) (Appendix 5).

Researcher: (Figure 12) Why would this classroom be better for you?

Child 1: Because it's colourful

Researcher: What do you like about the colours?

Child 1: Because it's lovely and bright

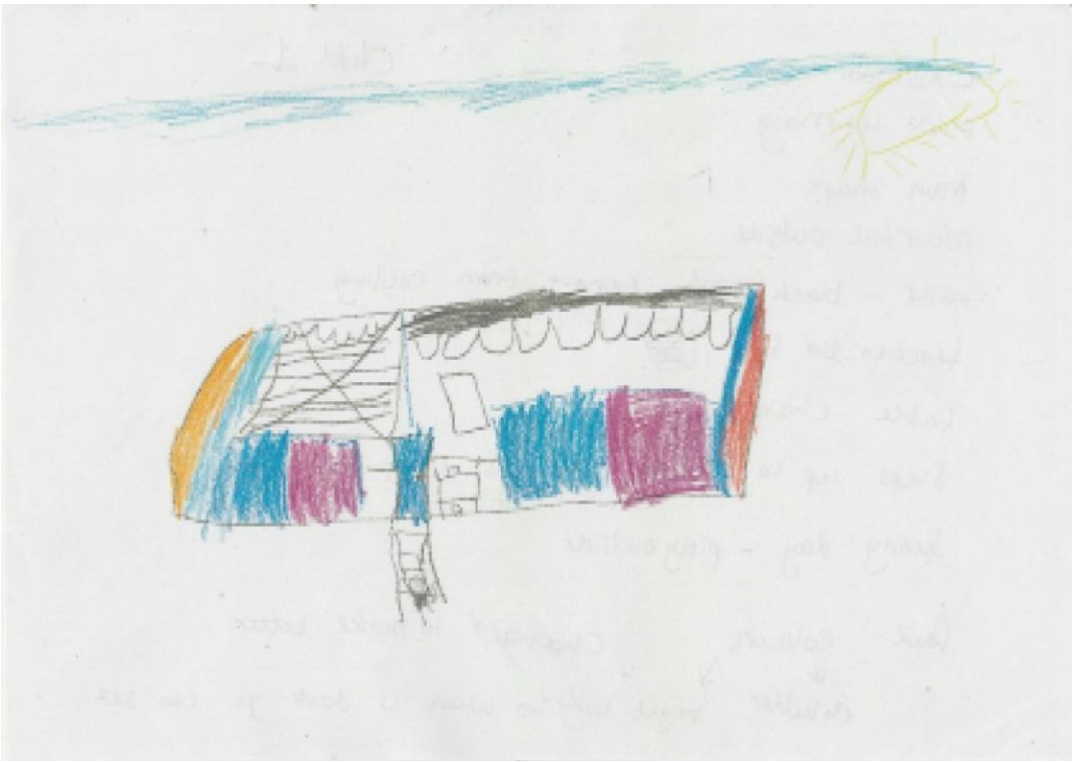

Figure 12: Child 1. Drawing illustrating hanging things from the ceiling and colourful walls.

Figure 13: Child 15. Drawing demonstrating colourful patterns on walls.

Figure 14: Child 23. Drawing illustrating a colourful underground den.

This further supports the idea that children crave colourful walls because it provides a pleasing visual stimulation, which agrees with the Reggio's view that children should engage with their decorated learning environment to entice their senses and curiosities (Hall *et al*, 2010; Sturt, 2012).

Supporting this, Ghaziani (2010) found similar results, such as hanging things from the ceiling, having butterflies on walls and changing the colour of the walls were all important to the children. This further supports the idea that children crave colourful surroundings. In light of this, it is questionable as to why schools have not introduced more colour, therefore further research is needed. One reason may be because research has identified that colourful walls can be distracting, hinder learning and cause stress for children with ASD (Fisher *et al*, 2014; Holden & Cooke, 2005; Lawrence, 2010). From analysing this it could be suggested that classrooms are designed in a way that does not suit children's needs or match their ideas of what a classroom should entail.

Conclusion

Working with the children and allowing them to have their ideas listened to and acted upon was very pleasing to witness. The children felt pride when explaining their ideas within the semi-structured interviews as they had worked hard and were excited to share their thoughts (Shaffer & Kipp, 2010). Teachers have already acted upon the findings by covering a plain wall in children's work, which may give the children an improved self-esteem because their views were listened to (Shaffer & Kipp, 2010).

Involving and listening to children within research is something that the author feels is needed more within research. This is for two reasons; firstly, it is within children's rights to have their views heard regarding matters that affect them (UNICEF, 2012), and secondly children are capable of sharing and discussing helpful, realistic ideas (Graham *et al*, 2014; Morrow, 2012). Some findings from the drawings could be questioned whether they relate to ideal learning environments, for example, a room with armed weapons. Yet other findings relate to existing research, such as children wanting more colour on walls (Ghaziani, 2010; The Sorrell Foundation, 2007-2008). If this research was to be completed again, to avoid findings that do not relate to the learning environments, the researcher should ask the children to re-design their

current classroom to enable learning. This should make the children think critically about how they can improve classrooms to suit their learning needs.

The focus groups needed a different structure because the children did not share their ideas as expected. If this research was conducted again the faces should be distributed once the group have decided on six areas together, rather than individually being handed a face once they had suggested an area. Using drawings to discuss children's ideas was a valuable tool because the children had confidence to express their thoughts through art, which enabled their language when explaining their ideas (Ghaziani, 2010; Hang, 2013; Prosser & Loxley, 2008 cited in Thomas, 2013).

The age range used was beneficial to see whether students preferred a similar free flow, open space, foundation stage classroom or a more formal structured classroom which they have now. The results showed that the majority of children wanted a bigger open space to play inside and outside, therefore highlighting that this age range would still benefit from and want to learn through play with a foundation stage classroom design (Gestwicki, 2014; Schubert & Schubert, 2011; Whitebread *et al*, 2008).

The findings highlighted that when designing learning environments, children require access to a quiet space as well as an outside area to learn through first-hand experience - the children regarded these as their favourite and most desired areas. Furthermore, children would like exciting ceilings, colourful walls, bright displays and to use technology as a learning tool. These findings tightly reflected a Reggio Emilia classroom design relating to access to the outdoors and plain walls decorated in children's work to allow children to explore learning through their senses and interests (Hall *et al*, 2010). Concluding the findings it could be suggested that classrooms within traditional schools are not what children desire and should be adapted to benefit the children's learning. However, further research involving children is needed to determine what colour classroom walls should be in order to support a friendly learning atmosphere which does not hinder learning or cause anxiety for children with ASD (Holden & Cooke, 2005; Lawrence, 2010).

Additionally, further research is needed to fill an existing gap in the literature which involves young children and their learning environments in order to determine

whether traditional learning spaces are not suited to the children's needs. Moreover, research is needed to discover whether the implementation of children's suggestions for their learning environment has an overall positive effect on the children's well-being, academic achievement and interest levels when at school, because this was not researched within this paper.

References

Aburas, R., Gaines, K.S. and Shin, S.H. (2014) 'Physical and psychosocial factors in classroom design for elementary level schools', *International Journal of Early Childhood Learning,* 20(4), pp. 19-35.

Alderson, P. and Morrow, V. (2011) *The ethics of research with children and young people: A practical handbook.* 2nd edn. London: Sage.

Barratt, E. Cutter-Mackenzie, A. and Barratt, R. (2013) 'Children as active Researchers: The potential of environmental education research involving children', in Stevenson, R.B., Brody, M., Dillon, J. and Wals, A.E.J. (eds.) *International handbook of research on environmental education*. Oxon: Routledge, pp. 438-458.

Bell, J. (2010) *Doing your research project: A guide for first-time researchers in education, health and social science.* 5th edn. Maidenhead: Open University Press.

Bober, L. (2011) 'Visualising justice: The politics of working with children's drawing's', in Theron, L., Mitchell, C., Smith, A. and Stuart, J. (eds.) *Picturing research: Drawing as visual methodology.* The Netherlands: Sense Publishers, pp. 63-76.

BERA (2011) *British Educational Research Association: Ethical guidelines for educational research.* Available at: http://content.yudu.com/Library/A2xnp5/Bera/resources/index.htm?referrerUrl= http://free.yudu.com/item/details/2023387/Bera [Accessed 23 March 2015].

Burgess, M. (2013) *MAPPED: How many hours do children spend at school around the world.* Available at: http://helpmeinvestigate.com/education/2013/04/mapped-how-many-hours-do- children-spend-at-school-around-the-world/ [Accessed 21 March 2015].

Burke, C. and Grosvenor, I. (2003) *The school I'd like: Children and young people's reflections on an education for the 21st century.* London: Routledge Falmer.

Burke, C. (2005) '"Play in focus": Children researching their own spaces and places for play', *Children, Youth and Environments,* 15(1), pp. 27-53.

Cohen, L., Manion, L. and Morrison, K. (2011) *Research methods in education.* 7th edn. Oxon: Routledge.

Cox, S. and Robinson-Pant, A. (2008) 'Power, participation and decision making in the primary classroom: Children as action researchers', *Educational Action Research,* 16(4), pp. 457-468. doi: 10.1080/09650790802445643.

Daniels, H. (2003) *Vygotsky and pedagogy.* 2nd edn. London: Taylor and Francis.

DfE (2014) Department for Education: *Statutory Framework for the Early Years Foundation Stage: Setting the standards for learning, development and care for the children from birth to five.* London: HMSO. Available at: http://www.foundationyears.org.uk/files/2014/07/EYFS_framework_from_1_September_2014_with_clarification_note.pdf [Accessed 17 February 2015].

Edwards, J. (2005) 'The classroom is a microcosm of the world', in Dudek, M. (ed.) *Children's spaces.* Oxford: Architectural Press, pp. 66-100.

Fisher, A.V., Godwin, K.E. and 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. doi: 10.1177/0956797614533801.

Gestwicki, C. (2014) *Developmentally Appropriate practice: Curriculum and development in early education.* 5th edn. Belmont: Wadsworth, Cengage Learning.

Ghaziani, R. (2010) 'School design: Researching children's views', *Childhoods Today,* 4(1), pp. 1-27.

Graham, A.P., Phelps, R.A., Nhung, H.T.T. and Geeves, R. (2014) 'Researching with children in Vietnam: Cultural, methodological and ethical considerations', *Qualitative Research,* 14(1), pp. 37-60. doi: 10.1177/1468794112455038.

Hall, K., Horgan, M., Ridgway, A., Murphy, R., Cunneen, M. and Cunningham, D. (2010) *Loris Malaguzzi and the Reggio Emilia experience.* London: Continuum International Publishing Group.

Hang, L. (2013) 'A picture paints a thousand words: Children's drawings as a medium to study early political socialisation', in Abendscon, S. (ed.) *Growing into politics: Contexts and timing of political socialisation.* Colchester: ECPR Press, pp. 231-272.

Hirschy, S. and Wilkinson, E. (2010) *Protecting our children: Understanding and preventing abuse and neglect in early childhood.* Canada: Cengage Learning.

Holden, C. and Cooke, A. (2005) *Meeting SEN in the curriculum: Science.* London: David Fulton Publishers Ltd.

Hughes, E. (2007) 'Linking past to present to create an image of the child', *Theory into Practice,* 46(1), pp. 48-56.

Institution (2013) *School of education and lifelong learning: Research Ethics Handbook 2013.* Available at: https://www.Insititution.ac.uk/documents/595200/0/EDU+Research+Ethics+handbook+2013.pdf/22dde26c-136f-4194-aa53-fabb710ed350 [Accessed 23 March 2015].

Kearns, K. (2014) *Birth to big school.* North Shore: Cengage Learning Australia Ply Limited.

Kershner, R. (2000) 'Organising the physical environment of the classroom to support children's learning', in Whitebread, D. (ed.) *The psychology of teaching and learning in the primary school.* London: Routledge Falmer, pp. 17-40.

Kodish, E. (2005) 'Ethics and research with children: An introduction', in Kodish, E. (ed.) *Ethics and research with children: A case-based approach.* Oxford: Oxford University Press, pp. 3-28.

Launcher, C. (2005) *I want to be a teacher: Experiences, facts and directions for school and college goers.* 3rd edn. New Delhi: Vikas Publishing House PVT Ltd.

Lawrence, C. (2010) *Explaining autism spectrum disorder.* Brighton: Emerald Guides.

Li, L.H. and Sun, H. (2015) 'Children's perception of the built environment', in Li, L.H. (ed.) *Alternative real estate research.* Oxon: Routledge, pp. 32-46.

Mallett, M. (1999) *Young researchers: Informational reading and writing in the early and primary years.* London: Routledge.

Marca, S.L. (2010) *Designing the learning environment: Learning in a changing world.* Victoria: ACER Press.

Maykut, P. and Morehouse, R. (2005) *Beginning Qualitative research: A philosophical and practical guide.* 2nd edn. London: UK The Falmer Press.

Menter, I., Elliot, D., Hulme, M., Lewin, J. and Lowden, K. (2011) *A guide to practitioner research in education.* London: Sage Publications.

Mercer, J. (2007) 'The challenges of insider research in educational institutions: Wielding a double-edged sword and resolving delicate dilemmas', *Oxford Review of Education,* 33(1), pp. 1-17. doi: 10.1080/03054980601094651.

Morrow, V. (2012) 'Sociological theories of childhood: Reasons for involving children and young people in research', in Fleming, J. and Boeck, T. (eds.) *Involving children and young people in health and social care research.* Oxon: Routledge, pp. 19-27.

Norodahl, K. and Einarsdottir, J. (2014) 'Children's views and preferences regarding their outdoor environment', *Journal of Adventure Education and Outdoor Learning.* doi: 10.1080/14729679.2014.896746.

O'Leary, Z. (2014) *The essential guide to doing you research project.* 2nd edn. London: Sage.

Oliver, P. (2010) *The student's guide to research ethics.* 2nd edn. Berkshire: Open University Press.

Papatheodorou, T. and Moyles, J. (eds.) (2012) *Cross-cultural perspectives on early childhood.* London: Sage, pp. 58-72.

Prensky, M. (2010) *Teaching digital natives: Partnering for real learning.* California: A Sage Company.

Reutzel, R. and Jones, C.D. (2013) 'Designing and managing effective early childhood classroom environments', in Reutzel, R. (ed.) *Handbook of research-based practice in early education.* New York: The Guilford Press, pp. 81-99.

Rinaldi, C. (2006) *In dialogue with Reggio Emilia: Listening, researching and learning.* Oxon: Routledge.

Schubert, W. and Schubert, H.A. (2011) 'Overcoming misconceptions in actualizing Dewey's philosophy of education', in Kysilka, M.L. (ed.) *Critical times in curriculum thought: People, politics, and perspectives.* United States of America: IAP-Information Age Publishing, Inc, pp. 89-115.

Shaffer, D.R. and Kipp, K. (2010) *Developmental psychology: Childhood and adolescence.* 8th edn. Belmont: Wadsworth Cengage Learning.

Shier, H. (2001) 'Pathways to participations: Openings, opportunities and obligations: A new model for enhancing children's participation in decision-making, in line with Article 12.1 of the United Nations Convention on the Rights of the Child', *Children & Society,* 15(2), pp. 107-117. doi: 10.1002/CHI.617.

Silipigni-Connaway, L. and Powell, R.R. (2010) *Basic research methods for librarians.* 5th edn. California: Greenwood Publishing Group.

Steelcase (2014) *How classroom design affects student engagement.* Michigan: Steelcase Education. Available at: http://www.steelcase.com/content/uploads/2015/03/Post-Occupancy-Whitepaper_FINAL.pdf [Accessed 24 March 2015].

Sturt, M. (2012) *The education of children under seven.* 2nd edn. Oxon: Routledge.

Taylor, L. and Pillets, S. H. (2010) 'Action research and the early childhood educator', in Pelton, R. P. (ed.) *Action research for teacher candidates: Using classroom data to enhance instruction.* Plymouth: Rowan and Littlefield Education, pp. 93-110.

Titman, W. (1994) *Special places; special people: The hidden curriculum of school grounds.* Surrey: World Wide Fund for Nature/Learning through Landscapes.

The Sorrell Foundation (2007-2008) *Young design programme 2007-2008.* London: The Sorrell Foundation. Available at: http://thesorrellfoundation.com/media/pdf/YDP_magazine_07_08.pdf [Accessed 23 March 2014].

Thomas, G. (2013) *How to do your research project: A guide for students in education and applied social sciences.* 2nd edn. London: Sage Publications Ltd.

Troncon, D.A. (2014) 'Educational environment', *Medicina,* 47(3), pp. 264-271.

UNICEF (2012) *A Summary of the UN Convention on the Rights of the Child.* London: UNICEF UK. Available at: https://www.unicef.org.uk/Documents/Publication-pdfs/betterlifeleaflet2012_press.pdf [Accessed 28 November 2014].

Watts, A. (2013) *Outdoor learning through the seasons: An essential guide for the early years.* Oxon: Routledge.

Weinstein, C.S. (1979) 'The physical environment of the school: A review of the research', *Review of Educational Research,* 49(4), pp. 577-610. doi: 10.3102/00346543049004577.

Wellhousen, K. and Crowther, I. (2004) *Creating effective learning environments.* New York: Delmar Learning.

Welty, E. and Lundy, L. (2013) 'A children's rights-based approach to involving children in decision making', *Journal of Science Communication,* 12(3), pp. 1-5.

White, J. and Gardener, J. (2012) *The classroom X-Factor: The power of body language and nonverbal communication in teaching.* Oxon: Routledge.

Whitebread, D., Dawkins, R., Bingham, S., Aguda, A. and Hemming, K. (2008) ''Our classroom is like a little cosy house!' Organising the early years classroom to encourage independent learning', in Whitebread, D. and Coltman, P. (eds.) *Teaching and learning in the early years.* 3rd edn. Oxon: Routledge, pp. 25-60.

Yamagata-Lynch, L.C. (2010) *Activity systems analysis methods: Understanding complex learning environments.* New York: Springer.

Appendices

Appendix 1:

Researcher: (Figure 7) Can you describe what you've drawn?

Child 10: An army school

Researcher: Why did you chose to draw an army school?

Child 10: Because you learn to shoot guns in an army tank and drive an army tank and thrown dynamite

Researcher: What else have you drawn?

Child 10: Motorbike room where you have a gun in your hand and learn how to do somersaults

Appendix 2:

Researcher: A school, what about your school?

Child 5: I play in it

Researcher: You play in your school. What else have you drawn?

Child 5: Connects […] Pokemon […]

Researcher: […] what are you doing in your school?

Child 5: Jumping on a trampoline

Appendix 3:

Researcher: And what would you do with your Elsa doll?

Child 6: Play with it play with my dolls

Researcher: And so how is this classroom better for you to learn, what makes it better for you to learn?

Child 6: Because it's fun

Researcher: It's fun. Is your current classroom not fun?

Child 6: Erm… It's just when we sit down and when we sit down for a long time it makes me bored.

Appendix 4:

Child 19: (Figure 8) Coz then I when I did when I dig under it I look for stones and stuff then I can then I can all I have to do is to dig a hole down and go in the hole and it might be some shinny stones or something or there might be a time capsule where they bury things and put it inside.....or there might be a skeleton or something. I like skeletons […]

Researcher: How much time would you spend outside?

Child 19: Erm... 1, 10, 4, 15 minutes

Researcher: And what about inside?

Child 19: 2 (minutes)

Appendix 5:

Researcher: (Figure 14) Is there anything else you would like to say about your drawing?

Child 23: This is the secret room to down here if you go erm at the corner where that black bit is and you fall down there and get stuck forever because it shuts but we blocked that off….