

Faculty of Humanities and Social Sciences

School of Education



**Learning through attuned relationships: Exploring the patterns and
processes of relational interaction in the Nurture Group**

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Signed: Jillian Adie

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Abstract

Nurture Groups provide a targeted, early educational intervention in some mainstream schools in the UK for children with social, emotional and behavioural needs whose needs cannot be met within a mainstream class (Bennathan & Boxall, 2000). Research to date has concentrated on social and emotional improvements for pupils in Nurture Groups, with scant regard to the social and psychological processes by which improvements are made. Attachment Theory (Bowlby, 1969/1982) is widely attributed in Nurture Group literature to the success of the intervention.

This thesis examines social interaction patterns and developmental outcomes of sixteen children aged 3-8 years, attending four part-time Nurture Groups in two primary schools in Scotland. Pupil social interaction was video recorded during each Nurture Group session and analysed in case studies at individual, Nurture Group and school level. Narrative analysis methods and the Leuven Wellbeing and Involvement scales were employed to identify the features, pattern and quality of social interaction activity. Structure, regularity and reliability of sessions and activities were investigated within and across Nurture Groups. Psychological and learning theories were examined and are discussed in relation to the findings of the study, with attention to recent theoretical developments.

Nurture Groups were found to provide the environmental conditions and relational opportunities that foster children's connection to self, staff, peers, and learning in school. Regular narrative patterning across sessions, activities, and companionable social interactions supported meaning-making for pupils through the attunement of action and emotion, leading to deep-level learning experiences. Pupils were ready, able and willing to learn and could do so in an environment tailored to their needs. As variations of the Nurture Group model develop, alongside increasing funding restraints, greater understanding of these mechanisms of change is of heightened importance for policy and practice.

1 INTRODUCTION AND LITERATURE REVIEW

1.1 Introduction

“Nurture is not a once-and-for-all event that must take place in a critical period and missing or distorted early experiences can be overcome with the help of nurturing adults.” (*Nurture UK, 2021*)

This thesis uses narrative to tell a story about Nurture Groups (NGs), by exploring the processes by which nurturing practice supports pupils who have encountered disrupted learning in the earliest years to life to succeed in school. The narrative that runs through the thesis starts with the conceptualisation of the study, explaining the background and impetus for the research. The story of NGs takes the reader from their inception in the late 1960's/early 1970's to their provision in infant and primary schools today. Then follows the story of child development, providing insight to important developmental theories and bringing the reader to the rationale for Nurture Group intervention. The methodology, results and findings allow the reader to take a step inside the NGs to understand their practice, their benefits to children and where they fit as an educational and/or therapeutic intervention.

An individual case study tells the story of one child's journey through a NG, offering valuable insight to understanding of how children make meaning from their NG experience. The findings from this case study inform the longitudinal nested case studies of fifteen children across four NGs in two primary schools, providing evidence of routine, structure, intersubjective interaction, quality of experience and contribution to children's engagement with learning. The discussion of the findings incorporates reflections on learning from the study with its contribution to knowledge and practice. Finally, the conclusion utilises new knowledge to reframe and update the NG narrative from an 'attachment intervention' to

define their relevance today as an attachment-focused, attuned and narratively-structured intersubjective intervention, detailing implications for policy, practice and future research.

1.2 Background

Children are social beings and develop through engagement in social processes, where families provide the central context for early learning and development (Brofenbrenner, 1986). Infants are born into the world biologically pre-programmed to develop attachment to their primary care-giver, through safety and proximity-seeking behaviour (Bowlby, 1969) and to engage in dynamic social behaviour with others in affectively-attuned relationships (Trevarthen, 2011b). As infants progress through stages of development, they learn through active engagement with people and objects (Piaget, 1953; Vygotsky, 1978). These active engagements are embodied¹, involving arousal, attention and organisation of movement to accomplish the successful completion of tasks (Trevarthen, 1984; von Hofsten, 1989).

Working in tandem, the security features of attachment, along with the affectivity of social engagement, provide the foundation for optimal, ongoing learning and development throughout infancy and childhood. When infants experience affective attunement with others during attachment-focused social interactions, feelings of safety are promoted within the child that help to regulate positive and negative affect (Schorer, 2001a; Siegel, 2001). However, in families where patterns of affective social engagement are disrupted or chaotic, a child's learned patterns of engagement with objects, ideas and social others can be similarly disrupted. In such situations, children's emotional needs may not be adequately met, creating emotional tensions and strains that draw energy and attention away from the development of self-regulated engagement.

¹ The concept of 'embodiment' is used throughout this thesis to mean the relational experiences of body-to-body communicative interaction.

Successfully learned patterns of engagement are essential for the development of social competence, a skill that allows children to interact with others in socially acceptable ways, such as building and maintaining positive peer relationships and complying with adult requests (Reynolds et al., 2009). Throughout infancy, childhood and beyond, positive relationships are built, and friendships are developed and maintained, through social competence. These same interpersonal skills provide the social and psychological foundations for learning (Cooper, Arnold & Boyd, 2001) and allow children, on reaching school age, to engage appropriately and work productively in the school classroom with their teachers and peers (Izard et al., 2001).

Children who have difficulty communicating their feelings and sustaining positive interaction with others can find engaging with school learning difficult. Where these difficulties are not recognised or adequately addressed in the pre-school years, children may begin primary school without the necessary skills to meet the demands of the classroom. They may lack the concentration and attention that is needed to learn effectively in a mainstream class and display dis-interest and negativism towards the educational and social pursuits of their classmates. The inability to regulate their emotions, make friends, solve problems, and cope with obstacles prevents children's effective engagement with school challenges (Cefai & Cooper, 2011).

Such difficulties can cause frustration that is communicated through withdrawn or disruptive behaviour, leading to poor developmental and academic gain and feeding back to re-affirm their social, emotional and behavioural disjunction with school society. As they struggle to form and maintain positive relationships, their involvement and behaviour in both the classroom and the playground is negatively affected, often resulting in punishment, suspensions and in the worst cases, exclusion from school. The children described here may be referred to within school settings as displaying social, emotional and behavioural needs (SEBN), or social, emotional and mental health needs (SEMH). A discussion of the definitions surrounding the classification of such needs is summarised in the following section (1.3).

Many of the children described above will have encountered disrupted learning experiences in the earliest years of life, often growing up in families adversely affected by unemployment, poverty and social deprivation, with resultant stress, anxiety and family discord (Bennathan & Boxall, 2000). Children's ability to cope with the effects of stress in their lives depends on the internal and external resources available to them and may be ameliorated by access to supportive adults who can help them to identify, accept and regulate their emotions.

On reaching school-age, in some cases, pupils displaying social and emotional concerns may be assisted by psycho-educational support that provides an opportunity for pupils to develop affectively attuned relationships with adults that help to structure their arousal, interest and attention to tasks and activities commensurate with school learning and classroom culture. This support, when provided in small groups by specially trained staff, allows one-to-one and small group activity, and encourages personal relationships to form in a safe, secure and regular environment, promoting social and emotional learning as a basis for classroom learning.

Nurture Groups (NGs) provide such support as a recognised, targeted, early educational intervention in mainstream schools in the United Kingdom. They are designed to re-create missed early socio-emotional and learning experiences for a specific group of children displaying social and emotional concerns, whose needs cannot be met within a mainstream class and whose difficulties are considered to stem from disrupted intersubjective learning in the early years (Bennathan & Boxall, 2000). NGs are reportedly informed by attachment theory (Sloan et al. 2020; EIF, 2017; Doyle, 2004; O'Connor & Colwell, 2002; Cooper, Arnold & Boyd, 2001; Iszatt & Wasilewska, 1997) and specifically target children who display delayed development and are perceived to have been unable to form meaningful attachment to a primary care-giver in the early years.

Within NGs, careful attendance to the social and emotional competence of the children is found to assist the building of positive relationships between pupils, parents and staff (Billington, 2012) and improve educational engagement and resulting academic attainment (MacKay, Reynolds & Kearney, 2010; Seth-Smith et al., 2010). This allows pupils over time to reintegrate fully to their mainstream class, usually within one year, where they can successfully engage in learning with their peers.

It is clear that NGs successfully provide an effective means to improve socio-emotional development and learning engagement in some children, however there remains an absence of understanding of the social and psychological processes underpinning the efficacy of the intervention. Mackay, Reynolds and Kearney (2010) highlight the importance of understanding the mediating factors in NG efficacy, that is, the developmental processes addressed by the groups that lead to enhanced educational engagement. To date, these factors are poorly identified or understood. This thesis examines the interaction patterns and developmental outcomes of children in pre-school and early-primary school NGs to better understand the mechanisms of change that support the effectiveness of NGs.

1.3 Social, Emotional and Behavioural Needs: defining the issue

1.3.1 Terminology and legislation surrounding social, emotional and behavioural needs

Throughout the UK, various legislative terms are used to describe pupils who need additional support to access learning: Additional Support Needs (ASN) in Scotland, Special Education Needs and Disabilities (SEND) in England, Additional Learning Needs (ALN) in Wales, and Special Education Needs (SEN) in Northern Ireland. Within this thesis, a primary focus on the Scottish context in which the research study was conducted reflects the term ASN, however reference to literature from throughout the UK and beyond necessarily reflects differing local terminologies.

Within these umbrella terms, children and young people whose learning needs relate to their social and emotional development are referred to by a similar array of terminology across and within UK nations and published literature. Use of the terms ‘social, emotional and behavioural difficulties’ (SEBD), ‘behavioural, emotional and social difficulties’ (BESD) and ‘emotional and social difficulties’ (ESD) have largely, although not exclusively, been replaced in recent years by the terms ‘social, emotional and behavioural needs’ (SEBN) and ‘social, emotional and mental health needs’ (SEMH), sometimes used interchangeably to describe the same population.

The Education (Additional Support for Learning) (Scotland) Act (2004), updated in 2009, provides the legal framework for the provision of additional support for learning in Scotland. Statutory guidance on the implementation of the Act is contained within the Additional Support for Learning (ASL) Code of Practice (2017). When considering the social and emotional needs of children and young people within the learning context, the ASL Code of Practice (2017) does not use specific terminology to describe such needs, but rather describes the ‘social and emotional factors’ that may ‘give rise to a need for additional support’ (Scottish Government, 2017). It is noted, however, that despite the lack of terminology within Scottish legislation, the Scottish Government statistical recording of pupil census data continues to use the term ‘SEBD’ for ASN data collection and reporting purposes. Within this thesis, the term ‘social, emotional and behavioural needs’ (SEBN) will be used throughout to describe the social, emotional and behavioural needs of children, however ‘SEBD’ will be used on occasions where it directly reflects information that is recorded using this term (such as census data) and where it reflects direct quotations from other literature.²

The Scottish legal framework sets out the duty for all schools in Scotland to provide appropriate support for children and young people identified with ASN. The Act states that a

² In England, the term SEMH was introduced to replace SEBD following the publication of the SEND Code of Practice 2015. The terms SEMH and SEND are used on occasion in this thesis where they reflect quotations from other literature.

child or young person has an additional support need where they need additional support in order to overcome barriers and benefit from school education, noting that the need for additional support may be short or long term and can arise from a variety of circumstances. ASN is defined in the ASL Code of Practice (2017, p.17) as follows:

“A child or young person has additional support needs for the purposes of this Act where, for whatever reason, the child or young person is, or is likely to be, unable without the provision of additional support to benefit from school education provided or to be provided for the child or young person.”

Legislation additionally predetermines that a child or young person is considered to have ASN if they are looked-after by the local authority, with specific clauses attached to this.

1.3.2 Definition and factors contributing to social, emotional and behavioural needs

There is no single definition of SEBN, rather they are understood as needs or difficulties experienced by children and young people that act as a barrier to their social, cognitive and emotional development. Emotional and behavioural needs may have a single cause or result from multiple causes, often with many interacting factors. Supported by current biological, psychological and social understandings of the circumstances that contribute to SEBN, the Social, Emotional and Behavioural Difficulties Association (SEBDA) promote that the social and emotional aspects of need should be stressed first, recognising that these aspects usually pave the way for the behavioural aspects of need (Cole, 2006).

Cooper (1999, pp. 9-10) was influential in determining the bio-psychosocial understanding of SEBN, suggesting that emotional and behavioural needs are:

“perhaps best seen as a loose collection of characteristics, some of which are located within students; others of which are disorders of the environment in which the student operates (such as the school or the family). The third, and probably most common, category involves the interaction between personal characteristics of students and environmental factors”.

This view is upheld by the ASL Code of Practice (2017), recognising that a wide and varied range of factors contribute to ASN for children and young people and that individual children may encounter more than one factor that gives rise to their need. There is further recognition that the factors that contribute to ASN relate to individual children’s wellbeing and circumstances, as well as their learning environment. This recognition is given without implication that the child or young person is lacking in skills, abilities or strengths. Four overlapping themes are outlined that encompass a wide range of factors leading to some children and young people requiring additional support: *learning environment, family circumstances, disability or health need, and social and emotional factors*. Within the description of social and emotional factors, areas suggested as giving rise to a need for additional support include: *a child being bullied or bullying, a child who has had Adverse Childhood Experiences (ACEs), and a child with behavioural difficulties or at risk of exclusion*. Within this, it is highlighted that the focus should be placed, not on the event, e.g. being bullied, or facing adverse experience in childhood, but on the impact of the event on the child’s learning. For example, where one child or young person’s learning may be impacted by difficulties experienced at home, another child experiencing similar issues may encounter minimal impact on their learning.

Child poverty, caused by the social and economic conditions experienced by families, has negative impacts on children’s health, social, emotional and cognitive development, behaviour and educational outcomes (PHS, 2023). Living in poverty increases the likelihood of experiencing adverse childhood experiences (ACEs), including abuse and neglect, living in families affected by mental ill-health, substance misuse, family discord and domestic violence (Marmot et al., 2020). Children living in poverty are more likely to experience

delayed development and to experience more emotional and behavioural problems than their peers (Johnson et al., 2016).

Tomlinson (2017, 1982) outlines two groups of children who require support to access education, describing these within *normative* and *non-normative* categories. Those within normative categories are described as having recognisable and severe physical and sensory disabilities, while those within non-normative categories are described as having no clear or agreed defining criteria. The non-normative category includes children whose support needs relate to social and emotional factors.

1.3.3 Prevalence and recording of pupils identified with social, emotional and behavioural needs in Scotland

The annual pupil census in Scotland records the number of pupils who need support to access education and the reasons for that support (Table 1). Pupils may be recorded within more than one category of reason for support where multiple needs are identified. The census does not collect information on the number of pupils who have been diagnosed with specific needs, but on the number of pupils who require additional support to access education and the reason that support is needed.

Table 1. Reasons for support for pupils with Additional Support Needs³

ASN reasons for support	
Learning disability	Mental health problem
Dyslexia	Interrupted learning
Other specific learning difficulty (e.g. numeric)	English as an additional language
Other moderate learning difficulty	Looked after
Visual impairment	More able pupil
Hearing impairment	Communication Support Needs
Deaf-blind	Young Carer
Physical or motor impairment	Bereavement

³ Scottish Government. (2023). Pupil census supplementary statistics. Retrieved from <https://www.gov.scot/publications/pupil-census-supplementary-statistics/>

ASN reasons for support	
Language or speech disorder	Substance Misuse
Autistic Spectrum Disorder	Family Issues
Social, emotional and behavioural difficulty	Risk of Exclusion
Physical health problem	Other

ASN statistics include pupils in special schools and those in mainstream schools who are assessed or declared disabled or have a Co-ordinated Support Plan (CSP), Individualised Education Programme (IEP), Child Plan or 'Other' type of support. The number of pupils recorded with ASN has shown a marked increase since 2010 with continuing year on year increases (Scottish Government, 2021). The Scottish Government (2021, p19) state that "these increases were likely due in part to continued improvements in recording and the introduction of the additional need types 'Child plans' and 'Other' in 2011." As such, data recorded prior to 2011 is not directly comparable with data recorded from 2011 onwards. In 2021, there were 232,753 pupils across primary, secondary and special school sectors (33.0% of all pupils) with an additional support need (ASN) recorded. This was an increase of 0.7 percentage points on 2020 data (226,838 pupils with an ASN record, 32.3% of all pupils). However, this is first time since 2009 that the rate has increased by less than one percentage point (Scottish Government, 2021).

The categorising of reasons for support highlights the complexity of identifying and recording the additional support needs of pupils. Firstly, data is only recorded for pupils where a recognised form of support is being provided, such as a statutory support plan, or another formalised type of support. This recording does not account for children who may need low-level support to access learning but do not meet the threshold for a specific, statutory plan. Secondly, while some of the categories relate to diagnosable conditions, such as Hearing impairment, Dyslexia and Autistic Spectrum Disorder, categories such as Family Issues and Social, emotional and behavioural difficulty are more difficult to measure.

The ASL Code of Practice (2017) highlights that while terms such as dyslexia or autism spectrum disorder may help some children, young people and families to explain and understand any difficulties being experienced, for others such labelling of difficulties may be

found to be limiting and stigmatising. However, a question is raised from the data about how children who do not have a diagnosis, or a formal plan, are identified for support, whether the support that they need is available to them, and how many pupils may be receiving some form of support that is not recorded in the census data.

‘Social, emotional and behavioural difficulty’ (SEBD)⁴ is one of twenty-four categories of reason for support in the census completed by schools. Across primary and secondary schools in Scotland, ‘SEBD’ is the highest recorded reason for support for pupils identified with ASN (Scottish Government, 2021), accounting for a total of 52,908 pupils. Within special schools the number is 2,137 pupils recorded with ‘SEBD’, the fifth highest reason for support. The prevalence of SEBN varies, dependent on sex, age, health and domicile, with higher incidence found in males and children and young people living in socially deprived families.

There is a strong correlation between social deprivation and ASN with poverty being both a cause and an effect of special education needs (JRF, 2016). Scottish school data displays increasing numbers of pupils recorded with ASN by Scottish Index of Multiple Deprivation (SIMD) 2020 deciles. The combined data for all schools (primary, secondary and special schools) in 2021 reports 34,404 pupils recorded with ASN (14.8% of total number of pupils with ASN) in decile 1 (most deprived) and 14,830 pupils recorded with ASN (6.4% of total number of pupils with ASN) in decile 10 (least deprived), displaying an 8.4 percentage point difference between the highest and lowest SIMD deciles and more than double the number of pupils recorded with ASN in the most deprived decile compared to the least deprived.

Primary school statistics show that there were 108,085 children (27.7% of primary school registrations) recorded with ASN in 2021 (Scottish Government, 2022). Of these, 23,350 related to ‘SEBD’ (21.6% of pupils for whom reason for support is reported). The total

⁴ The term ‘SEBD’ is taken directly from Scottish Government school census reporting and reflects the published terminology.

number of primary school pupils recorded with ASN increased from 2011-2021 by 112%, taking the percentage of pupils on primary school rolls recorded with ASN from 13.9% in 2011 to 27.7% in 2021 (13.8% percentage point increase). Early Learning and Childcare (ELC) statistics show that there were 14,210 children (16% of ELC registrations) with ASN recorded in 2021 (Scottish Government, 2021). Of these, 4% related to 'SEBD', 7% language, speech and communication issues, and 2% family issues.

Increases in 'ASN' reporting for both the number of pupils, and percentage of pupils for who reason for support is reported, is found from ELC to Primary School and then to Secondary School. In 2021, the number of pupils with 'ASN' rose with age and stage, from 14,210 (ELC) to 23,350 (Primary) to 29,558 (Secondary). In itself, there could be a number of explanations for this increase, however the increase in numbers is matched by an increase in percentage of pupils identified with 'SEBD' for whom reason for support is recorded, from 4% (ELC) to 21.6% (Primary) to 25.3% (Secondary). Therefore, it appears that there is indeed a greater number of pupils receiving support for 'SEBD' at each stage of education, growing from 1 in 25 pupils in ELC, to 1 in 4 pupils in Secondary schools.

Primary school Nurture Groups (NGs), an intervention that supports pupils with social, emotional and behavioural needs, provide the main focus for this research study. From 2010 to 2021, year on year increases in primary school pupils recorded with 'SEBD' as the reason for support has seen the number of pupils increase from 6,897 in 2010 to 23,350 in 2021. From 2011, when improvements in recording and new categories of need types were introduced, to 2021, the number of primary school pupils with 'SEBD' recorded as reason for support has increased from 9,900 in 2011 to 23,350 in 2021, an increase of 136%. However, in the face of spiralling reported needs, in order to fully understand any change in the number of pupils identified with 'SEBD', these figures must be set against the number of children with ASN for whom the reason for support is recorded. Here, there has also been year on year increase in reporting, from 50,985 pupils in primary schools reported with ASN in 2011, to 108,085 pupils in 2021 (where reason for support is recorded these figures are 50,964 in 2011 and 108,003 in 2021, accounting for a small number of pupils reported with

ASN with no reason for support recorded). A closer look at the data shows that, when compared to the number of pupils reported in primary schools with ASN, the percentage of pupils with 'SEBD' recorded as reason for support has increased from 19.4% to 21.6% over an eleven-year period (2011-2021), with average annual increase of 0.4%.

The data shows that over the eleven-year period 2011-2021, the number of pupils recorded with ASN in primary schools more than doubled. This increase is observed in both total ASN pupil numbers and percentage of pupils with ASN relative to total school roll. However, within this number, the percentage of ASN pupils recorded with 'SEBD' as the reason for support has remained relatively constant, displaying a marginal increase of 0.4 percentage points over ten years. It is therefore unclear whether there has been an increase in the number of pupils identified with ASN, and accordingly 'SEBD', or whether the increases relate to changes and improvements in reporting.

The current system of recording and reporting delivers a picture of pupil needs that is far from transparent. Complexities in the collation of data have been highlighted and discussed within educational literature (see for example Moscardini, 2019; Riddell & Weedon, 2014). ASN is only recorded where formal support is being provided. It is likely that the largest group of pupils that require additional support do not fall into the category of physical and sensory disabilities that Tomlinson (1982) described as 'normative' (Moscardini, 2019). This includes children with social and emotional needs, who often live in areas of deprivation, may experience disrupted and chaotic lifestyles and are unlikely to have statutory support plans. Increasing complexity and co-morbidity of need have been observed in recent years, along with increasing rates of ASN diagnosis (SG, 2020). This has been further compounded by the Covid-19 disruptions to children's education, following which behavioural, emotional and attentional difficulties in children, correlated to periods of restriction, remained constant for many beyond the pandemic (Mowat, 2023). This was observed particularly in children who were diagnosed with special education needs and disabilities (SEND) and those from low-income families (Mowat, 2023).

NGs in primary schools provide early intervention support for some children identified with SEBN and it is likely that children who are supported within NGs may also have other reasons for support. The pupil census also collects data for children with the following needs who may be supported by traditional NG provision: Language or speech disorder, English as an additional language (EAL), Communication support needs, and Family issues. From 2011-2021, percentage point increases are displayed for three of these four types of need for pupils where reason for support is recorded. The greatest increase is recorded in the EAL category, from 12.9% in 2011 to 22.4% in 2021 (9.5 percentage point increase in pupils with EAL where reason for support is recorded), with EAL pupil numbers also increasing from 6,560 in 2011 to 24,202 in 2021. The percentage point change in number of pupils recorded with language or speech disorder where reason for support is recorded decreased from 2011-2016, despite an increase in the number of pupils from 6,215 in 2011 to 10,923 in 2021 (2.2 percentage point decrease in pupils with language or speech disorder where reason for support is recorded). Family issues is included in the census more recently as a reason for support and data is not available for 2011, however over a six-year period from 2016-2021 there was a 2.4 percentage point increase, from 8.0% in 2016 to 10.4% in 2021. The number of pupils recorded with family issues was the fifth highest reason for support (out of 24) recorded in primary school pupils in 2021. The higher ranking categories are (in order of number of pupils where 1 is the highest): 1) English as an additional language, 2) 'SEBD', 3) Other moderate learning difficulty, 4) Other specific learning difficulty (e.g. numeric).

1.3.4 Recognising and responding to social, emotional and behavioural needs: inclusion in mainstream schools

1.3.4.1 Recognising the social, emotional and behavioural needs of children and young people

In addition to there being no single definition of SEBN, there is accordingly no single measure of assessment. Many of the children and young people to whom the term is applied experience the overlapping of a number of difficulties that affect their learning. Integral to how SEBN are shaped and understood are both within-pupil and external, or

environmental, factors, as well as the interplay between these (Cooper, 1999; McKeon, 2020). Attempts to promote the recognition of SEBN commonly focus on the behavioural aspects that arise from social and emotional developmental issues, e.g. “Some children may find it difficult to cope emotionally in school and may display distressing or disruptive behaviour in class” (Education Scotland, 2022). Within these behavioural descriptions, focus is also placed on strategies for support, e.g. “Additional support, such as timeout strategies or nurture support, can help them [children identified with SEBN] develop positive behaviour in school and the wider community” (Education Scotland, 2022). The underlying causes of SEBN in children are complex and may relate to physical impairment or the environment in which the child grows up.

“[Behaviours in children with SEBD] can stem from one or multiple causes, such as family environments or physical or sensory impairment. Whether or not a child is considered to have SEBD⁵ can depend on comparison to the normal expectations for a child of the same age, and include the nature, severity, frequency and persistence of the observed difficulties and behaviours.” (SEBDA, 2016)

SEBN can create barriers to learning that cause some children to face more difficulty in their learning than their peers. Although they may prove to be persistent, SEBN are not necessarily permanent (SEBDA, 2006). They may be the cause or the consequence of learning difficulties, where a specific learning difficulty, either diagnosed or undiagnosed, leads to emotional and behavioural issues, or where social and emotional difficulties lead to difficulty engaging with the school curriculum. Where these difficulties are not recognised or adequately addressed in the years prior to school entry, children can begin primary school without the social and emotional skills that are needed to meet the demands of the classroom (Boxall, 2002). These children may find it difficult to form positive relationships with their peers and teachers, organise and attend appropriately to their emotions, and

⁵ SEBDA have published their response to terminology, “SEBD or SEMH?”, Available from <https://sebda.org/sebd-research/>

concentrate on classroom learning. In such situations, the child's frustration may be communicated through behaviour that is either quiet and withdrawn, or disruptive, creating further barriers to learning that can lead to punishment, suspensions and in the worst cases exclusion from school (Boxall & Lucas, 2010). Where behavioural problems are identified but not addressed during the pre-school years, these can often persist throughout school years and beyond, and are associated with poorer physical, mental health and forensic outcomes in adulthood (Sim et al., 2013).

1.3.4.2 Responding to the social, emotional and behavioural needs of children and young people

The Scottish education system is based on the belief that education is a human right and that all children and young people should be supported to reach their fullest potential. The system is supported by legislation and policy that promotes inclusion and equality for all learners (Fig.1)⁶

⁶ Diagram detailing the current policy and legislation that supports inclusive educational practice. Education Scotland. (2022). *An introduction to inclusive education*).



Figure 1. Scottish educational contexts of inclusion and policy

The Education (Additional Support for Learning) (Scotland) Act 2004, as amended⁷, provides the legal framework for identifying and addressing the additional support needs of children and young people who face a barrier, or barriers, to learning, but does not prescribe any particular model of assessment. Alongside the Act, the Code of Practice 2017⁸ is designed to help schools, parents and others to understand the ASL Act and ensure its implementation. A duty is placed on local authorities, with their partners, to ensure that “education is directed to the development of personality, talents and mental and physical abilities of the child or young person to their fullest potential”⁹. The Act includes a presumption of providing mainstream education for all children, except for specified instances where education in a special school is more suited to a child’s needs, or for reasons relating to unreasonable public expenditure.

A Review¹⁰ of the implementation of ASL legislation, conducted by Angela Morgan in 2019-20, to consider how ASL works in practice, established disconnect between the aspiration of legislation and policy and the experiences of children, young people and families (SG, 2020). An Action Plan¹¹ (SG, 2020) was put in place to deliver the recommendations of the review, with regular updates on progress.

ASN legislation is supported by Scotland’s national curriculum, Curriculum for Excellence (CfE)¹², designed to place learners at the heart of education, by helping children and young people gain the knowledge, confidence and attributes needed for life in the 21st century. The curriculum, for age 3-18 years, is built around four fundamental capacities to enable

⁷ Education (Additional Support for Learning) (Scotland) Act, 2004. Retrieved June 2, 2023 from https://www.legislation.gov.uk/asp/2004/4/pdfs/asp_20040004_en.pdf

⁸ Supporting Children’s Learning: Statutory Guidance on the Education (Additional Support for Learning) Scotland Act 2004 (as amended) - Code of Practice (Third Edition) 2017. Retrieved June 2, 2023. From <https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2017/12/supporting-childrens-learning-statutory-guidance-education-additional-support-learning-scotland/documents/00529411-pdf/00529411-pdf/govscot%3Adocument/00529411.pdf>

⁹ The Standards in Scotland’s Schools etc. Act, (2000). Retrieved June 2, 2023 from <https://www.legislation.gov.uk/asp/2000/6/contents>

¹⁰ Review of additional support for learning: Implementation (Scottish Government, 2020)

¹¹ Additional support for learning: Action plan (Scottish Government, 2020)

¹² Scotland’s Curriculum for Excellence: Putting learners at the heart of education. Retrieved June 2, 2023 from <https://scotlandscurriculum.scot>

children and young people to become: *confident individuals, successful learners, responsible citizens and effective contributors*. Alongside CfE, the National Improvement Framework and Improvement Plan 2023¹³ (SG, 2022), aim to improve Scottish education and close the attainment gap. Included in this is the aim to improve and raise the attainment of learners from lower socio-economic backgrounds and extend the rights of learners with additional support needs.

Legislative guidance suggests that the additional support needs of pupils should be able to be identified through routine assessment of learning and monitoring of educational progress in schools. Through daily classroom practice, teachers can assess learning, get to know their pupils well and build a profile with their pupils that includes their strengths, needs and progress (Scottish Government, 2017). It is suggested that this approach contributes to the identification of ASN and allows for appropriate assessment of needs to be carried out. Various methods are used in primary schools to establish the SEB needs of pupils, however this is not prescriptive and there is no universally recommended approach. Assessment has predominantly been reactive and focused on practitioner observation of behavioural concerns for individual children, although in recent years, whole school approaches to wellbeing have activated a rise in mental health and wellbeing screening of all pupils in some schools.

Within NG research, two assessment tools have commonly been used to assess SEB improvement; The Boxall Profile¹⁴ and the Strengths and Difficulties Questionnaire.¹⁵

¹³ Achieving Excellence and Equity: 2023 National Improvement Framework and Improvement Plan (Scottish Government, 2022)

¹⁴ The Boxall Profile is registered to Nurture UK and is a tool to assess the social, emotional and behavioural development of pupils aged 4-18. Information about the Boxall Profile is available from <https://www.nurtureuk.org/what-we-do/the-boxall-profile/>

¹⁵ The Strengths and Difficulties Questionnaire is a brief behavioural screening tool for use with children and young people aged 2-17. Information about the SDQ is available from <https://www.sdqinfo.org/a0.html>

The *Boxall Profile* (BP) is the standardised tool used to assess the social, emotional and behavioural development of pupils who are referred for NG support and provides a picture of a pupil's strengths as well as any difficulties that may affect their learning. The BP is reportedly used in over half of UK schools to assess pupil wellbeing (Nurture UK, 2022). Reporting from 25 primary schools in the UK who used the BP for whole school or whole year-group assessment found that 36% of children had social, emotional and mental health (SEMH) needs (Nurture UK, 2019). Within this figure, 10% of pupils had high SEMH needs and 26% had moderate SEMH needs. Boys were three times more likely to experience high SEMH needs as girls (15% of boys versus 5% of girls in participating schools had high SEMH needs). The most commonly reported difficulties were found to be:

- 29% of children did not feel emotionally secure (e.g. trusting adults in school or asking for help when needed).
- 28% of children were having difficulties giving purposeful attention (e.g. listening with interest or taking part in teacher-centred activities).
- 27% of children were having difficulties accommodating to others (e.g. sharing classroom equipment with other children or being polite towards others).

The BP assessment is an educational tool and measurements are based on observations made in the classroom environment. It is not a definitive measure of social, emotional and behavioural development or need. The BP is usually completed by the child's mainstream class teacher and despite the limitation of subjectivity, it is widely regarded as a reliable measure and reportedly has a high level of concordance with the Strengths and Difficulties Questionnaire (Cooper et al., 2011).

The *Strengths and Difficulties Questionnaire* (SDQ) is a brief behavioural screening questionnaire, suitable for use with children and young people aged 2-17 years. There are several versions of the questionnaire that can be used by researchers, clinicians and education professionals, including scales that relate to: emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and pro-social behaviour.

The SDQ, in its various forms, can be used in multiple settings, including clinical, educational and research, for assessment and screening of the strengths and difficulties of individuals and populations, including the assessment of psychiatric disorder. Within NGs, the questionnaire has been used to evaluate the outcome of the intervention.

A further tool, The Behavioural Inhibition Observation Scale (BIOS) (Burnett, 1998) has been used in some NG studies to measure self-esteem. Where this scale is used, it provides an additional measure of behaviours relating to self-esteem, alongside the BP. The BIOS is an observation checklist, containing thirteen descriptive statements on which pupil behaviour is rated on a five-point Likert scale ('Never', 'Seldom', 'Sometime', 'Often', 'Always'). The scale is completed by the mainstream class teacher, with scores based on the child's observed behaviour in the classroom over a two-week period. The scale measures levels of social interaction and self-satisfaction. High scores are said to represent a high level of self-esteem and the scale is used in NG studies to measure change over time. The BIOS is reported to be a reliable and valid measure of self-esteem (Burnett, 1998; Hughes & Schlösser, 2014).

1.3.4.3 Responding to the social, emotional and behavioural needs of pupils in primary schools

Ambiguity around the definition of SEBN affects how schools and practitioners respond to pupils displaying such needs and the success of their engagement (McKeon, 2020). A common theme in education policy and NG practice is the recognition and understanding of behaviour as a form of communication and manifestation of underlying need. The ASL Act (2004, as amended) introduced a number of rights for parents of children with additional support needs and placed duties on local authorities to identify, meet and keep under review the needs of pupils for whom they are responsible. Curriculum for Excellence (CfE)

and Getting it right for every child (GIRFEC)¹⁶ provide ambition, opportunity and guidance for schools to meet the holistic needs of their pupils.

All children and young people need support from adults to help them learn and a diverse range of needs can be met within mainstream schools through good quality learning and teaching. Where support that is additional to, or different from, that received by children and young people of the same age is needed to allow children or young people to benefit from education, assessment of need and decisions about the delivery and type of additional support are required to be undertaken.

NGs are positioned within primary schools as a form of inclusive education, allowing pupils whose struggles may lead them to face suspension or exclusion from school, the opportunity to remain within their mainstream school. Debate however surrounds this positioning, with no clear understanding in education of what inclusion means. For example, Bishop & Swain (2000) suggest that NGs may promote exclusion, fostered under the flag of inclusion, by removing children from their mainstream class to be educated in a separate class within the school. Loreman (2009) similarly argues that any education outwith the mainstream class is not inclusive. However, others contend that children may benefit from specialist provision outwith the mainstream class, if only for short spells, in order to ensure longer term inclusion (Mowat, 2015a; Mowat, in press b, Shakespeare, 2014, cited in Mowat, 2023). NGs, by definition, are intended as a short-term intervention where pupils spend part of the week in the group, while also maintaining some time within their mainstream class.

In the ASL Review (SG, 2020), Morgan contends that inclusion is not just about a child's physical presence in the classroom or school. For children and young people to be included

¹⁶ Getting it Right for Every Child (GIRFEC) is the Scottish Government's commitment to provide all children, young people and their families with the right support at the right time. Policy information is available from <https://www.gov.scot/policies/girfec/>

in school, they need to be not only present but participating, supported and achieving (SG, 2019). Morgan stresses that to feel included children must experience the feeling of being included as part of the school community and culture, that is made up of the “pattern of small and large informal and formal interactions and relationships” (SG, 2020).

Children’s right to be present, to participate and to achieve within their local school has been said to be the premise of inclusive education (Slee, 2018a). However, to include pupils identified with ASN, schools must provide personal adjustments that respond to the individual needs of pupils (SG, 2020). Nurture approaches have been welcomed to support all pupils, and particularly some with ASN, by providing a focus on wellbeing, relationships and the growth and development of children and young people (SG, 2020). It has been found that Nurture approaches work particularly well when they are used within enhanced provision in mainstream schools, where pupils can be supported with their individual needs to develop core skills in literacy, numeracy, and health and wellbeing (SG, 2020).

In Scotland, additional funding, allocated directly to schools through the Pupil Equity Fund¹⁷ (PEF), is targeted at helping to close the poverty-related attainment gap. Decisions on how this funding is used is at the discretion of individual schools and their governing local authority, and in some areas PEF funding is used to deliver NG provision for children from low-income families who are struggling to engage with school learning. PEF funding forms part of the Attainment Scotland Fund.¹⁸ Allocations to schools are based on the number of pupils from P1 to S3 who are eligible and registered to receive free school meals (FSM), with schools receiving around £1,200 per pupil. In Scotland, as all pupils in P1-P5 are now provided with FSM, PEF funding allocation is calculated from 2014 FSM data proportionately correlated to the current school roll.

¹⁷ The Pupil Equity Fund is additional funding in Scotland allocated directly to schools and used to close the poverty-related attainment gap. National operational guidance is available from <https://www.gov.scot/publications/pupil-equity-fund-national-operational-guidance-2022/>

¹⁸ The Attainment Scotland Fund supports educational recovery and is used to close the poverty-related attainment gap. Information is available from <https://www.gov.scot/policies/schools/pupil-attainment/>

Targeting inclusive education provision to families affected by poverty and deprivation is not new. Since the 1960's early education provision both within and outwith the UK has targeted families of children living in poverty, (e.g. Sure Start, Family Learning Centres, UK; High Scope Perry Preschool Project, Head Start Programme, US). These programmes aim to address the effects of disadvantage in vulnerable children, who may otherwise enter primary school without the skills that are required for classroom learning and at risk of educational failure. These early years programmes and projects, by attempting to assist vulnerable children to reach the equivalent developmental stage of their peers at school entry age, anticipate that the need for children to repeat stages of schooling or to be withdrawn from class for specialist teaching will be reduced. However, for some children, this type of targeted provision is either not available or not engaged with, and it is these children for whom NGs in primary schools were first developed.

1.4 Nurture Groups: early intervention for social, emotional and behavioural needs

1.4.1 The history and rationale of Nurture Groups

NGs provide a recognised targeted early educational intervention in mainstream schools in the United Kingdom for a specific population of children identified with SEBN (Seth-Smith et al., 2010; Reynolds et al., 2009; Cooper & Whitebread, 2007; Cooper et al., 2001). The groups were originally designed and introduced to primary schools in the late 1960's by Marjorie Boxall, an educational psychologist working with the Inner London Education Authority. Boxall had become concerned by the increasing number of children being referred to her who displayed social and behavioural difficulties that interfered with their ability to meet the demands and expectations of the primary school classroom. She found that these children had a combination of personality and learning difficulties, poor personal organisation, and behavioural issues that resulted in their inability to engage with the learning process offered by the standard mainstream infant class (Bennathan & Boxall, 1996, 2000; Boxall, 2002; Boxall & Lucas, 2010). At this time, Marjorie Boxall was working in

an area of East London that was characterised by social upheaval. Many families were being re-housed in this area following massive slum clearances, while others migrated there from throughout the UK or arrived as foreign immigrants. As such, the area comprised a large overcrowded, multicultural community, suffering severe stress, poverty and deprivation.

Boxall recognised that many of the children being referred to psychological services as a result of their violent and disruptive behaviour in school classrooms were living in this community in conditions of hardship and stress. Their families were affected by social and environmental difficulties, often leading to broken relationships and resulting in complex family structures. Boxall considered that the difficult and disruptive family circumstances of these children held the key to understanding their behavioural issues. She surmised that if parental stress had resulted in an erosion of nurturing care and support in the early years of the child's life, then those disrupted nurturing experiences could be responsible for developmental difficulty in later years. Boxall was certain that missed early learning experiences could therefore provide the explanation for the children's current difficulties in school. Working on the premise that missed early learning experiences could somehow be re-created within the school environment, she designed the first NGs. Boxall uses the following description of her intentions for the groups:

“The aim of the nurture group is to create the world of earliest childhood through school, and through this build in the basic and essential learning experiences normally gained in the first three years of life, thus enabling the children to participate fully in the mainstream class, typically within a year.” (Boxall & Lucas, 2010, p4)

NGs allow specially trained teachers to meet children displaying developmental delay at their own stage of development and re-create growth-promoting patterns of behaviour within a safe environment. The emphasis within NGs is on “growth, not pathology”, with the groups acting as a learning rather than a therapeutic intervention (Boxall & Lucas, 2010,

p.11). The focus of the NG practitioners is on the environment, experiences and relationships that support the children's emotional, social and cognitive development, providing them with the normal learning experiences of early childhood that they are thought to have missed. Practitioners are encouraged to work forward through the normal stages of development using a nurturing, early educational approach (Bennathan & Boxall, 1996, 1998, 2000; Boxall, 2002; Boxall & Lucas, 2010). This way of working and thinking is said to encourage optimism, allowing the child to be assisted to move forward from the developmental stage that they are at by reducing or removing barriers to learning. This optimism removes the possibility of, or the need to, pathologise the child's behaviour, thereby removing any resultant negative connotations.

Although initially well received and seemingly successful, NGs underwent a period of decline in the 1980's, largely attributed to the publication of the Warnock Report (1978) on Special Education Needs, which promoted fully inclusive educational practice and encouraged schools to educate all children within mainstream classes. However, since the early 1990's, in the face of increasing SEBN identified in young children in primary schools, along with revised educational policy, there has been a resurgence of interest in NGs. Many local authorities across the UK now invest in this intervention and the number of NGs is increasing, as pupils participating in the groups display successful outcomes in their SEB functioning and learning attainment.

Across Scotland, there are a number of ways that NGs and nurturing principles have been introduced to primary schools through policy and practice. In addition to the provision of NGs that provide targeted support, in recent years a wider nurturing approach has been promoted in schools and early learning settings that aims to support the needs of a wider group of children and young people (Education Scotland, 2023). This nurturing approach is supported by policy documents and locally developed resources and models of good practice.

The research for this thesis was carried out in NGs that offer targeted support for children based on the NG model developed by Marjorie Boxall at the inception of the intervention; a model that continues to operate in many schools in the UK today and is considered below.

1.4.2 Children for whom the Nurture Group is recommended

By the time of primary school entry, at four to five years of age, there is an expectation that children will have already accomplished the skills that they require to engage with learning in a mainstream class. Where children are found to experience difficulty integrating to mainstream classes their social and developmental functioning may be assessed and, in some schools, their suitability to benefit from NG intervention will be considered where this is provided. As previously highlighted, the term SEBN encompasses a range of behaviours and is open to various definitions. This study will concentrate on the particular cohort of children, referred for NG intervention, who are said to be displaying SEBN as defined by their Boxall Profile (BP) assessment (Bennathan & Boxall, 1998). The BP is the standardised NG assessment measure; a combined diagnostic and planning tool that considers the behaviours that interfere with educational engagement alongside the unmet developmental needs of the child. The premise of the BP is that as a starting point for successful engagement in school learning, the child, regardless of chronological age, must display appropriate development across five areas of basic need in order to organise their experience (Boxall, 2002; Boxall & Lucas, 2010). These basic needs form the first five measures of the BP:

- A. Give purposeful attention
- B. Participate constructively
- C. Connect up experiences
- D. Show insightful involvement
- E. Engage cognitively with peers

The BP aims to identify areas of developmental need for individual children, thereby allowing NG practitioners to plan activities and interventions that aim to address their

needs. Children who are referred to NGs are likely to have multiple and complex socio-emotional needs and may present accompanying features, such as difficulties with speech and language or motor coordination (Boxall, 2002).

NGs were originally designed for children who, on entry to primary school, were found to be functioning socially, emotionally and cognitively at the expected developmental level of a child below the age of 3 years. The reasons for this poor developmental gain were thought to stem from deprivation of early nurturing care in infancy that allows constructive and organised developmental progress to be made (Boxall & Lucas, 2010). The NG founders propose that there is a clear differentiation between ‘nurture children’ and ‘children who need nurturing’¹⁹, both of whom may be supported in the NG.

1.4.2.1 Nurture children

Nurture children are said to be the children for whom the NG intervention was originally designed. These children, at the stage of primary school entry, are found to be functioning at a level below the age of three years. For older children, they are said to be functioning at a level that is at least two or three years below their chronological age. All nurture children will display considerable SEBN on BP measures (Boxall & Lucas, 2010). The BP was conceptualised from the following observations of nurture children provided by NG teachers (Boxall & Lucas, 2010):

- *Nurture children do not engage appropriately with adults.* The children are unable to form appropriate or meaningful relationships with adults, displaying lack of trust, immaturity and in some cases indiscriminate displays of affection. They may disregard the teacher, respond mechanically and resist forming relationships or form

¹⁹ The terms ‘nurture children’ and ‘children who need nurturing’ were initiated by Marjorie Boxall to describe the needs of different children in the NG. They reflect historical usage and are used in this thesis to be true to the conceptualisation of Boxall’s approach. In present times, these terms may be viewed to be stigmatising and children would not be referred to in this manner. The terms are discussed in this chapter and where they are used throughout this thesis they represent Marjorie Boxall’s descriptions and understanding of children’s needs.

immature or inappropriate bonds. The children do not make normal eye contact and either look away or look towards the teacher without giving attention to either person or object.

- *Nurture children have limited resources and lack basic competencies.* Within the mainstream class, nurture children show SEBN and do not engage effectively in classroom activities. They display poor developmental skills in both their physical and communicative expression and are unable to participate appropriately in constructive play.
- *Nurture children have limited social skills and poor peer group relationships.* The children are unable to form and maintain relationships with their peers, often displaying destructive and antisocial outbursts. They do not have the skills to share, cooperate and take turns, or to engage in effective communication with others, and their play is characterised by lack of tolerance and frustration.
- *Nurture children are depressed in their functioning or distressed in more overt ways.* The children are untrusting and insecure with a lack of confidence and poor self-esteem. Some show distress in self-destructive or obsessive behaviour.

Additionally, perceptual-motor difficulties are found more commonly in nurture children than in the general school population, and in younger nurture children there is a higher incidence of speech and language difficulties. NG theory explains the children's difficulties as stemming from poor early learning opportunities. This is thought to be the result of "limited or impaired attachment experiences" in the early years, "inadequate play and communication with the parent/carer in later infancy" and "restricted or impaired opportunity to give purposeful attention and to investigate, explore and play" (Boxall & Lucas, 2010, p.202). These disturbances to early childhood experience are explained as the result of loss, bereavement, trauma or crisis within families.

1.4.2.2 *Children who need nurturing*

There is a further group of children who are thought to also benefit from NG provision but who are not nurture children as described above. These children are reported by Boxall & Lucas (2010) to fall into five broad groups, summarised here:

1. *Children from families under long-term stress.* Stress in the home may consist of, for example, chronic illness of a parent or sibling. These circumstances restrict the attention that is available to others and limit the child's normal developmental experience with their parents.
2. *Children who have experienced or are experiencing trauma.* This usually relates to the loss of a primary attachment relationship through a traumatic event that results in the child's inability to engage in the normal classroom experiences. The child may seem traumatised, anxious, angry or show obsessional behaviour. Often they will be dis-interested in classroom activities and unresponsive, with an impaired capacity to play. Their loss has affected their personal identity, which impacts on their behavioural functioning.
3. *Bereaved children.* Children who are bereaved can feel a sense of responsibility and blame, brought about by a parental withdrawal of interest and affection. Parents who have lost a child can display an intensity of protective attachment towards remaining children that can disrupt the child's sense of identity. These children may be placed in a nurture group with careful consideration to the group dynamics to ensure that the child can be adequately supported, or they may be referred to another form of school-based support.
4. *Children who are well cared for but whose parents are involved in time- and interest-consuming work.* These children often have to cope with many transitions and the loss of familiar support that can lead to confusion, resentment and anger. They may benefit from the support and attention that can be provided by the nurture group or another school-based resource.
5. *Children whose parents have refused psychotherapy.* Some children who are referred for psychotherapy may not be supported to attend by their parents, but parents

may, in this instance, sometimes reluctantly accept a part-time nurture group place for their child, which can go some way towards providing a safe place for the child to express their feeling and emotions.

Children who need nurturing are said to differ from nurture children in their level of development (Boxall & Lucas, 2010). While nurture children are developmentally operating below the expected level of a 3-year old, children who need nurturing have reached the normal developmental level for their chronological age but are in need of some sort of additional social and emotional support. There is a distinction to be made between 'nurture' needs and 'nurturing' needs that is largely defined by the child's cognitive competence (Boxall & Lucas, 2010). The labelling of children in such ways could, however, be deemed to be stigmatising. The researcher views the terminology as problematic, however these terms are used throughout this thesis to draw attention to the differing needs of pupils within NGs and to provide suitable reference to Boxall's philosophy.

Nurture classes are carefully designed using the children's BP scores to ensure that all children referred to the NG will have the opportunity to benefit from the group dynamics. Children communicate their needs in different ways and the group would not work if all of the children were loud and disruptive, or if they were all quiet and withdrawn. The NG teachers therefore will try to achieve a good balance of needs so that each child will feel secure and valued as a member of the group to give them the best possible chance of success. Children who have long-term needs or diagnosed conditions, such as Autism Spectrum Disorder, are not usually recommended for NGs due to the short-term duration of the intervention (typically two to three terms) being unable to meet their longer-term needs. However, in some instances, particularly pre-diagnosis, the NG may be able to offer short-term support where this is deemed appropriate (Boxall & Lucas, 2010).

1.4.3 The Nurture Group model

1.4.3.1 The Classic Boxall Nurture Group

The classic Boxall NG model provides the opportunity for up to ten to twelve children to learn in a small classroom setting, with two members of staff who have been specially trained in nurturing principles. Traditionally, NGs are staffed by a qualified teacher and teaching assistant, however it is not uncommon for modern NGs to be led by two teaching/pupil support assistants or early years practitioners who have received nurture training. The children attending NGs remain on the register of their mainstream class. In full-time NGs they will register with the class each morning, spend break and lunch times with their mainstream classmates and half a day per week in the mainstream classroom. The remainder of their time is spent in the NG, where they receive curricular teaching in addition to nurturing experiences appropriate to their individual stage of development.

The size of the NG is carefully controlled to allow a balance of individual and group experience, providing opportunities for close individual pupil and teacher contact in addition to group learning experiences. NGs accommodate boys and girls in a mixed group, although the nature of the referral criteria means that there are often more boys in the group than girls. Pupils may be referred into a NG from the same school year group or across mixed years, but the group will operate within certain parameters (typically 5-8 years of age). Each child is assessed, not only on their suitability for the intervention, but on the effect that their admission to the group will have on the other pupils in the group, with importance placed on balancing the mix of pupils who display acting-out or disruptive behaviour with those who are quiet and withdrawn.

The NG offers holistic provision, where the intuitive understanding and responsiveness of the NG teachers is a vital element. NG practice is informed by six clearly defined principles (Lucas et al., 2006):

1. Children's learning is understood developmentally
2. The classroom offers a safe base
3. Nurture is important for the development of self-esteem*
4. Language is understood as a vital means of communication
5. All behaviour is communication
6. Transitions are significant in the lives of children

**NG Principle 3 is now recognised by Nurture UK (2023) and Education Scotland (2023) as 'Nurture is important for the development of wellbeing'.*

These principles underpin the work of Nurture UK (formerly the Nurture Group Network), a registered charity operating across the UK to promote research and development of NGs and maintain the quality of their delivery. Nurture UK work to improve understanding of the connections between early childhood development and school learning through research, training and publications and aim to ensure that the nurture approach is available to all school children who need it.

1.4.3.2 Nurture Group variations

Outwith the confines of the classic Boxall NG model described above, NG variations operate in primary schools and in other settings, such as nursery schools, secondary schools and in the community. In recent years, NG variations have been established in other countries, most significantly in Malta. Four different types of NGs are identified by Cooper & Whitebread (2007):

1. *The classic Boxall NG* conforms to the model outlined by Marjorie Boxall whereby ten to twelve children attend the NG for nine half days out of ten, with the NG being run by a teacher and a teaching assistant trained in NG principles.

2. *New variation NGs*, adhering to the theoretical principles of the classic Boxall model but structurally differing by number of children, location, composition and time spent in the group. Many of these new groups operate part time with children attending as little as one half day per week. [It has become apparent in recent years that there are groups in this category that operate for shorter time periods].
3. *Social and developmental groups* using the name 'NG' but not established as part of the school's primary curriculum, these groups often take place outwith school hours and are led by non-teaching staff. The groups do not adhere to the Boxall NG principles or promote educational attainment as their objective, placing their emphasis on social development.
4. *Aberrant NGs*, which use the NG name but contravene the Boxall NG principles and do not assist developmental or academic gains.

This thesis will focus on NGs that adhere to the Boxall NG principles to inform their practice, including both Classic Boxall NGs and New Variation NGs. The focus will be confined to primary school settings, including those that incorporate a nursery class. NGs have, in recent years, been introduced to some secondary schools, however these groups use an adapted NG model and BP assessment and fall outwith the parameters of this study. An increased awareness of nurturing principles in educational policy and practice, with some schools classifying themselves as 'nurturing schools' will be discussed in light of the findings from this study.

1.4.3.3 The Nurture Group classroom

The physical location of the NG classroom within the body of the mainstream school is highlighted as an important feature for inclusive practice, allowing children in the NG to maintain contact with their peers (Boxall & Lucas, 2010). The NG classroom is designed and

organised in a manner that aims to provide a secure base, thereby containing the anxiety of pupils. Within the NG, educational and domestic experiences are balanced, with the aim of supporting pupils to develop relationships with NG staff and peers and providing opportunities for emotional and cognitive development.

In order to provide this unique balance of cognitive and domestic experiences the NG classroom layout typically resembles a nursery classroom. Areas of the room are set out for specific purposes and encourage small group activity, with common features including:

1. *A Welcome Corner* where the children assemble when they arrive in the NG. This area usually contains a sofa or other comfortable seating, a rug and cushions or beanbags, set out to resemble the living area of a family home. Often this area doubles as a story corner, where a bookshelf provides colourful picture story-books for shared reading and individual enjoyment.
2. *A House Corner* equipped with a small table and chairs, play kitchen and food, dishes and cooking equipment. This area provides opportunities to engage in domestic experiences and may also include child-sized versions of other items commonly found in the home, such as a vacuum cleaner, dustpan/brush, washing machine, iron/ironing board, or baby doll/cot/high chair.
3. *A Craft Table* where the children will find materials to draw, paint, model and create different kinds of artwork.
4. *A Learning Area* with desk and chair, such as may be found in a school classroom. This is an area where the children can engage with table-based games and activities, or take part in curriculum-based class work.
5. *A Snack Table* where everyone in the NG can come together to share breakfast or snack. The snack table feature is one of the most integral features of the NG classroom and provides an opportunity for children to learn to listen, share and take turns while enjoying the preparation and nourishment of a healthy snack.

1.4.3.4 The Nurture Group structure and routine

The amount of time that pupils spend in the NG varies across schools and it is yet to be established whether the amount of time that pupils spend in the NG each week, or the duration of the NG placement, affects their progress. Across the UK, NGs offer placements for pupils from as little as one hour per week to as much as nine half days per week, however regardless of time spent in the NG, consistent structure and routine are promoted as an important feature. NGs are designed as a short-term intervention that forms an integral part of the school, with the complete reintegration of pupils to their mainstream class intended after two or three terms.

Boxall (2002) promotes that the NG provides a safe and secure environment suitable for promoting social, emotional and cognitive development, where belonging, routines and clear boundaries sit alongside a variety of broad-based experiences (Boxall, 2002). A reliable and consistent approach to each session is promoted, with NG staff providing highly structured opportunities within a routinised learning environment, allowing pupils to learn at a slow-moving pace appropriate to their individual stage of development (Boxall & Lucas, 2010). Consistency within each session helps pupils to quickly learn the routine and to anticipate the nature and order of the activities that will take place each time they are in the NG. As they become more confident, emotionally secure and resilient, the pupils' capacity for cognitive learning is increased. Children identified with SEBN are routinely characterised by poor organisation, inattentiveness and high anxiety, and the NG is said to afford them a structured experience of attachment and support that in turn assists them to learn (Bailey, 2007).

Within the NG, ordinary experiences take place within a containing and safe environment that is said to have both therapeutic and educational value (Doyle, 2003). Individual NGs may differ in the specific educational and domestic experiences that they provide, however NGs, informed by common principles, tend to follow a similar routine with many opportunities for shared experience a common feature of all groups. For example, it is

normal practice for NGs to offer *snack time*, *circle time* and a *group challenge* which, although may differ in format between NGs, maintain consistent purpose and intended outcomes. Repeated and consistent routines using language to express feelings, encouraging interaction and promoting sharing and taking turns are features common to all NGs. Engaging in the same activities repeatedly, in the same environment, fosters responsibility and independence in the child through growing confidence in their own ability. Within NG routines, behavioural expectations are understood and there is less room for argument, therefore reducing stress in both the children and the adults (Boxall, 2002).

Vulnerable children, such as those referred to NGs, often have chaotic and unpredictable home lives and may encounter many transitions in terms of both people and places, resulting in difficulty with negotiating changes to their routine. Such unpredictability can create stress, however a positive school environment can help children to build resilience and ameliorate the effects of stress in their lives (Southwick et al., 1997). Children displaying SEBN who are considered to be suitable for NG intervention are assessed using the Boxall Profile prior to entry to the NG.

1.4.4 The Boxall Profile

The Boxall Profile (BP) is a standardised teacher-rated assessment tool, designed to identify emotional barriers to learning, plan focused NG intervention and measure change and progress in individual children. The BP works in tandem with NG intervention to provide assessment of children's SEB issues combined with a tailored solution to address them. When NGs were first developed, their founder Marjorie Boxall was instrumental in training the staff who worked in the new NGs to understand children's maladaptive behaviour as an expression of their underlying distress. Working as an educational psychologist, Boxall actively shared her knowledge and understanding of child development with NG staff. Over time the NG teachers grew in their experience and gained further insight into the barriers to learning experienced by nurture children and the reasons for their behaviour. They wanted to be able to investigate these barriers more closely and to find a way to measure the

progress of pupils attending their groups and it was from this desire that Boxall designed the BP (originally known as the Diagnostic Developmental Profile).

The BP was first standardised in 1984 and re-standardised in 2017 to produce an updated version, BP2017. Following re-standardisation, BP2017 shows slightly different norms for some strands, which may be accounted for by changes in children's actual developmental norms, or the fact that in 1984 the standardisation sample included children from ages three to eight years, while the updated version includes children from ages four to eleven years. Nurture UK recommends that practitioners and teachers start using the BP2017, other than for children whose baseline measure had already been obtained using the original BP. To assess the impact of intervention it is important that the same measure is used at beginning and end²⁰.

Boxall describes the structure and content of the BP as relying on the intuitive understanding of staff and not on any particular theoretical position, although the behavioural descriptors follow closely the developmental theories of John Bowlby and Jean Piaget. The BP consists of two sections, the Developmental Strands and the Diagnostic Profile, each comprising thirty-four statements that provide a comprehensive description of 'competently functioning children'. For both the Developmental Strands and the Diagnostic Profile the statements are coded and combined in groups to form descriptive measures of functioning. These measures are further categorised into clusters, two within the Developmental Strands and three within the Diagnostic Profile.

1.4.4.1 Boxall Profile Section I: Developmental Strands

The BP Developmental Strands measure the child's progress through the stages of pre-school development by identifying their level of social, cognitive and behavioural skills that

²⁰ In this study the measure used was the original 1984 standardised Boxall Profile

are considered by Boxall to be a requirement for school learning. Identification of strengths and weakness in these developmental areas allows NG staff to plan focused individual support for pupils. The premise of these measurements is that in order for children to learn purposefully in the classroom they must have successfully completed the pre-school stage of development and learning, thus allowing them to move forward to positive school-based learning. There are two clusters of measures in this section, *Organisation of Experience* and *Internalisation of Controls*, with each cluster comprising five strands that altogether include the 34 coded statements. Each statement is scored by mainstream teaching or support staff, usually the child's class teacher, based on their observations of the child over time, on a scale from 0-4 using the following descriptors:

- 0: Does not arise, not relevant
- 1: Not really or virtually never
- 2: To some extent
- 3: At times
- 4: Yes, or usually

An example of a statement taken from the 'gives purposeful attention' strand, which falls within the *Organisation of Experience* cluster, is "Listens with interest when the teacher explains something to the class." This statement has a coding letter 'A' and the other statements are similarly coded, from A to J. Sub-clusters coded A-E are clustered under the heading *Organisation of Experience* and sub-clusters F-J are clustered under the heading *Internalisation of Controls*. The descriptions and coding for each sub-cluster and their cluster allocation are detailed in Table 2.

Table 2. Developmental strands: clusters and sub-cluster description and coding

Developmental Profile Cluster	Sub-cluster description	Code
Cluster 1: Organisation of Experience	Gives purposeful attention	A
	Participates constructively	B
	Connects up experiences	C
	Shows insightful involvement	D
	Engages cognitively with peers	E
Cluster 2: Internalisation of controls	Is emotionally secure	F
	Is biddable and accepts constraints	G
	Accommodates to others	H
	Responds constructively to others	I
	Maintains internalised standards	J

When each of the statements have been scored by the teacher, they are allocated through a cluster analysis to a sub-cluster (strand) that provides a descriptive measure of the child's functioning. The strand scores are then totalled and plotted on the BP histogram. Each strand A-J has a maximum score of between 8 and 20, with irregularity in the maximum scores due to variation in the number of statements included in the scoring for each strand. Within each histogram column, a shaded area represents the "range of average scores in a sample of competently functioning children" (Bennathan & Boxall, 1998) that defines the level within which children in the 3-8 age range have been determined to be functioning where levels of SEB need are not established. This range allows comparison to be made between the child for whom the Boxall Profile is being completed and the 'average' child²¹.

A high score on the *Organisation of Experience* cluster describes a child who is organised and attentive and who shows purposeful and constructive involvement with people, events and ideas. A high score on the *Internalisation of Controls* cluster is said to describe a child who is emotionally secure, can make constructive, adaptive relationships and has the internalised control necessary for social functioning (Bennathan & Boxall, 1998).

²¹ In the later analysis sections of this thesis, the range of scores that relate to the 'average' or 'competently' functioning child are reported as the Average Functioning Child (AFC) scores.

1.4.4.2 Boxall Profile Section II: Diagnostic Profile

The BP Diagnostic Profile measures behaviours that are thought to inhibit or interfere with the child's satisfactory involvement in school. These behaviours are considered to be the outcome of impaired learning in the early years and provide insight into the child's difficulties. There are three clusters of measures in this section, *Self-limiting features*, *Undeveloped behaviour* and *Unsupported development*. The *Self-limiting features* cluster comprises two strands, the *Undeveloped behaviour* cluster comprises three strands and the *Unsupported development* cluster comprises five strands.

As with the Developmental Strands, each statement is scored by the teacher using the same scale of ratings from 0-4. An example of a statement from the *Disengaged* strand, which falls within the *Self-limiting features* cluster, is "Oblivious of people and events; doesn't relate; is 'out of contact and can't be reached.'" This statement has the coding letter 'Q' and other statements are similarly coded from Q to Z. Strands Q-R are clustered under the heading *Self-limiting Features*, strands S-U are clustered under the heading *Undeveloped Behaviour* and strands V-Z are clustered under the heading *Unsupported Development*. The strand descriptions and corresponding coding are provided in Table 3.

Table 3. Diagnostic strands: clusters and sub-cluster description and coding

Diagnostic Profile Cluster	Sub-cluster description	Code
Cluster 1: Self-limiting Features	Disengaged	Q
	Self-negating	R
Cluster 2: Undeveloped Behaviour	Makes undifferentiated attachments	S
	Shows inconsequential behaviour	T
	Craves attachment, reassurance	U
Cluster 3: Unsupported Development	Avoids/rejects attachment	V
	Has undeveloped insecure sense of self	W
	Shows negativism towards self	X
	Shows negativism towards others	Y
	Wants, grabs, disregards others	Z

Also in keeping with the Developmental Strands, each strand Q-Z on the BP has a maximum score of between 8 and 20. The shaded areas that represent the scores of competently

functioning children in this histogram are, in contrast to the Developmental Strands, towards the lower end of the graph, with a higher score indicative of more disruptive or inhibitive behaviours. The aim of the NG is therefore to reduce the scores across the Diagnostic Profile.

The BP Diagnostic Profile is intended to assist teachers to look at the child with new eyes, to imagine how the world appears from inside the child's head, and to consider what experiences and circumstances may lie behind their maladaptive behaviour (NGN, 2015). The Diagnostic Profile works together with the Developmental Strands to help the teacher to understand possible reasons for the child's developmental scores. For example, Bennathan & Boxall (1998) suggest that a high score in the cluster of *Unsupported Development* is indicative of a profound lack of early nurturing care.

The BP is typically completed as an assessment tool for children prior to entry to the NG and then at regular intervals to monitor the child's progress and to assess their readiness for reintegration to the mainstream class. The BP is usually completed by the child's mainstream class teacher and, despite its subjectivity, it is widely regarded as a reliable measure and is found to have a high level of concordance with the Strengths and Difficulties Questionnaire (SDQ) (Couture, Cooper & Royer, 2011). However, making sense of the BP requires teachers to have a clear understanding of child development and use of the Profile, such as that found in the nurture training detailed below (Section 1.4.5.1). There has been some debate around the competence of teachers to interpret what could be viewed as a medical or therapeutic tool (NGN, 2015). The BP holds a unique claim as a tool to both assess developmental delay and behavioural barriers to learning, in addition to providing an intervention planning system for practitioners. Although reportedly correlated with the SDQ and measuring reasonably comparable constructs in children with behavioural needs (Couture, Cooper & Royer, 2011), the BP stands apart as an educational instrument for planning and monitoring intervention as opposed to a simple screening tool. Created by and for educators, the BP identifies pupils' strengths and difficulties that could affect their

learning, and supports NG practitioners to develop strategies and techniques to help pupils reach their full potential (Nurture UK, 2023).

1.4.5 Professional training and accreditation

1.4.5.1 Training for Nurture Group professionals

Specialist training for NG professionals is highlighted as a key component of the successful establishment and delivery of NG intervention (Sloan et al., 2016). Training, publications and resources to support NG provision are provided by Nurture UK (www.nurtureuk.org).

The Theory and Practice of Nurture Groups training (Nurture UK) provides practitioners with a comprehensive understanding of the theory of nurture, and its significance and implications for good practice. The 3-day training course is credit rated by the Scottish Credit Qualifications Framework (SCQF) and is delivered online. Successful completion of the training, learning activities and assessed assignment leads to the award of 13 SCQF points at Level 8. The training is suitable for those who intend to establish a NG, practitioners working with children with social, emotional and behavioural needs, and staff wanting to embed a nurturing ethos in their education setting. Key topics covered in the course include:

1. The Six Principles of Nurture
 - The relevance of early childhood experiences on the learning, development, and wellbeing of children and young people.
 - How attachment theory and neuroscience underpin the Six Principles of Nurture and nurture practices.
2. The Boxall Profile
 - The theoretical basis for The Boxall Profile.
 - How to undertake a Boxall Profile Assessment and interpret its findings to plan a response to pupils' needs.

Nurture UK highlight the importance of training in the theory and practice of NGs to enable safe, structured environments in educational settings, designed to bridge the gap between home and school and create positive attachment to school. This specialist training helps NG professionals to establish and maintain explicit, uniform and predictable routine within NGs, supported by their knowledge and understanding, using evidence-based activities and practice. In addition to the above training, Nurture UK offer a series of webinars to support practitioners and settings deliver high quality nurture provision. The webinars provide:

- understanding and skills around the use of available resources to support staff working with children
- improved knowledge and support for running a successful NG
- information and support to apply for accreditation.

1.4.5.2 Accreditation for recognition of good practice

Two awards are provided by Nurture UK to schools that evidence successful implementation of nurture in their settings and fulfil certain quality criteria. The awards are assessed against a set of quality and performance standards, using the Six Principles of Nurture and linked to the use of the Boxall Profile assessment tool.

1. The Marjorie Boxall Quality Mark Award (MBQMA) provides recognition that a school is running a NG in a way that follows best practice guidance and principles.

Schools applying for this award are assessed against the quality standards and their clearly defined operational characteristics. The principles and characteristics are contained in the 'classic Boxall' model, informed by the work of Marjorie Boxall and trademarked by Nurture UK in 2017. Essential criteria for the MBQMA includes "at least one member of NG staff currently working with the children/young people must have completed Nurture UK Theory and Practice of Nurture Group training and passed the related assignment" (Nurture UK,

2022). Additionally, it is stated that it is desirable for more than one member of staff in the establishment to have completed the training.

2. The National Nurturing Schools Award recognises schools that have created a whole-school nurturing culture for the children and young people in their care.

This award is assessed against the National Nurturing Schools programme standards and covers the areas of stakeholders, delivery and leadership. The award evidences the implementation and embedding of a nurturing culture in a school that supports the social, emotional and mental health needs of pupils, alongside academic study. Accreditation by Nurture UK recognises specialist skills and good practice in NGs and schools, supporting reflective practice and helping to building the evidence base.

1.4.5.3 Trauma Informed Practice

Accredited training for NG staff is grounded in understanding the effects of adversity in childhood. In recent years, the Scottish Government has supported the development of the Trauma Transformation Programme²² to promote and implement trauma informed practice within Scotland. Being 'trauma informed' means recognising when someone may be affected by trauma and taking this into account in developing and delivering practice. Practitioners who are trauma informed respond to people who have experienced trauma in a way that prevents harm, recognises and supports resilience and supports them to recover (NES, 2023). Trauma Informed Practice is underpinned by the 5 R's:

- Realising how common the experience of trauma and adversity is
- Recognising the different ways that trauma can affect people
- Responding by taking account of the ways that people can be affected by trauma to support recovery

²² <https://www.traumatransformation.scot>

- Opportunities to resist re-traumatisation and offer a greater sense of choice and control, empowerment, collaboration and safety with everyone that you have contact with
- Recognising the central importance of Relationships

A Knowledge and Skills Framework and Practical Guidance Tool (NES, 2024) has been developed to support organisations in Scotland, including schools, to improve understanding of the impact of trauma on people's lives and know how to respond. Understanding and responding to adversity and trauma is embedded in NG theory and practice (Bennathan & Boxall, 2000; Lucas, 2010), and the '5Rs' of Trauma Informed Practice are demonstrated in NG standards, such as the six principles of nurture, the BP and accredited NG training. At the heart of both nurture and trauma informed approaches is a focus on wellbeing and relationships, and a drive to support the growth and development of children and young people (Education Scotland, 2024).

1.4.6 Description of a typical Nurture Group session

This section (1.4) has discussed NG rationale, models of NG practice, children who may benefit from NG attendance, the Boxall Profile assessment tool, and training for NG staff. To set the context for this study, a typical NG session for one of the schools participating in the study is described below.

1.4.6.1 NG staff

The NG is staffed by two NG practitioners who have received specialist training in the Theory and Practice of Nurture Groups (Nurture UK, see Section 1.4.5). This training is important to ensure that NG staff have in-depth understanding of child development, socio-emotional learning as a basis for school learning, nurture principles and evidence-based practice. It is recommended that at least one member of NG staff has undertaken this training, however in the schools participating in this study, the training was undertaken by

all NG staff. Two members of staff are always in attendance in the NG. This ensure that they can provide support for each other and allows them to model the positive, constructive interaction that they aim to develop between pupils.

1.4.6.2 NG pupils

Pupils are selected to attend the NG from the observations of the mainstream class teacher, suitability provided by the pupil's Boxall Profile measure, and discussion between the mainstream class teacher and the NG practitioners. When selecting pupils to attend the NG, practitioners are careful to ensure a balance of pupil needs and behaviours that will support effective operation of the group. The size of the NG is kept small (around 6 pupils based on current need, up to a maximum of 10) to ensure that pupils can participate in a broad range of activities, with opportunities to build positive relationships.

1.4.6.3 Session format

1. *Welcome Time* - Pupils and staff gather together in the story corner. NG staff lead an introduction to the session that includes: What day is it? What is the date? How are you feeling today? (pupils place a picture against their name to describe if they are feeling happy, sad, sleepy and are invited to say why). One pupil is asked to hand out the 'Challenge Books' (jotter containing written description of today's challenge). Pupil targets are identified and/or discussed. Each pupil reads out their challenge, supported by staff, before the books are collected and put away.
2. *Challenge Time* – Pupils take part in a group activity with other pupils and NG staff (board game, craft, creative play activity). Activities provide opportunities to practice social skills and progress individual targets (sitting still, sharing, taking turns, listening, completing a task). Activities are play-based and may include aspects of curricular learning informed by discussions with mainstream class teachers. However, the focus in the NG is on meeting early learning needs, particularly in

social and emotional development. Pupils are supported to learn at their own developmental level, with extra-curricular learning in the NG supporting them to gain the skills that they need to be able to access the curriculum.

3. *Free Play* – Pupils choose an activity from a selection set out in the room (painting, sand table, crafts, house corner, dressing up, construction toy, board and card games). New experiences and the development of social skills are encouraged.
4. *Snack Time* – All pupils and NG staff gather together for toast, juice and conversation at a table that is set by a pupil with a cloth, plates and cups. There is a rota for pupils to help with preparation for snack time (setting the table, spreading the toast, pouring the juice). Snack time is similar to a family breakfast and provides an opportunity for pupils and staff to eat together, and for staff to model and pupils to practice social skills. At snack time, everyone has the same food and drink and pupils learn to wait, take turns, co-operate, listen and communicate in a relaxed, social setting.
5. *Challenge Books* – Pupils remain at the snack table after the dishes are cleared away to complete their Challenge Books (drawing a picture in their book on today's page and describing their picture to one of the NG staff). This is an individual activity, which the pupil then shares with staff, bringing the opportunity to express themselves and explore their feelings or something that is important to them.
6. *Free Play* – A second opportunity for pupils choose an activity from a selection set out in the room (painting, sand table, crafts, house corner, dressing up, construction toy, board and card games). This provides pupils with an opportunity to return to complete an unfinished activity or explore something new.
7. *Conclusion* – Pupils and staff work together to tidy away toys and collect anything to take home (art or craft work). Pupils review with NG staff any targets that they have been set (often receiving a sticker to place on their chart where progress has been made) before returning to their mainstream classroom.

1.4.6.4 *Structure*

The NG session is organised around the needs of a young child, offering structure and routine within a slow-paced environment, where children can progress through the stages of early developmental learning. The context aims to provide opportunities to build supportive, trusting relationships with NG staff and peers through which social and emotional development can flourish. NG staff who have received specialist training understand the developmental experiences supported by NG intervention and their relevance for meeting the requirements of mainstream classroom learning (Lucas, 2010).

1.4.7 Concerns and criticisms of Nurture Group interventions

Debate surrounding Nurture Group intervention was introduced in Section 1.3.4.3 of this thesis, where the inclusion of pupils identified with SEBN in mainstream schools was considered. This section extends discussion of the debate around the inclusive or exclusive practice of NGs to consider wider concerns raised by NG critics and the responses of NG theorists, which fall broadly into three areas.

The first of these areas relates to the potential opportunity costs or gains of NG interventions. One of the key questions raised by NG sceptics is “What do Nurture Group pupils lose when they are separated from their peers?” (Howes et al., 2002). Section 1.3.4 of this thesis considers the inclusion of pupils identified with SEBN in mainstream schools and highlights a lack of consensus within education of what inclusion means. Howes et al. (2002) suggest that the NG itself does not deliver an inclusive form of provision and should not be viewed as the complete and only answer to meeting the needs of pupils who are struggling to learn in the mainstream class. Concerns are raised that the regular withdrawal of children from mainstream classes to form a separate group removes opportunities for positive peer influence and encourages the labelling of NG pupils as “naughty children” who deserve to be isolated from other pupils (Howes et al., 2002, p.109). This form of labelling is more likely to be prevalent in schools where NG pupils have limited interaction with their mainstream

peers (Howes et al., 2002), with NGs most likely to be effective when they form part of the mainstream school and are perceived as spaces that support the temporary transition of pupils (Cooper & Tiknaz, 2005).

NG theorists focus the debate not on what NG pupils lose, but on what pupils, staff and the whole school stand to gain through NG intervention in schools. Where effective links between NG and school are promoted and maintained, children and staff across the whole school are found to benefit from the whole school effects of a NG (Howes et al., 2002; Cooper & Tiknaz, 2005). Included within this is the development of a whole school nurturing ethos when a NG operates as part of the school (Lucas, 1999; Doyle, 2003; Sanders, 2007; Binnie & Allen, 2003).

Boxall & Lewis (2010) contend that NGs mitigate against children's disengagement from school and support the principles of inclusion by allowing children to access the learning curriculum at their own level of development, rather than according to their chronological age. The Boxall NG model promotes NGs as short-term intervention, with the aim for children to be reintegrated to their mainstream class after two or three terms in the NG. By providing "temporarily separated transitional settings" where barriers to school learning are removed or reduced, pupils are supported to cope with the demands of the classroom, allowing them to remain in school (Cooper & Tiknaz, 2007, p.15). The view could therefore be taken that short-term separation from their mainstream class can lead to long-term inclusion for children who may otherwise be unable to remain and learn within mainstream schools.

It has been suggested that removing children with SEBN from the mainstream classroom may dilute teacher responsibility to adapt their teaching and the environment to suit the needs of all learners. However, the opportunity that on-site NGs provide for mainstream teachers to learn about supporting all pupils in their classrooms, including children with developmental and behavioural needs, is identified as a potential whole school gain of NG

provision (Howes et al., 2002). Within the mainstream classroom setting, some pupils with SEBN are unable to participate constructively with school learning and this can affect not only their own learning, but the engagement of their peers. Mainstream classrooms support children with a variety of different learning abilities and needs, and NGs can improve staff resources and energy, helping school staff to meet the needs of all learners (Cooper & Tiknaz, 2005).

A second area of debate relates to perceptions of child and parent vulnerability, with criticism levelled at NGs around the use of language focused on individual vulnerability. Bailey (2007) proposes that this type of language can serve to increase vulnerability and disempower children, families and NG staff by exploiting family vulnerability, apportioning blame and labelling children as deficient. Despite the claim that NGs focus on “growth, not pathology” (Boxall, 2002, p. 10), Bailey (2007, p.17) contends that NGs adopt a “psycho-medicalised language of risk” that situates individuals and families as dysfunctional and measures growth against the parameters of “normal development”, “normal parenting”, and “normal learning experiences”. The narrative that surrounds NGs relating to trauma, attachment and self-esteem has been criticised for its over-reliance on a deficit model that highlights individual vulnerability (Bailey, 2007) and encourages NG children to view themselves as “fragile, uncertain and damaged” (Ecclestone & Hayes, 2008, cited in Colley, 2017). It has also been suggested that fostering deficit views of children and their families within schools can act to further distance parents, by encouraging judgemental views of staff and feeding into parents’ previous negative experiences with school (Kirkbride, 2012).

However, NGs are reported to provide opportunities for school staff to build positive relationships with pupils and families due to the unique NG setting (Billington, 2012) and to impact on the whole family by improving relationships between children and their parents and siblings (Cooper & Tiknaz, 2007). A study by Sloan et al. (2020) found that NG staff are proactive in seeking to build positive relationships with parents and carers, and the NG setting provides unique opportunities to build and nurture these relationships. Positive attitudes towards pupils with challenging behaviour, and families affected by challenging

circumstances, are identified by Howes et al. (2002) when NGs are connected to school through whole school policy and practice.

A third area of debate surrounds the financial cost of setting up and operating a NG. Some schools and local authorities can view this as a barrier to the operation NGs in school settings. Costs associated with running a NG include the initial set-up of the NG, ongoing practical resources and staffing costs. The cost of NG provision has been estimated in some publications, with examples provided of set-up and staffing costs (Colley, 2017) and cost per child (Boxall & Lucas, 2010; Sloan et al., 2016). The costs associated with NG provision are met by schools, and it can be difficult for schools to find funds to set up and maintain NGs when school budgets are becoming increasingly tight (Nurture UK, 2021).

NGs are found to be cost-effective and to provide more economic sustainability compared to other support provided for vulnerable children (Boxall & Lucas, 2010). An evaluation of the impact and cost-effectiveness of NGs in Primary Schools in Northern Ireland suggests that effective NG provision presents direct savings to the education system compared to the estimated costs of providing other additional educational services to children with behavioural needs (Sloan et al., 2016).

Despite evidence of the cost-effectiveness of NGs, these groups can struggle to survive in a restricted financial climate in schools. As discussed in Section 1.3.4.3 of this thesis, in Scotland some schools use their Pupil Equity Funding (part of the Attainment Scotland Fund) to deliver NG provision for children from low-income families who are struggling to engage with school learning. Nurture UK also promotes school fundraising and donations towards the running of a NG, with access to resources to support schools in such ventures.

1.5 Literature Review of Nurture Group processes and efficacy of intervention

A literature review was conducted to examine the evidence to support NGs as an effective in-school intervention for children displaying SEBN in mainstream schools and the processes by which positive outcomes are achieved. The review concentrates on the evidence base for NG intervention in primary schools and nursery schools in the UK in line with the focus for this study. NGs have been introduced in some secondary schools and in some schools out with the UK in the last two decades, informed by the evidence base developed from studies in UK primary schools. Many of these NGs do not conform to the operating principles of the classic Boxall NG and fall outwith the scope of this study. The following inclusion criteria were applied to identify relevant studies:

1. The study should include enquiry of Classic Boxall or New Variant NGs.
2. The study should report primary research.
3. The study should investigate NGs operating in UK primary school, nursery class within a primary school, or nursery school linked to a primary school.
4. The study should employ empirical enquiry to investigate the effectiveness of NGs and/or the processes by which effects are achieved.

A search of the electronic databases, British Education Index, Education Database, ERIC, PsycInfo, Medline, CINAHL and Web of Science, was conducted using the search term 'nurture group*' and the combined search terms 'nurture group'/'primary school*' and 'nurture group'/'nursery*'. As 'nurture group' refers to a specific intervention that is not known by any other name in the UK, it was not deemed necessary to employ any further search terms. Additional relevant literature was identified from further electronic searches, from Nurture UK online research publications, and by following up internal citations and references from the literature retrieved in the initial search. The search identified twenty-two primary research studies for inclusion that are summarised below (Tables 4 & 5).

Seven non-randomised controlled studies (Table 4) investigate the effectiveness of NGs, by comparing outcomes of pupils identified with SEBN in NGs with outcomes of pupils identified with SEBN in mainstream classes. The studies measure progress in social, emotional and behavioural development and/or academic progress in full-time and part-time NGs for pupils aged from four to fourteen years.

Each of the studies uses BP measures to show statistically significant improvement in SEB functioning, with two of the studies also showing statistically significant improvement on the Strengths and Difficulties Questionnaire (SDQ). Two studies additionally found a statistically significant improvement in academic attainment for NG pupils compared to pupils identified with SEBN in mainstream classes. In addition to the seven controlled studies, nineteen studies were identified that measured the effectiveness of NGs for children identified with SEBN, but did not use control groups (Table 5). These studies are typically smaller scale and use a variety of methods to measure improvement in SEB functioning.

Table 4. Nurture Group controlled studies

Author	Year	Sample	Focus	Methodology	Findings
Sloan et al.	2020	Pupils, n=384 (298 intervention, 88 control) Schools with NG, n=30 Matched schools without NG, n=14 Pupil ages, 5-6yrs	SEB development and academic outcomes in NG pupils compared to control pupils with similar levels of need and no NG intervention.	Assessment by BP, SDQ, school assessment scores, school enjoyment measure.	Positive stat.sig. improvements for pupils in intervention group across SEB outcomes, with reductions in negative behaviours and increases in prosocial behaviour. Limited evidence of change for control group. Smaller, non-significant, change in enjoyment of school. No evidence of effect for NGs on pupil's academic outcomes in literacy or numeracy.
Seth-Smith et al.	2010	Pupils, n=83 (44 intervention, 39 control) Schools with NG, n=10 Schools without NG, n=39 Pupil ages, 4-8yrs	Change in SEB functioning in NG pupils compared to comparison pupils with SEBD and no NG intervention.	Assessment by BP, SDQ & National Curriculum attainment measures in literacy & numeracy at 0 & 23 weeks.	Stat. sig. changes in NG pupils total SDQ scores and most strands of BP. Academic attainment, stat. sig. improvement for both groups but more consistent in NG pupils.
Reynolds, MacKay & Kearney	2009	Pupils, n=221 (117 intervention, 104 control) Schools with NG, n=16 Matched schools without NG, n=16 Pupil ages, 5-7yrs	Effects on SEB functioning and academic development in NG pupils compared to controls in matched school with no NG.	Pre test, post test 6 month interval, assessment by SDQ, BP, BIOS, Baseline Assessment for Early Literacy.	Stat. Sig. changes in NG pupils for all strands of BP and for BIOS. Improved academic attainment in NG pupils.
Scott & Lee	2009	Pupils, n=50 (25 intervention, 25 control) Schools, n=4 NG, n=4 Pupil ages, 4-10yrs	Effects on SEB functioning in NG pupils compared to controls not attending NG in same schools.	Pre-mid-post test comparison by BP, literacy, numeracy and motor skills assessment.	Stat. Sig changes in NG pupils for BP. Gains in literacy, numeracy and motor skills not significant. Most significant gains in younger children.
Cooper & Whitebread	2007	Pupils, n=546 (359 intervention, 184 control: 95 control with SEBD, 89 control without SEBD) Pupil ages 4-14yrs	Effects on SEB functioning, pupil progress and whole school effects.	Pre test, post test across 2 school terms using BP, SDQ. Parent questionnaire, teacher & parent interviews.	Stat. Sig. changes in BP for NG pupils in terms 1&2. BP not completed for controls. Control pupils with SEBD in schools with NG made greater progress than controls with SEBD in schools with no NG. Groups in operation more than 2yrs sig. more effective.
Sanders	2007	Pupils, n=26 (17 intervention, 9 control) Schools with NG, n=3	SEB and academic improvement and whole school effects.	Interviews with 7 pupils, 6 staff, parents from 2 schools. Questionnaire to 29 staff.	Sig. SEB gains on BP and reported academic improvement. Younger pupils made better gains.

Author	Year	Sample	Focus	Methodology	Findings
		Schools without NG, n=1 Pupil age, Year R & Key Stage 1		BP, naturalistic observation.	
Cooper, Arnold & Boyd	2001	Pupils, n=342 (216 intervention, 64 control with SEBD, 62 control no SEBD) Schools, n=25 Pupil ages, 4-10yrs	Effects on SEB functioning over 2yrs across whole group and across NG variants, effects on whole school, pupils and parental attitudes, effects on parental approach to pupils.	SDQ for all pupils, BP for NG pupils, Semi structured telephone interview for parents, face to face interview for pupils, National Curriculum assessment and teacher perception.	Interim Results: Stat. Sig. changes on BP and SDQ for NG pupils. Teachers perceptions of improved attainment, parents perceptions of improved behaviour and academic progress.

Table 5. Nurture Group non-controlled studies

Author	Year	Sample	Focus	Methodology	Findings
Edmunds	2021	NG pupils, n=16 Schools, n=4 Pupil ages, 7-10yrs	Children's views of their NG experience.	Semi-structured interviews, utilising photographs and pupil work to prompt conversation.	Pupils describe positive experiences in the NG that resulted in feelings of contentedness, capability and being valued. These feeling were related to having fun and more positive perceptions of self, moving from 'I can't do this' to a better awareness that 'I can do this'. Findings suggest that NGs support a sense of belonging and social identity.
Cunningham, Hartwell & Kreppner	2019	NG pupils, n=16 Schools, n=5 Pupil ages, 6-9yrs (mean age 7.35yrs)	Impact of NGs on pupil social skills.	Teacher & pupil report measures. Thematic analysis of semi-structured interviews with pupils.	Positive reliable change for 9 pupils in teacher-rated perceptions of their social skills. No reliable change for 4 pupils. Negative reliable change for 3 pupils (regression in social skills). Pupils enjoyed attending the NG and perceived that the NG helped them improve their social skills. Pupils reported challenges engaging with peers outside of the NG in the playground and mainstream classroom.
Gibb & Lewis	2019	NG practitioners, n=5 Schools, n=3	Nurture practitioner insights on how they make sense of their relationship with the nurture child. Aims to identify what makes a successful nurture relationship, and what challenges it.	Semi-structured interviews, analysed using grounded theory.	NG practitioners and NG pupils participate in a relationship journey that leads to a close and trusting relationship. The practitioner becomes attuned to the child's needs and emotions and this enables them to provide containment and support to the child. Challenges encountered by practitioners include increased emotional load that leads to practitioners seeking their own containment.
Cubeddu & MacKay	2017	NG, n=1 NG teacher, n=1 Mainstream teachers, n=4	Study of teacher behaviour to identify differences in practice between NGs and mainstream classrooms. Focus on frequency of occurrence of each of 6 attunement principles.	Observation by researcher in NG & mainstream classes. Two 60 min. observations in each of 5 settings gathered 10 hrs of observations over 2 week period.	The 6 attunement principles, both collectively and individually, were used significantly more frequently and more consistently in the NG than in the mainstream classes. Results suggest that teacher behaviour differs in terms of attunement between NG and mainstream settings.
Vincent	2017	NG, n=1 School, n=1	Evaluation of effectiveness of recently established part-time NG.	Emotional literacy assessment pre and post NG. Staff observation. Semi-structured interviews with staff, parents & pupils).	Reported improvement in pupil social skills, confidence, academic engagement & behaviour. Developing emotional literacy viewed as key to observed changes.
Shaver & McClatchey	2013	NG pupils, n=33 NG staff, n=5 NGs, n=3 Schools, n=3	Evaluation of impact of NG on pupils, teachers and schools.	Boxall Profile, semi-structured staff interviews, pupil focus groups.	Sig. improvement in Boxall scores (15 out of 20 items). Pupils reported positive experience of NG. Staff reported improved confidence, academic progress and behaviour in NG pupils, and building attachment with adults. Improved school culture.

Author	Year	Sample	Focus	Methodology	Findings
Billington	2012	NG, n=5 catering for pupils ages 5-11yrs	Establishment of theoretical model for qualitative evaluation of NG practice, examines the meaning and experience of NGs.	Thematic analysis of teacher narrative accounts.	Positive accounts of pupils who may otherwise be perceived negatively, value of establishing good relationships with parents. NG staff believe the NG offers unique opportunity to build positive relationships with pupils.
Bani	2011	NG, n=4	Examination of NG teachers' use and frequency of verbal and non-verbal praise.	Event-sampling observational approach, 60mins in each NG. NG verbal and non-verbal praise or behaviour was recorded at 60sec intervals, along with pupil responses.	Verbal praise was used twice as much as non-verbal praise across the 4 NGs. Most common form of verbal praise was specific praise on pupil behaviour or work, constituting 53% of all types of praise used. Eye contact was the most common use of non-verbal praise. More children tend to continue with appropriate behaviour when praise is non-verbal.
Ofsted	2011	NG=29 Pupils=379 Parents/carers=95	Efficacy of NGs, survey of provision.	Survey	Improved behavioural and social skills of NG pupils. Academic attainment varied and was not as strong as socio-emotional gains and in some cases pupils were 'falling behind'.
Binnie & Allen	2008	Pupils, n=36 Schools, n=6 Pupil age, mean 7yrs 2mths	Evaluation of part time NG.	Within group repeated measures assessment with BP, SDQ, BIOS, staff & parent questionnaire.	Sig. group improvement BP & SDQ and self-esteem on BIOS. Parents and staff report positive impact of NGs. Part time model does not compromise NG gains.
March & Healy	2007	Parents, n=250	Parental perception of NGs.	Questionnaire	Parental support for NGs, belief of positive impact of groups and improved parent/child relationship.
Kearney	2005	Pupils, n=14 NG=1 Control Group=1	The Impact of NGs on self esteem.	Pre-test post-test BIOS	Stat.Sig improvement in group BIOS
Cooper & Tiknaz	2005	Pupils, n=28 NG, n=3	Perceived effects of NG on SEB functioning and academic attainment.	BP, SDQ, 9 NG staff, 9 mainstream teachers & 3 head teacher interviews.	SEB improvement, academic attainment and whole school effects.
Gerrard	2005	Pupils, n=133 NG, n=13	City of Glasgow NG pilot scheme evaluation considering impact of NGs on staff and pupils.	BP, SDQ, staff questionnaire. Micro study using 2 control schools.	Indicates positive outcomes and suggests stat. sig. gains can be made. Suggests behavioural changes made in less than 18 months.
Doyle	2005	NG Pupil, n=1 NG, n=1 Pupil age, 5yrs	Case Study of 1 NG pupil.	Case Study	SEB and academic improvement leading to successful reintegration in mainstream class.
Colwell & O'Connor	2003	NG, n=1 Mainstream Class, n=1	Compares self esteem enhancement strategies and teacher communication in NG and mainstream class.	Observation and behaviour categorisation and frequencies.	NG teachers create an environment that facilitates learning & development. Suggests self-esteem is developed in climate where child feels safe and valued.

Author	Year	Sample	Focus	Methodology	Findings
O'Connor & Colwell	2002	NG Pupils, n=68 Schools, n=5 Pupil age, mean 5.25yrs	Effectiveness & rationale of NGs.	Pre test – post test measures on Developmental Diagnostic Profile and longer term effects after 2yrs re-integration to mainstream.	Sig. BP improvement, short-term improvements explained by developmental catch-up as result of attachment to NG staff. Incomplete long-term data, for data available improvements not maintained in half of sub-strands.
Bishop & Swain	2000	NG=1	Qualitative evaluation.	Semi-structured interviews with staff and parents.	Questions the efficacy and purpose of the NG in one specific school. Suggests exclusion within mainstream schools may be fostered under flag of inclusion.
Iszatt & Wasilewska	1997	NG pupils, n=288 Mainstream pupils, non-matched, n=20	Monitoring and evaluation findings, retrospective analysis of outcomes by interview.	Collation of longitudinal findings from studies of NG pupils from 1984 to 1998.	87% of NG pupils reintegrated to mainstream within one year, majority require no further SEN support.

Additionally, two systematic reviews on the effectiveness of Nurture Groups were examined (Hughes & Schlosser, 2014; Bennett, 2015). The existing literature evidenced four recurrent themes that are put forward by the authors as outcome measures and explanation for the efficacy of the groups and these are discussed here.

1. *Nurture Groups improve the social, emotional and behavioural functioning of pupils*

Children who are referred for NG intervention are considered to display SEBN, and improvements in SEB functioning remain the most commonly reported outcome measure when assessing the efficacy of the groups (Bennett, 2015). Controlled studies on NG outcomes are limited in number, totalling only seven studies across a twenty-year span from 2001–2020. Each of these comprised a non-randomised study comparing improvements in social and emotional functioning between pupils identified with SEBN attending NGs and pupils identified with SEBN in mainstream classes. All of the studies reported statistical significance in the SEB development of NG pupils as measured by the BP (Sloan et al., 2020; Seth-Smith et al., 2010; Reynolds, Mackay & Kearney, 2009; Scott & Lee, 2009; Cooper & Whitebread, 2007; Sanders, 2007; Cooper, Arnold & Boyd, 2001). In addition, three studies also reported statistically significant changes on total SDQ scores (Sloan et al., 2020; Seth-Smith et al., 2010; and Cooper, Arnold & Boyd, 2001). The seven controlled studies are summarised here chronologically to explore the trajectory of NG research and the value of research findings to current understanding of NG efficacy.

Cooper, Arnold & Boyd, (2001)

This paper provides the first robust empirical evidence of the effectiveness of NGs, by way of a summary of key findings from interim analysis of a national research study. The analysis was conducted on quantitative and qualitative data of pupils' performance in NGs over a period of two school terms. Two hundred and sixteen NG pupils were compared with sixty-four control pupils identified with SEBN and sixty two control pupils without SEBN, all matched on age, gender and academic attainment. The age range is four to ten years. Measures include the SDQ for all pupils and BP for NG pupils. Semi-structured telephone

interviews were conducted with parents and face-to-face interviews with pupils. Measures also included National Curriculum assessment and teachers' perceptions. The limitations of this report are highlighted by the researchers and particularly emphasise that the study is only half complete. Improvements that have been made cannot be assumed to be sustained and conclusions cannot be drawn about the benefits of different types of NG. Despite this, the interim results display statistically significant changes on the BP and SDQ for NG pupils, along with teacher perceptions of improved attainment and parents perceptions of improved behaviour and academic progress. The results are encouraging, not only for NG pupils but for perceived benefits to the whole school when a NG is present.

Cooper and Whitebread, (2007)

Following the interim findings (Cooper, Arnold & Boyd, 2001) reported above, this paper reports the conclusive findings from a large-scale national research study investigating the social and educational outcomes associated with NG placement between 1999 and 2001. Five hundred and forty six pupils aged between four and fourteen years of age were studied, with three hundred and fifty nine NG pupils matched with ninety five control pupils on age, gender, academic ability and SEBN, and eighty nine control pupils on age, gender and academic ability (no SEBN). The focus of the study considered the effects of NG intervention on SEB functioning, pupil progress and whole school effects. The design of the study was pre-test, post-test across two school terms using BP and SDQ measures, parent questionnaires, and teacher and parent interviews. Statistically significant changes in BP scores were found for NG pupils in terms 1 and 2, however the BP was not completed for control pupils. Control pupils identified with SEBN in schools with a NG were reported to make greater progress than control pupils identified with SEBN in schools without a NG, pointing to the possibility that the presence of an effective NG provides benefits to children displaying SEBN who do not attend the NG through the added value of work that these schools do with the wider SEBN population. Qualitative data from this study indicates that mainstream staff develop more nurturing approaches to pupils when they interact with NG staff and observe the tangible benefits of NG attendance in their pupils.

Sanders, (2007)

This paper presents the results of a NG pilot project that took place in primary schools in Hampshire. Three schools were selected to establish a NG and to provide data about the effectiveness of the NGs that would inform the development of nurturing approaches in other schools. A comparison school with a well-established approach to supporting children with SEBD was selected and matched for size, levels of social and economic deprivation, and levels of SEN. Measures included the BP, interviews with pupils, parents and staff, questionnaire for staff and naturalistic observation. NG pupils made significantly greater SEB gains compared to the comparison group. The greatest gains made by NG pupils were in the Developmental Strand of the BP and the authors suggest that this indicates the pupils had developed better skills to organise their experiences and control themselves. Although significant progress was made in most areas measured by the BP, progress was not significant in the strands R, S, U, Y and Z. The descriptors for these strands are: *self-negating, makes undifferentiated attachments, craves attachment and reassurance, shows negativism towards others, and wants, grabs and disregards others.*

Naturalistic observation in the NGs revealed improved concentration and levels of engagement in NG children during play and academic tasks. They appeared to play more purposefully, using planning and sequencing, and focusing their attention for longer periods. They seemed to develop better coping strategies during their time in the group and showed more willingness to accept adult requests. Teachers described the children who had been in the NG as having an enhanced capacity for reflective behaviour, better problem-solving abilities, and greater ability to accept boundaries and engage in turn-taking and sharing.

The study acknowledges the limitations of the small sample of seventeen NG pupils and nine control pupils, with the control sample being poorly matched for SEBN scores on the BP. Although this limits the validity and usefulness of the results, the authors report that the findings show consistency with the studies of Cooper et al., (2001) and Iszatt & Wasilewska (1997). The observation, interview and questionnaire data is subjective, relying on the observations and interpretations of the researcher and the perceptions of staff, parents and

pupils. However, the authors rightly assert that these perceptions offer valuable insight to aid understanding of the ways in which NGs work. The study highlights important areas for future research, notably the effectiveness of the intervention for pupils of different ages, and the transmission of gains made by NG pupils between the NG and mainstream environment.

Scott & Lee, (2009)

This study presents a pre-test, mid-test, post-test comparison of twenty five NG pupils and the same number of controls, matched on age, gender and academic attainment. The pupils were in the age range of four to ten years and were assessed over the course of one school year. The study explores the ways that the traditional NG model can be altered while continuing to deliver success in the promotion of social and emotional development, by investigating pupils across a broader age range attending part-time NGs.

Pupils were assessed using the BP and baseline assessments in literacy, numeracy and motor skills, with greater gains found in NG pupils than control pupils across all measures, but only at a significant level across BP scores. The baseline assessment measures for literacy were Concepts of Print (Clay, 1985, cited in Scott & Lee, 2009) and Phonological Awareness and Early Reading Skills (West Dunbartonshire Council, 2006, cited in Scott & Lee, 2009). The Simon Strategy (1989, cited in Scott & Lee, 2009) was used to provide baseline assessment in early number skills and motor skills, and the Goodenough draw-a-man test (Goodenough, 1926, cited in Scott & Lee, 2009) also provided baseline assessment in motor skills.

Results displayed more significant gains across all measures for younger children than older children, with the greatest gains being made in the first two terms in the NG. The researchers suggest that the findings show part-time NG provision to be effective for children with social and emotional needs, while highlighting the limitations of a part-time provision for older children and the likelihood that extended exposure to the intervention is

required for older children whose behaviours have become entrenched over a long period of time.

Reynolds, MacKay & Kearney, (2009)

This Glasgow NG study assessed emotional and behavioural changes in NG pupils, along with the effects on academic attainment. Using matched controls in schools with no NG, and a pre-test, post-test six month interval quantitative assessment by SDQ, BP, Behavioural Indicators of Self Esteem (BIOS) scale, and Baseline Assessment for Early Literacy, the study compared 117 NG pupils with 104 pupils in mainstream classes. Sixteen schools with NGs were matched with the same number of schools with no NG, based on number of pupils and socio-economic status. The participants were matched for SEB functioning and were within the age range from five to seven years.

The authors highlight the limitations of existing studies and attempt to address some of these in this large-scale study, particularly by adopting a highly formalised procedure for selecting controls. Pupils were assessed pre-test and post-test, with a time interval of six months. Across all five clusters of the BP, significant benefits were shown for NG pupils compared to the control group. The BIOS showed significant benefits for NG pupils compared to controls, however there were no significant results measured by the SDQ. The authors confirm the effectiveness of NGs to improve emotional and behavioural functioning. This study provides the first large-scale research in NGs in Scotland and, despite some limitations, provides encouraging results.

Seth-Smith et al., (2010)

This study comprised a non-randomised pre-test, post-test between-groups design to compare children attending full-time NGs to a comparison group. Participants attended mainstream infant and primary schools in semi-rural and outer city areas with high levels of social and economic deprivation, and consisted of 44 NG pupils in 10 schools and 39 mainstream pupils in control schools. Participant ages ranged from 4 to 8 years and pupils

with a learning difficulty or who spoke English as an additional language were excluded from the study. The comparison group pupils were selected based on meeting the need for NG attendance but being unable to attend due to schools lacking space, funding or staff. Measures used for assessment were the BP, SDQ and the National Curriculum attainment in Literacy and Numeracy.

The researchers report three sets of outcomes: SEB improvements measured by the BP, SEB improvements measured by the SDQ, and academic achievement. The study shows good matching of pupils across groups for gender and ethnicity, although the NG pupils were younger and had lower levels of academic attainment at recruitment. When comparing outcome variables, both of these influences are controlled for. SDQ scores showed no decrease over time for both groups considered together, but the decrease for NG pupils was greater by comparison to the control group. The total SDQ sub-scales for both groups showed no change over time, however the change between baseline and end of intervention was significantly greater in the NG pupils on 3 of the 5 sub-scales. NG pupils declined in peer problems and increased in pro-social behaviour significantly more than the comparison group. A significant time by group decrease of hyperactivity was found in NG pupils but no change was found in conduct difficulties. There was no significant time by group change on the emotional difficulties scale.

The findings from this study support the hypothesis that SEB functioning would improve in NG children compared to the comparison group. In line with findings by Meltzer (2000), the results show increasing levels of emotional difficulty and conduct problems in pupils not receiving the intervention. However, contrary to expectations, improvements in emotional or conduct problems in NG pupils were not identified. The researchers suggest that the overall decrease in SEBN may be due to improved social skills, with improvements in academic progress appearing to protect pupils from risk factors associated with academic failure, such as low self-esteem. The NG pupils showed the most marked improvement in social functioning, however it was not possible to determine whether these pupils were originally characterised more by social difficulties than emotional and conduct difficulties, or

whether emotional difficulties may have been addressed later with increased time spent in the NG. Additionally, it is possible that emotional difficulties may not be accurately assessed by the measures used. This study highlights improvements in social functioning as the main mechanism of change in NGs but notes the limitations of the study, with the authors suggesting further investigation of the attachment paradigm that informs the groups and more sensitive measures to evaluate the different facets of SEBN improvement and identify the key mechanisms of change. This would enable educationalists to build on the most effective aspects of the groups.

Sloan et al., (2020)

This study reports the findings from a large-scale evaluation of the effectiveness of NGs in improving outcomes for pupils identified with SEBN in Northern Ireland primary schools. A sample of 384 pupils, aged 5-6 years, from 30 schools with NGs and 14 matched schools with no NG participated in the study. The findings form part of a larger study that also included secondary analysis of existing data from pupils who had previously participated in NGs, qualitative interviews with key professionals, parents and pupils, NG observation and a cost-effectiveness analysis. The findings from these additional measures are not reported. The aim of the study was to determine the SEB and learning ability improvements for NG pupils, both within the NG and after reintegration to their mainstream class. Additionally the study was concerned with the cost-effectiveness of NGs in achieving their objectives. The NGs studied included 10 established groups and 20 recently established NGs.

Matched schools included in the study had below average attendance levels, below average attainment at ages 5-6yrs and 10-11yrs, above average number of pupils with SEN, and above average percentage of pupils eligible for free school meals, matching the criteria for schools receiving NG funding. Measures included the BP, SDQ, school routine attainment score recording on communication, mathematics and ICT, and self-report of pupil enjoyment of school using a bespoke Likert-scale measure of 11 aspects of school. For analysis purposes, data from the two intervention groups were combined to improve

comparison between intervention and control groups, accounting for the differences in existing and new NGs.

Findings display clear and consistent evidence of SEB improvement for NG pupils compared to those in the control group on both the BP and SDQ. Large effects were found on both the *Development Strand* and *Diagnostic Profile* of the BP. On the SDQ, large effects were found on the *Total Difficulties* and *Prosocial Behaviour* scores. Positive effects were not displayed on the SDQ *Conduct problems*, *Emotional symptoms*, *Peer problems* and *Hyperactivity* scores. Exploration of pupil-level variables suggests that positive effects of NGs were found for pupils regardless of individual characteristics of gender, age, first language, social deprivation, behaviour at entry to group and whether they were 'looked after' or known to social services. Although pupils made positive improvement regardless of their baseline score, those pupils who had lower baseline scores were found to make greater progress.

This study provides a significant contribution to understanding the effects of NGs on SEB functioning through detailed analysis of a large-scale study. A significant new contribution to the literature is provided by evidence that suggests NGs achieve the highest effects for pupils with the greatest SEB need on entry to the NG. The authors highlight that understanding of how and why positive effects of NGs are achieved remain unclear, and suggest that further exploration and theorisation of attachment in a school context is needed to build on out-dated existing theoretical explanations. Recommendations for further research include the tracking of longer-term academic outcomes for NG pupils and examination of the benefits of parental engagement in NGs.

Non-controlled studies

In addition to the findings from the above controlled studies, there are numerous examples of improvements in SEB functioning in NG children found in non-controlled studies. These smaller-scale studies, despite their limitations, display a trend of improved behavioural and social skills in pupils attending NGs. A variety of measures are employed, ranging from

individual case studies (Doyle, 2005) to micro-studies, utilising interviews (Edmunds, 2021; Cunningham et al., 2019; Vincent, 2017; Shaver & McClatchey, 2013; Cooper & Tiknaz, 2005; Bishop & Swain, 2000), questionnaires (Binnie & Allen, 2008; March & Healy, 2007; Gerrard, 2005), observation (Bani, 2011; Colwell & O'Connor, 2003), Boxall Profile and/or SDQ measures (Shaver & McClatchey, 2013; Binnie & Allen, 2008; Cooper & Tiknaz, 2005; Gerrard, 2005) and narrative accounts (Billington, 2012). Findings from these studies report improved behavioural and social skills of NG pupils and highlight the value of NG intervention in building positive relationships with pupils and, in some cases, parents.

Binnie & Allen (2008) report on a study carried out in six part-time NGs in primary schools in West Lothian, Scotland. The BP, SDQ and BIOS were employed to measure the impact of NG intervention on thirty-six children, with a mean age of 7 years 2 months. Each child attended the NG on four mornings per week and it was argued that this offered a greater degree of inclusion within the school without compromising the gains to individual pupils or to the whole school. Assessment data was collected pre-intervention and post-intervention, with the duration of the intervention being eight months, and the data was collated into a school mean score and an overall mean score. All schools increased their performance on both the Developmental and Diagnostic strands of the BP, with significant increases for both found at a group level. Additionally, the overall group mean score for each of the five BP clusters increased significantly following the intervention. All schools reported a positive change in pupils' social and emotional development, assessed by both teacher-completed and parent-completed SDQ, with a significant change reported for the overall group. Parent and staff questionnaires highlighted the positive impact the NG made on pupil's social and behavioural functioning. Examples that are provided of staff comments include:

“the quieter children have become more confident. The more challenging children are more settled and more aware of how to behave in a class situation.” (*Binnie & Allan, 2008, p.211*)

“They appear to be much more confident and much less noticeable in terms of negative behaviour.” (*Binnie & Allan, 2008, p.211*)

The authors find that the part-time model does not compromise NG gains in SEB functioning, and allows schools to meet Curriculum for Excellence requirements by providing a streamlined intervention through pre-school and early primary school.

Cooper & Tiknaz (2005) report on the findings from analysis of interviews with NG teachers, NG teaching assistants, head teachers, mainstream teachers and NG children in two infant and one primary school in the Midlands. This study forms part of a three-year, long-term, longitudinal study (see *Cooper & Whitebread, 2007*). NG teachers were found to conceptualise pupils’ progress in different ways. The different dimensions of progress that they reported were behaviour, self-esteem and confidence, and engagement in classroom learning and literacy, numeracy and social skills. The majority of mainstream teachers believed that individual NG pupils had made positive progress in their SEB functioning. The most frequently reported improvements in pupils’ behaviour and social skills, in order of frequency of reporting, were:

- Pupils’ willingness to participate in what was going on in the classroom
- Increased self-esteem
- Improvements in confidence
- Improved ability among pupils to initiate conversations with peers
- Reduction in pupils’ displays of ‘acting out’ behaviour
- Improvements in pupils’ self-management of anger and becoming calmer

The case studies provided by the three schools support the view that the removal of the SEB barriers to pupils’ engagement with school learning is the primary function of NGs. In

keeping with the limitations of other small-scale studies, these findings cannot be generalised to other schools and NGs, however provide useful insight for NG practice.

Doyle (2005) reports on a case study of a five-year old boy attending a classic Boxall NG. The study is largely descriptive and follows the pupil's journey over three terms in the NG. BP scores with a twelve month interval are presented as raw data and, despite showing clear improvements across both the Developmental and Diagnostic strands, the author's claim that the scores had "improve significantly" (Doyle, 2005, p.9), there is no statistical analysis provided to support this claim. The paper is however worthy of note for the detailed descriptions of the pupil's observable behaviours and anecdotal reporting of the NG teacher and parent's perspective. While providing valuable discourse on NG practice, the study lacks methodological rigour and therefore provides limited value to support the evidence base for NG efficacy.

O'Connor & Colwell (2002) considered the effectiveness of NGs to help children identified with SEBN remain in mainstream schools. They report on sixty-eight pupils, with a mean age of 5.25 years, attending full-time NGs in two infant and three primary schools in the London Borough of Enfield. The mean length of attendance in the groups was three school terms. Each pupil's entry and exit scores on the BP were examined, and results displayed by overall group report significant improvements in each sub-strand of both the Diagnostic and Developmental profiles. On the developmental profile, the greatest overall improvement was displayed in the sub-strands '*Participates constructively*' and '*Accommodates to others*', relating to cognitive and emotional development. On the Diagnostic Profile, the most significant changes were displayed in the sub-strands '*Disengaged*' and '*Avoids/rejects attachment*'. The authors explain the short-term improvements in SEB development as being consistent with a "developmental catch-up interpretation", effected by the NG pupils making secure attachments to NG staff (O'Connor & Colwell, 2002, p.98).

This study additionally reports on the long-term effect of NGs, with the results of data from twelve of the original sixty-eight pupils after reintegration to mainstream classes for at least two years. The mean time lapse from NG exit was 2.67 years. This data provides less clear results. Despite no significant difference being found in sixteen out of twenty strands on the BP since NG exit, showing that there had been no significant relapse in SEB improvements that were made in the NG, there is evidence of relapse in four strands (3 from Diagnostic Profile and 1 from Developmental Profile). The areas of relapse are: *Connects up experiences*, *Undeveloped/insecure sense of self*, *Shows negativism towards others*, and *Wants, grabs, disregards others*.

The results from comparisons of data from the pupils' NG entry and the follow-up at least two years after exit show only a significant improvement in half of the BP strands. Despite improvements being shown in all of the BP strands individually, ten out of twenty did not reach a level of significance. The authors suggest a number of reasons why the results of NG entry and long-term follow up scores display variable outcomes. Firstly, drawing on Bowlby (1965), they suggest that deprivation onset at an earlier age may be more severe and therefore more resistant to long-term change. Additionally, they suggest that some of these pupils may require continued nurturing support once they return to the mainstream classroom, particularly if their home circumstances remain unchanged. Recognising the link between school and family life, they suggest that the success of school interventions may be dependent on support also being provided within the family environment. Overall the study provides evidence to support positive SEB development of pupils in NGs and evidence that these changes can be maintained longer term.

Summary of key findings relating to improvements in SEB functioning

Much of the literature described above was included in two systematic reviews of the effectiveness of Nurture Groups, conducted by Hughes and Schlosser (2014) and Bennett (2015). These reviews highlighted improvements in SEB functioning as the primary focus of NG studies, with consensus among studies that NGs can have a positive impact on SEB functioning, specifically in the short-term. There is, however, a lack of longer-term data that

would provide evidence that SEB gains made in the NG are sustained in future years. Findings by O'Connor and Colwell (2002) show that some improvements can be maintained, and their insights to the circumstances in which this is possible are worthy of further investigation.

All studies that reported SEB gains for pupils relied mainly on teacher-rated measures, specifically the Boxall Profile. Reliance on the BP as a measure depends on the subjective interpretation of the person who completes the ratings. Particularly where long-term results are reported, there is the possibility of rater variability within the results. Where improvements are reported on the BP, findings indicate that the greatest improvements are made on developmental strands, suggesting that children whose challenges feature in the Developmental Profile measures are more likely to benefit from NG intervention (Bennett, 2015). The literature shows that all children do not make the same progress in the NGs and different children make improvements in different areas of development. It is not clear which children are likely to make the most developmental or behavioural gain and whether gains that are made are dependent on child characteristics, or teacher or NG practice.

Pupils appear to make SEB improvements in the NG regardless of their level of need on entry to the group, with the greatest SEB improvements being made during the first two terms. Recent findings, however, suggest that the greatest SEB improvements are made where pupils have the greatest need (Sloan et al., 2020).

Across two decades of NG research, evidence surrounding improved SEB functioning of pupils has progressed from the reporting of broad SEB gains for pupils identified with SEBD attending NGs compared to pupils identified with SEBD in mainstream classes, to closer inspection of specific areas of improvement, along with wider school gains. There is little consensus on common areas of SEB development or understanding of the key ingredients of change. Bennett (2015) highlights the need for further research to understand the optimal conditions for NG success that will allow NG practice to be adjusted accordingly.

2. Nurture Groups improve the academic attainment of pupils

Pupils identified with SEBN are reported to have high levels of under-achievement in the academic skills of literacy and numeracy (Farrell et al., 1999; Place et al., 2000, cited in MacKay et al., 2010). NGs cater for pupils who find it difficult to engage with learning in the mainstream classroom and who can quickly fall behind their peers with academic learning. Difficulties experienced by NG pupils may be compounded by speech, language or communication difficulties, issues with motor control, or other hindrances to traditional classroom learning.

Although the full-time classic Boxall NG model incorporates National Curriculum learning as a prominent feature of its practice, many groups, although still adhering to Boxall principles, now operate part-time, and literacy and numeracy learning sometimes takes a 'back seat' to the socio-emotional aspects of learning. The assumption by teachers is reported to be that improvements in behaviour will ultimately lead to improvements in other, more academic aspects of learning (HMIE, 2009). Many NGs do not routinely collect data to support their impact on pupil attainment in English language or mathematics (HMIE, 2009) and mainstream class teachers have, in some cases, reported concerns that pupils who attend NGs can find themselves falling further behind their peers with academic learning (Ofsted, 2011).

Two large-scale controlled studies of NGs have reported substantial gains in the general academic attainment of NG pupils (Reynolds, MacKay & Kearney, 2009; Seth-Smith et al., 2010). Seth-Smith et al. (2010) found an increase in teacher-rated general academic attainment scores that is significant for both nurture and control groups, however improvements were more consistent among NG pupils. Reynolds, Mackay & Kearney (2009) report that the results of their study show significant academic gain in NG pupils. Three factors of the BP together predicted over 50% of the variance in academic gains, with the main predictor being improvement in the strand of '*Unsupported development.*' It is suggested that high scores on this strand represent a profound lack of early nurturing care leading to poor experiences and poor development of attachment (Bennathan & Boxall,

1998). The authors suggest that this highlights the importance of attachment to academic attainment. The other two predictors of the variance in academic gain are '*Organisation of experience*' and '*Internalisation of controls*', with the authors suggesting that NGs provide a theoretical and practical foundation to address emotional, behavioural and academic needs of the most vulnerable children. A further small study in Scotland provided teacher reporting of pupils achieving academic progress following NG intervention (Shaver & McClutchey, 2013), although no evidence is provided to support this.

Research conducted in a recently established part-time NG highlighted staff reporting of improved engagement of NG pupils in academic tasks, although levels of academic achievement were not measured (Vincent, 2017). Greater academic focus was also reported within the pupils' mainstream classes, with all five class teachers in the study perceiving that the NG pupils were more academically engaged following NG attendance. For some teachers, even modest improvements in academic focus were heralded as an important step forward, against a history of disengagement.

A small-scale controlled study by Scott and Lee (2009) compared gains in literacy, numeracy and motor skills in twenty-five pupils attending NGs and twenty-five control pupils. They found the aggregated gains for each of these measures were greater for NG pupils than control pupils, however the gains were not at a significant level. The authors assert that the importance of this finding should not be overlooked. Despite the gains not reaching a significant level, the NG pupils were able to maintain and in some cases surpass the level of progress made by their peers. This finding helps to address the concern that pupils who are removed from their mainstream class to attend a NG will be disadvantaged academically by having less access to the formal teaching curriculum. Although this is encouraging, the finding is limited by the information that is reported by the authors.

The pupils in this study attended a NG on a maximum of five half days per week, and it is not known what curriculum-based learning was available to them in the NG, or what learning

they were missing while absent from their mainstream class. Poor communication between NG staff and mainstream teachers is highlighted as problematic in the assessment of academic gains made by NG pupils (Cooper & Tiknaz, 2005). In a series of case studies, exploring the experiences of pupils in NGs in three schools in the Midlands, this study reports mainstream teachers lack of knowledge of what pupils were doing in the NGs and lack of data provided to them by NG staff on the academic gains of pupils. The NG staff were responsible for working on literacy and numeracy with pupils during their NG sessions and despite unsubstantiated data, the mainstream teachers in general perceived academic improvements across both areas.

Preliminary research findings from the University of Leicester NG Research Project (Cooper, Arnold & Boyd, 2001) report on teachers' perceptions of NG pupils' educational progress in English, Maths and Science, and parental perceptions of their child's educational progress. Data from teachers indicates that progress is being made, and these perceptions are echoed by parents, however there is no comparative data to substantiate the claim. Teacher perceptions of academic attainment were also gathered in a small-scale, non-controlled study in three schools with NGs, with two-thirds of teachers reporting that the NG pupils had made academic gains (Sanders, 2007). The teachers noted that the NG pupils appeared more able to work independently and were better motivated to complete academic tasks. Naturalistic observations made within the groups showed that pupils' interest in academic tasks improved over time, with interest being defined by the pupil asking frequent questions and offering responses.

In 2011, an Ofsted report detailed the findings of a survey that aimed to analyse the elements of a successful NG. The findings are the result of inspection visits to twenty-nine schools in England to explore their NG provision between November 2010 and March 2011. The report notes that almost all of the pupils in the NGs in all schools surveyed were working below the academic level expected for their age. The reason given for this is because the pupils were not taking a full part in mainstream lessons. It is reported that the amount of academic learning taking place in the NGs varied from school to school. In the

‘best’ schools, plans were made to ensure that both the class teacher and the NG staff knew who was responsible for each aspect of the pupil’s learning. In schools where this happened, pupils were assisted to make good progress with both their behaviour and their academic learning. In schools where this did not happen, pupils did not achieve optimum academic progress and missed out on important aspects of the curriculum.

Despite the scarcity of robust evidence of academic gains made by NG pupils that can be directly attributed to their attendance in the NG, consistent reports of SEB development are thought to provide a foundation from which it is reasonable to expect academic gains to be made (Mackay et al., 2010). It can also be argued that where schools report a ‘whole-school effect’ from the provision of a NG in their setting, it is likely that this effect will be manifest in improved academic attainment across the whole school, in addition to the other benefits of a whole-school ethos reported by the likes of Lucas (1999), Doyle (2003), Sanders (2007) and Binnie & Allen (2008). The reasons given by teachers for the improvements in academic focus of NG pupils, both within the NG and also in the mainstream class, such as improved concentration, perseverance and motivation to achieve, provide insight to the skills developed in NGs that help pupils to engage and achieve in school.

3. Nurture Groups assist positive relationships between pupils, staff and parents

NGs reportedly encourage children to build positive relationships with teachers and peers (Billington, 2012; Cooper & Tiknaz, 2007; Reynolds, 2009) and the development of these relationships is described by Cefai and Cooper (2011) as “one of the most powerful processes evident in Nurture Groups”. Using narrative methodology, Billington (2012) set out to capture evidence of the unique claim made by NGs, that children who have experienced social and emotional difficulties in early childhood can be assisted to build their own positive relationships through the strength and quality of their relationships with NG staff and that this, in turn, will improve their well-being and attachment relationships. Evidence from the study suggests that NG staff believe that NGs afford a unique opportunity for staff to build positive relationships with children and with their parents that would not be possible in other settings. In addition, they firmly believe that these new relationships

assist positive change in the lives of children with social and emotional difficulties (Billington, 2012). However, Billington (2012) suggests that there is a requirement for methods and frameworks of evaluation that can “acknowledge and represent the quality and value of the relationships and experiences enjoyed by children and their teachers in NGs” (Billington, 2012, p.329).

Cooper et al., (2001), while acknowledging the difficulties in obtaining reliable pupil perceptions, report positive references made by pupils to the quality of interpersonal relationships in the NG. Although the nature of these relationships is not identified, the authors note that the pupils reported their fondness for the NG staff. Naturalistic observations made by Sanders (2007) in NGs over three terms revealed that the quality of pupils’ interactions with their peers and with NG staff improved greatly over time. Although no formal measures of quality were used, the author makes this assertion from observing the pupils increased ability to take turns and to accept and follow adult requests. During interaction with their peers there was more collaborative play and children developed better negotiation skills, could point out the rules of play and compromise. Additionally they appeared to have better coping strategies to help them deal with frustration. Classroom teachers also reported improved relationships between the NG pupils and their peers, with NG pupils showing greater confidence and improved friendships over time. The reasons given for this improvement are that the children had learned how to express their feelings more effectively, to empathise with their peers, to reflect on their own behaviour and engage in problem solving. The pupils themselves also reported that they had better friendships by the end of their attendance in the NG.

Cooper & Tiknaz (2005) interviewed teachers and NG children and found that NG staff attached importance to the emotional dimension of the nurture pupils’ experiences and recognised their own responsibility to help shape these experiences in positive ways. The NG teachers reported using a transactional, rather than directional style of interacting with pupils, and the authors assert that the quality of the relationship between the teacher and pupil, and the establishment of trust, are crucial to such positive interaction. Interpersonal

relationships were highlighted as a key component of active participatory engagement in NGs, where learning and teaching are co-constructed between teacher and pupil.

A single case study by Doyle (2005), reported earlier in this section, describes the ways that NG staff encouraged peer relationships in the NG for a pupil with extremely challenging behaviour. The report describes the close monitoring and contact of the NG teacher with the case study pupil, playing alongside the children and modelling play behaviour and social skills. The paper describes how the NG teacher structures activities and pays careful attention to positive role modelling from staff and other pupils in the NG. The conclusions are limited by the descriptive and subjective nature of the study, and lack of empirical evidence, yet provide some valuable in-depth observations of NG processes that are currently lacking in the literature, particularly in relation to how security and trust are established as a foundation for further development.

Sloan et al. (2020) employed the SDQ as one of a range of measures to understand social and emotional development in 5-6yr old pupils in 30 schools with NGs and 14 matched schools. It was found that NG pupils in larger schools had higher peer problems scores than those in smaller or medium sized schools compared to the control group. This study also considered the relationship between NGs and parents, noting that the NGs proactively sought to build and nurture their relationships with parents and carers by inviting them into the NG, spending time with them, and sharing strategies and techniques employed in the NGs that could also be used at home.

O'Connor & Colwell (2002) also report that the NG focus is on developing secure and trusting relationships within the groups, however they take this idea a stage further by suggesting that as the child develops a new, positive relationship with the NG teacher, the teacher becomes a substitute attachment figure. This concept is explored further in the next section. Pupils in the intervention schools were also found to have improvement in prosocial behaviour following NG intervention.

Only one study reports peer relationship issues, finding that NG pupils reported challenges engaging with their peers outside of the NG in the playground and mainstream classroom (Cunningham et al., 2019). Pupils in this study expressed their improved confidence within the NG, reporting that they valued the opportunity to experience making and having friends in the NG, suggesting that the peer relationship issues were not as a result of attendance in the NG, but that the NG had not helped to improve them. The authors note that it was unknown whether pupils' playground experiences were better, worse, or the same after attending the NG. Sanders (2007) provides potential insight, finding that NG pupils established more friendships in their mainstream class but that improved social skills were not transferred to the playground. Cunningham et al. (2019) suggest that the inability to transfer improved social skills to the playground are, to some extent, not surprising. The contrast between the small, safe and secure NG environment and a large, busy, noisy playground could prove challenging for any child. The NG also does not address children's social environments, such as peer perceptions, that may impact on a pupil's ability to employ newly learned social skills in a different setting. Furthermore, the possibility is raised that NG attendance could have negatively impacted on pupil's continuity and inclusion in the playground (Cunningham et al., 2019), raising concerns about the inclusiveness of NG practice in primary schools.

4. Nurture Groups address key attachment difficulties in pupils with social, emotional and behavioural difficulties

Attachment Theory (AT) is referred to frequently in the NG literature with such references falling into three categories: (1) a means to understand the nature and cause of the difficulties experienced by NG children, (2) a theoretical tool to inform the NG conceptual framework, and (3) an explanation of the processes that inform NG efficacy. Categories (1) and (2) are addressed throughout this thesis in discussion of the nature, assessment and support for pupils displaying SEBN. Category (3) provides insight to the literature and evidence surrounding NGs as an 'attachment intervention' and the prospect of providing explanations for the SEB outcomes of NG intervention and the processes by which these outcomes are achieved and is explored here.

1.5.1 The use of Attachment Theory to explain the processes that inform NG efficacy

The use of Attachment Theory (AT) within NG literature to explain the processes by which SEB improvement is achieved falls broadly into two categories; (1) NGs act as a secure base from which the child can explore and learn, and (2) NG processes provide the opportunity for children to build or repair attachment relationships. These categories are explored in turn.

1) Nurture Groups provide a secure base from which children can explore and learn

Within NG literature, the understanding that NGs provide a secure base for children is discussed with reference to either the NG staff and/or the Nurture classroom acting as the secure base. Hughes and Schlosser (2014, p.388) report that the adults in the NG act as a safe base, providing the opportunity for children to build secure attachments to the adults and that this, in turn, enables the 'rewriting of internal working model scripts'.

Such discussion, however, tends to fall within the broader NG literature, such as books and discussion papers, that attempt to address the theory and rationale of NGs. Within the limited range of NG empirical studies, reference to this aspect of NGs is mainly found in the introduction to the study and takes the nature of secondary reporting of information. Cooper & Whitebread (2007, p.173) present an introductory overview of NGs, describing them as providing pupils with an "educational bridge" to placement in a mainstream class. They propose that this "bridge" is achieved by combining the provision of academic learning with the features of a caring home environment. The authors further suggest that the NG model, whereby two adults work in tandem to model positive social interaction and cooperation within a predictable routine, draws on AT to inform practice. Colwell and O'Connor (2003) also propose a link between home and school, describing the Nurture room as providing a safe environment for children outwith the home.

Valuable insight to the relationship between NGs and AT is made by Reynolds et al., (2009) who draw on findings from their large-scale controlled study in Glasgow primary school NGs to cautiously report a possible link between attachment and attainment. Most importantly, the authors discuss the theoretical and practical implications of applying an attachment-informed intervention in an educational context. Significant academic gains are reported for NG children, with reference to the effectiveness of NGs in providing a suitable context for such progress to be made (Reynolds et al., 2009). Using a stepwise multiple regression with the change in baseline scores as the criterion variable and the change in scores for each measure on the BP, the SDQ and the BIOS as the predictor variables, three factors were identified that together accounted for over 50% variance in academic improvements. The main predictor was the BP cluster '*Unsupported development*', with the other two predictors being the BP clusters '*Organisation of experience*' and '*Internalisation of controls*'. The '*Unsupported development*' cluster forms part of the Diagnostic Profile and a high score on this strand is said to be commensurate with a profound lack of early nurturing care leading to negative experiences and poor development of attachment (Bennathan & Boxall, 1998).

The other two predictor clusters come from the Developmental Profile, being the '*Organisation of experience*' cluster which describes a child who appears "organised, attentive and interested, and is involved purposefully and constructively in events, people and ideas" (Bennathan & Boxall, 1998) and the '*Internalisation of controls*' cluster which describes a child who appears "emotionally secure, makes constructive, adaptive relationships, is able to cooperate with others, and has internalised the controls necessary for social functioning" (Bennathan & Boxall, 1998). Although not explicitly stated, the authors appear to suggest that by applying the theoretical principles of AT to an educational intervention, NGs facilitate improvements in missing emotional and behavioural aspects commensurate with secure attachment, and that these improvements in turn assist NG pupils to engage with learning with resultant academic gain.

2) Nurture Group processes provide the opportunity for children to build or repair attachment relationships

There is much reference made to the opportunities that NGs afford children with poor attachment relationships from infancy to build or repair attachments, however exploration or shared understanding of who these attachment relationships are with, how they are formed and what value they bring remains unclear. Such assertions are generally made in the wider NG literature and in the introduction or background information to primary studies, and evidence of attachment outcomes for NG children from empirical studies are limited.

A study by Cooper & Tiknaz (2005) gathered the views of teachers and found that they used words such as ‘bonding’ and ‘attachment’ to describe the ways in which trust is established and relationships are developed between NG staff and pupils. The authors assert that by creating new child-teacher attachment systems, children who have been deprived of positive emotional experiences in the early years, with resulting insecure attachments, are assisted in their development. NG teachers, as attachment figures, are reported to act as “potentially significant agents of change” (Seth-Smith et al., 2010).

Colwell and O’Connor (2003) describe the nurture room providing a safe environment outwith the home, in which new attachments are made to caring and supportive adults. The same authors, reporting on BP scores obtained from 68 infant and primary school pupils in full-time NGs, found statistically significant improvement in behaviours on the BP reported to be indicative of the secure attachment that pupils made to NG staff. There is no evidence provided to support these conclusions, however the most significant short-term changes in BP scores were found on the Diagnostic Profile strands Q (*Disengaged*) and V (*Avoids/rejects attachment*). This provides limited evidence to support the assertion that secure attachments have been developed between NG pupils and staff.

A further line of enquiry considers whether NGs assist pupils to develop a form of educational attachment. Cooper (2004) suggests that NGs work carefully to encourage the development of trusting and caring relationships between adults and children in the NG, with a primary focus on the learning of pro-social skills and developing the child's engagement with curricular tasks. It is further proposed that early developmental processes associated with attachment needs in infancy are incomplete in NG children on reaching school age and that NG practice uses insights from AT to develop carefully structured intervention, that does not copy or replace the parent-child attachment relationship, but develops an attachment to school. They propose that this 'school attachment' is achieved by ensuring a minimum group size of around ten children to prevent inappropriate child-adult attachments being formed, along with providing a careful balance of intensive one-to-one interaction and group activities. The importance of the NG structure is emphasised, with AT providing insights into the developmental opportunities provided by the predictable daily routine, staff modelling of positive behaviour, the activities provided and the NG breakfast. Each of these opportunities are said to be carefully designed to provide the essential learning experiences of infancy that NG children have missed out on and that are considered essential to provide the social and emotional foundation for school learning.

Although attachment relationships form the basis of much of the wider NG literature, Boxall and Bennathan (2000) propose that steps should be taken, such as maintaining the number of pupils in the NG at around ten, in order to avoid undue attachment being created between pupils and the NG or NG staff.

1.5.2 Discussion of the findings of the literature review

The findings of the literature review reveal that within the domain of NG intervention there remain relatively few empirical studies, undertaken by a small body of authors, to assess the efficacy of the intervention. While the available evidence overwhelmingly supports NGs as an effective intervention to improve socio-emotional development and school engagement in some pupils, it is not clear how these gains are accomplished or whether they are

maintained. Additionally, concerns are raised around the practice of NGs and where they fit as an educational and/or therapeutic intervention. Absent from the literature is any coherent understanding of pupils' NG experience or of individual outcomes for the vulnerable population for which they are developed.

The methods used in existing primary controlled research studies include: the examination of BP scores (Sloan et al., 2020; Seth-Smith et al., 2010; Reynolds et al., 2009; Scott & Lee, 2009; Cooper & Whitebread, 2007; Sanders, 2007), SDQ measures (Sloan et al., 2020; Seth-Smith et al., 2010; Reynolds et al., 2009; Cooper & Whitebread, 2007), BIOS measures (Reynolds et al., 2009), literacy and/or numeracy assessment (Seth-Smith et al., 2010; Reynolds et al., 2009; Scott & Lee, 2009; Cooper et al., 2001), qualitative interviews (Cooper & Whitebread, 2007; Sanders, 2007) and observation (Sanders, 2007). The most frequently reported outcomes concentrate on SEB improvement measured by the BP and total SDQ score, with improvements in social functioning widely recognised as the primary mechanism of change. However, these outcomes fail to identify the different facets of SEBN that NGs assist and how this impacts on educational engagement. Mackay et al., (2010) highlight the relevance of understanding the mediating factors in NG efficacy, that is, the developmental factors that are addressed by the groups that lead to enhanced school performance.

The BP is used as a measure of SEB development in each of the controlled studies of NG effectiveness in primary schools. This measure provides an appropriate assessment tool, having been standardised for use with pupils displaying SEBN in the 3-8 years age range, (4-11yrs for BP2017) and was developed to provide an assessment tool for a child's suitability for NG intervention, as well as a monitoring tool for their SEB development in the group. The BP provides a teacher-rated assessment, designed to identify emotional barriers to learning, plan focused intervention and measure change and progress in individual children (NGN, 2015). All of the reported studies found improvements for NG children on the BP. Existing primary studies have, however, limited the use of the BP to providing group outcome measures, which allow for comparison of outcomes between intervention and control groups, but fall short of a range of measures that would inform understanding of

individual differences for pupils attending the groups, or the aspects of the groups that assist specific areas of development. Seth-Smith et al. (2010) highlight a need for more sensitive measures to identify the key mechanisms of change within NGs. An understanding of the processes that underpin the efficacy of the groups would provide opportunities to build on the effective aspects of the groups, both for enhancing NG practice and across broader educational dimensions.

Links to attachment are made frequently in the NG literature, however closer inspection reveals varying perspectives on the use of the word 'attachment' by different authors, along with the thoughts and ideas that lie behind its use. NGs are said to have their basis in Attachment Theory (Doyle, 2001) and are commonly referred to as an 'attachment intervention', informed by John Bowlby's (1969) Attachment Theory and with their practice and subsequent success attributed to their theoretical underpinnings (Billington, 2012). NGs aim to provide a learning environment centred on attachment and trust, with opportunities for shared experience similar to those experienced between parent and child. The dominant school of thought appears to be that, by providing the environment and experiences that have been missing in childhood, NGs allow pupils to build attachment relationships with the NG staff, and that in turn these relationships assist children's development and engagement with learning. Cooke, Yeomans & Parkes (2008) describe the development of secure attachments as the principal emphasis in a NG, with this process being achieved by the provision of a secure base, staff modelling of positive behaviour and social skills, predictable routines and developmentally appropriate activities, in a group where pupil numbers are limited and children's transitions are recognised as important. The authors do not make clear with whom these attachments are made, however the processes that they detail align with other reports of the processes that help to build child-teacher attachments.

According to Boxall & Lucas (2010), it is through NG staff modelling of the interactive process that is normally found in child and care-giver relationships in infancy that strengthened child-teacher attachment relationships develop. This theme runs through much of the NG literature (see Colwell & O'Connor, 2003; Cefai & Cooper, 2011; Seth-Smith

et al., 2010). In addition to the overwhelming emphasis on pupil-teacher attachment as a facilitator of change, Cefai and Cooper (2011) suggest that NGs allow not only for the development of attachment between pupils and staff but among the pupils themselves. This literature review did not find any evidence to support this claim, although limited findings of improved relationships between pupils both within the NG and with their peers in the mainstream class were identified (Sanders, 2007; Shaver & McClatchey, 2013).

NGs were not originally developed from any specific psychological theory, in fact Marjorie Boxall was resistant to psychological and educational theorists definitions of her NG practice. She insisted that the practice she had developed in NGs was based, not in theory but in the practitioner's 'informed intuition' allowing them to 'be and do' for nurture children as they would for their own young children (Lucas, 2019). The development of Attachment Theory (Bowlby 1969), at around the same time as NGs were first introduced, provided valuable insight into the difficulties that children may encounter in the earliest years of life, providing a means to better understand social and emotional difficulties and explain the reasons for associated behavioural difficulties of NG children (Bennathan & Boxall, 2000; Cooper & Tiknaz, 2007). Garner & Thomas (2011) observe that the main premise of Marjorie Boxall's NG approach is based on the belief that experiences in the early years affect children's social and emotional behaviours in later years.

Children who are referred to NGs typically display behaviours that are developmentally inappropriate for their chronological age (Gerrard, 2005). Marjorie Boxall's thoughts, when faced with many school-aged children who displayed behavioural and emotional difficulties, were directed towards the likelihood that these children may have attachment issues with their primary care-giver (Gerrard, 2005). Over time, NG children have frequently been reported to display 'attachment difficulties' (Billington, 2012; Gerrard, 2005; Cooper, 2004; Seth-Smith et al., 2010), which Bennathan & Boxall (2000) suggest are a result of their deprivation of positive emotional experiences in the early years. Children referred to NGs typically present as either quiet and withdrawn or displaying acting-out behaviour. According to Cooper (2004), the difficulties they display are typically commensurate with

attachment difficulties, having reached school age without completing the developmental processes in infancy that are essential to meet their attachment needs. Marjorie Boxall believed that if teachers could see all behaviour as communication, and look behind the behaviour to understand the reasons for the child to act this way, then they could plan individually tailored assistance. By addressing the child's underlying needs, she believed that their resulting behaviour would naturally be addressed.

Attachment relations and Attachment Theory persist as dominant explanations for the effectiveness of NGs despite limited evidence to support these claims. No studies have been carried out to measure the attachment of NG pupils and theoretical explanations appear to rely on the original work of Bowlby, with no regard to theoretical advances to his Attachment Theory that have been made over the last three decades. Examination of the theoretical explanations for NG practice and efficacy were carried out to establish where further research could prove beneficial.

1.6 Examination of theoretical explanations for NG efficacy

1.6.1 The underlying principle of Nurture Groups

Marjorie Boxall recognised that children who were displaying behavioural difficulties in the earliest stages of primary education had often been brought up in homes where harsh social circumstances deprived them of the early nurturing care considered necessary for optimal socio-emotional development. Boxall witnessed the negative effects of poverty and stress on family relationships and the difficulties faced by mothers and children living in such circumstances. Mothers under stress were often too pre-occupied, or suffering from their own mental ill-health, to be able to involve themselves in positive interaction with their babies, or to respond to their babies' physical and emotional needs (Bennathan, 1997). Even in less stressful or disadvantaged circumstances, Boxall recognised that babies and infants could be deprived of essential nurturing care by parents who themselves had not received

such care in childhood, and thus did not have the emotional resources necessary to attend to their own child's needs (Bennathan & Boxall, 1996). Deprived of the early learning experiences required for successful social functioning and educational engagement, children from such households struggled to integrate to the primary school classroom environment, communicating their frustration through disruptive or withdrawn behaviour. Challenging the widely held belief at that time, that the effects of a bad start in life could not be overcome, Boxall proposed that children could be assisted to overcome these effects if the way they were treated by schools could be changed.

When Boxall set up her first NGs, her aim was not to blame or label children as deficient in some way, but to change the outlook and practice of primary schools and teachers to meet the needs of all of the children who walked through their doors (Bennathan & Boxall, 2000). Boxall's thinking stemmed from her experience working with children affected by poverty, deprivation, family conflict and resulting stress, and a particular experience with a young school child referred to her with behavioural difficulties encouraged her intuitive understanding of the processes that could give assistance to such children. Boxall, working as an educational psychologist, met with the child in school where they went into the nursery classroom, as this was the only room available at the time.

It is not difficult to envisage the setting as nursery classes tend to be furnished in a similar way. It is likely that the room would be welcoming, displaying brightly coloured pictures, words and the children's own works of art on the walls. The tables and chairs would be 'child-sized', as would the play equipment such as a 'mini' cooker and ironing board, maybe a small bed or comfortable sofa. There would be a variety of activities available for young hands and minds to explore, such as paints, craft materials, building blocks and many more familiar and appealing items. The story of what happens next is told in the words of Marjorie Boxall, as to change or paraphrase them would lose the implicit engagement with and understanding of her experience:

“After a friendly exchange, I drew him towards two jumbo-size cushions. I sank into mine, but he lay back on his and smiled, and after a momentary touch, in a purely reactive way, I picked him up, and with his head on my shoulder, walked round the room with him. As with a very young child, I exclaimed with pleasure at the walls of the nursery and named the objects in them: ‘Look, a man’ (pause) ‘and a dog’ (pointing), and so on. I had, in fact, responded intuitively as a mother would to her own child at that early developmental stage” (*Boxall, cited in Cline, 2004*)

Marjorie Boxall realised that what this child required before he would be able to function in a school classroom was ‘nurturing’ – to be able to progress through the stages of development that had not been successfully achieved prior to entering primary school. This intuition was the foundation of the first experimental NGs in 1969 that aimed to “re-create in school the total experience of a normally developing child from babyhood onwards” (Bennathan & Boxall, 2000, p.8).

Today the underlying principle in NGs remains the same; that of responding to the child at their own level of development, allowing them to express their needs in a way that may not be allowed or acknowledged in a primary school classroom, and assisting the child to develop trust and self-confidence to enable them to become better organised and ready for formal learning (Bennathan & Boxall, 2000). The process is modelled on the child’s normal development from birth, creating the world of earliest childhood within the classroom and allowing the child to experience the normal processes of early childhood development that they have been unable to complete in their own homes due to social and environmental influences. The child is not, however, seen as deficient or viewed negatively, rather they are accepted as a child who, in other circumstances, would have developed within normal parameters, and will be able to do so in future if they are assisted within a nurturing environment. The NG is therefore translating understanding of the early developmental processes of childhood into educational practice, based on a belief that in order to progress to the next stage of learning the child’s needs must have been met at the earlier stages (Bennathan & Boxall, 2000).

Although based on intuition, Boxall was undoubtedly influenced by the advancing field of study of early child development, drawing on both the ethological work of Harlow (1958) and Lorenz (1952) and the psychiatric work of Rutter et al., (1975) to translate understanding to a new form of educational practice (Bennathan & Boxall, 2000).

NGs have been linked variously to the theoretical understandings of Brofenbrenner, Maslow, Piaget, Vygotsky and Bowlby. Contemporary NG literature relies most heavily on the links between NG theory and practice and Bowlby's Theory of Attachment. At the time that the first NGs were being established, despite growing understanding of the importance of the early mother-child relationship and relational experiences in infancy, coming from the fields of ethology, psychology and psychiatry, this understanding had not yet been translated into educational policy and practice.

Bennathan and Boxall, the NG pioneers, stress that NGs were not intended to demonstrate a theoretical position, but to respond to increasing pressures faced by primary schools, evolving as a joint project between a psychologist and primary school teachers to address these pressures (Bennathan & Boxall, 2000). From a study of the literature, it is only in more recent years, since the first NG publications by the likes of Bennathan (1997), Iszatt & Wisilewska (1997) and Bishop & Swain (2000) that the benefit of hindsight has enabled formal links to be made between NGs and Attachment Theory.

1.6.2 Nurture Groups and the theories of Brofenbrenner, Maslow, Piaget and Vygotsky

1.6.2.1 *Brofenbrenner's ecological systems theory*

Developmental Psychologist, Urie Brofenbrenner is most widely known for his ecological systems theory of child development. His theory develops understanding of the ways in which a child's inherent qualities and their environment interact to influence and shape

their growth and development. Brofenbrenner (1986) suggests that children are intuitively social beings and their development is a social process in which the family is the central context for learning and development. He proposes that individuals develop amongst a network of social relationships, with children's development being influenced by their family relationships, school relationships, and other cultural and social relationships around them.

Garner and Thomas (2011) suggest that Brofenbrenner's theory could explain some aspects of NG efficacy, by providing an environment in school that reflects children's experience at home. Additionally, effective and supportive communication between the NG, school and home can, they assert, provide supportive links between systems around the child that are representative of Brofenbrenner's (1979) systems theory. Taylor and Gulliford (2011) identify the unique potential of NGs to bridge home and school, linking this notion again to Brofenbrenner's (1979) theory. Establishing positive links to communicate with, and support parents is considered an essential part of the nurturing approach (Boxall & Lucas, 2010). Despite parental perceptions and perspectives being the primary focus of only two NG studies (Taylor & Gulliford, 2011; March & Healy, 2007), findings from these and other studies support NG intervention as providing benefits to children's relationships and families that extend beyond the nurture classroom.

1.6.2.2 Maslow's Hierarchy of Needs

Psychologist Abraham Maslow is widely recognised for his theory of human motivation based on his model of a five-level hierarchy of basic human needs (Fig. 2). He describes the hierarchy being made up of five needs – physiological, safety, love, esteem and self-actualisation (Maslow, 1943). These needs are ordered in ranking of prepotency, with Maslow promoting that each stage requires fulfilment before progression can be made to the next stage.

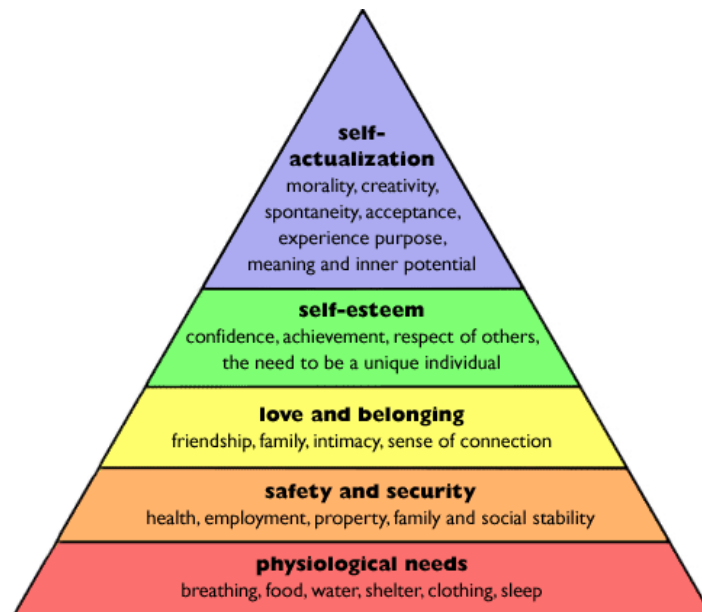


Figure 2. Maslow's Hierarchy of Needs

At Stage 1 Maslow describes the biological and physiological needs that are a requirement for human survival: air, food, water, shelter, warmth and sleep. This is the first of four levels of deficiency needs which Maslow (1943) initially stated must be satisfied before progress could be made to higher level growth needs. According to Maslow, the deficiency needs describe a deprivation of vital elements that we are motivated to fulfil, and only once fulfilled can attention move to the next need. Once the basic survival needs are met, progress can be made to Stage 2, where the needs of safety and security, such as health, employment, property, family and social stability become a priority.

It is only once all of these basic, individual needs are met, that Maslow suggests progression can be made to a level of need that involves others. At Stage 3, the need for love and belonging describes the importance of relationships by recognising the human need for friendship, family, intimacy and a sense of connection. Here we see an insight into early psychological understanding of the human need for connection and building relationships. Maslow asserts that this need must be met before a level of self-esteem at Stage 4, involving confidence, respect for self and others and the desire for respect from others, and independence can be strived for. The final level at Stage 5, is self-actualisation. This is

described as a growth need, coming from a desire to grow as a person, and can only be achieved once all of the deficiency needs have been satisfied.

Following the conception of his hierarchy of needs in 1943, Maslow continued to review and refine the model. His most notable revisions surround the fluidity of the model. Maslow (1987) asserts that, while he had originally suggested that each stage of needs must be satisfied 100 percent before the next level may be addressed, he was now of the belief that the level of need must only be 'more or less' satisfied. This means that, allowing for individual differences, progress can be made upwards on the hierarchy by partial fulfilment of any of the stages, providing that the needs are fulfilled to a level that allows the individual to satisfactorily dispense of the salient need. The need must therefore no longer be deficient at a level that takes precedence over higher level needs, however the level of deficiency that must be fulfilled can be different for individuals. Additionally, Maslow noted that progress through the stages is not always linear and may be disrupted by a failure to meet lower level needs. Individuals may fluctuate between levels, moving back and forth as life events such as bereavement, loss or redundancy, disrupt progression.

The relevance of Maslow's work to NG theory and practice is thought to relate to the requirement for infants to go through a nurturing process that will equip them with the ability to meet their individual psychological needs through social interaction and allow them to gain the level of social competence that is required in a mainstream classroom. If this nurturing process is disrupted then the infant's ability to understand and regulate their behaviour, communicate with others, and form meaningful relationships, will be impaired (Cooper & Whitebread, 2007). Referring directly to the link between Maslow's hierarchy of needs and the NG approach, Cooper, Arnold and Boyd (2001) argue that NGs cater for pupils who have difficulty achieving a sense of safety and security, with such difficulties obstructing their access to the higher level needs of affiliation, self-esteem and self-actualisation. NGs, they report, operate in the context of meeting the pupils' safety and security needs first, as a foundation for satisfying higher level needs. Cefai and Cooper (2011) highlight that it is only once a child's basic physical and emotional needs are met that

they can achieve the higher needs of self-reliance, autonomy and self-esteem. They describe how a child's educational motivation and learning is hampered by unmet security needs, which act as a barrier to development and manifest themselves in anxiety and difficulty forming social relationships.

Maslow's theory is reported by Garner and Thomas (2011) to be considered a bridge between a psychodynamic approach and an educational pragmatic approach to development. They highlight the provision of 'breakfast' as a core element of NG practice, satisfying the basic physiological need of hunger at Stage 1 of Maslow's hierarchy. At Stage 2, they assert that security needs can be met through the NG providing a "safe haven" for children (Garner & Thomas, 2011, p.209). The translation of Maslow's theory to NGs is further explained by Kearney (2005 p.3), who additionally asserts that Maslow's hierarchy of needs forms part of the conceptual framework underpinning NGs:

"....if a child is not properly fed, does not feel that they are cared for, has no sense of belongingness or positive self-esteem, then it is impossible for them to engage with other elements of life, for example, education. Their focus will lie elsewhere, and until these elements are satisfied they will be unable to concentrate on acquiring skills such as basic literacy."

It is clear that the NG model provides the opportunity to fulfil the growth needs described by Maslow at Stages 1 to 4 of his hierarchy, and despite the assertion by Bennathan and Boxall that NGs were not created to support existing theory, we now have the opportunity, based on over twenty years of NG research, to relate NG practice to psychological theory in order to better understand the efficacy of the intervention.

1.6.2.3 Vygotsky's socio-cultural theory of learning

Vygotsky's (1978) theory stresses the fundamental role of social interaction in the development of cognition, emphasising the role of social learning as a precursor to development. The Vygotskian view of learning takes a sociocultural perspective, considering developmental change to be the product of collaboration between an active child and an active social environment. The importance of a sociocultural theory of learning for understanding the theory and practice of NGs is recognised by Cooper and Whitebread (2007) who highlight social interaction as the foundation for cognitive strategies in learning. They assert the role of Vygotsky's concept of the 'Zone of Proximal Development' (ZPD) (Vygotsky, 1978) in both teaching practice and student learning. Vygotsky (1978, p.86) describes the ZPD as:

“the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.”

Vygotsky promoted a model of learning and development where these two processes are interrelated and combine within the ZPD in a way such that instruction elicits development (Berk & Winsler, 1995). He emphasised that to advance children's development, teachers must recognise the child's level of potential development and collaborate with them in carefully chosen joint cognitive activities to advance to this level. This process, he argues, allows children to be aware of and achieve control over their mental activities as they move to a new level of understanding. Through a process known as 'scaffolding' (a term introduced by scholars Wood, Bruner & Ross, 1976, and now widely used in psychology and education) Vygotsky's theory suggests that children become aware of and achieve control over their mental activities. This growing consciousness and regulation of their own thought processes, assisted by the skilled teacher's instruction, promotes higher-level cognitive activity and development (Berk & Winsler, 1995).

According to Garner & Thomas (2011), Vygotskian theory could help to explain the more educational elements of NG practice. They highlight the emphasis that Boxall places on the relationship between the child and the NG practitioner, whose insight into the child's individual needs and the provision of activities and learning strategies mirrors Vygotsky's assertion that learners can be guided by more knowledgeable others. Additionally Vygotsky's understanding of the role of language in the development of a child's internal thought, and the importance of opportunities for play, are considered by Garner & Thomas (2011) to be evident in the NG model.

1.6.2.4 Piaget's staged theory of cognitive development

Swiss psychologist Jean Piaget is most well known for his staged theory of cognitive development in children. Piaget proposed four stages of cognitive development that arise through a combination of biological maturation and interaction with the environment. He asserted that children may vary in the rate at which they progress through the different stages, but that they will always go through the stages in the same order. Piaget considered cognitive development to be the result of a process of 'adaptation', consisting the processes of 'assimilation', 'accommodation' and 'equilibration'. These processes rely on the child's construction of 'schemas', defined as "cohesive, repeatable action sequence[s] possessing component actions that are tightly interconnected and governed by a core meaning" (Piaget, 1952, p.7). These schemas are described as building blocks or units of knowledge about the world, which can include actions, objects and ideas, and assist perception of the world around us.

Piaget proposed that babies are born genetically pre-programmed with some simple, innate schemas that account for reflex actions such as sucking and grasping. As the infant matures, he creates additional schemas that become more elaborate. These schemas consist of mental representations about the world and are stored in memory and called upon to assist individuals to deal appropriately with situations and stimuli as they are presented. Piaget considered that children's development was the result of accumulated schemas of increased

number and complexity. Without these schemas held in mind, children would be unable to understand and respond appropriately to situations they encounter.

The Piagetian stance explains how children build knowledge through independent exploration of the world, with a focus on their biological, natural development. When considering social interaction, Piaget regarded children's contact with their peers to provide more value to their cognitive development than contact with adults, whose perspective they may accept without critical examination. He proposed that it is through contact with other children that they learn that others' views may differ from their own.

Despite the assertion by Bennathan & Boxall (2000) that Piaget's developmental principles are not used in NG practice, other researchers and authors make reference to the association between Piagetian theory and NG practice. Colley (2017) and Bailey (2007) describe NG theory and practice as being informed by the developmental work of Piaget (1951, 1954) and Vygotsky (1978), in addition to the psychological theories of Bowlby (1969) and Maslow (1954). NG staff are trained to work with children at their own stage of development, recognising that the developmental stage and emotional needs of some children will not match their chronological age (Colley, 2017). Boxall & Lucas (2010) assert that the influence of Piaget and Vygotsky, along with the likes of Donaldson, Chomsky and Bruner, lies within teacher education, allowing teachers and practitioners to draw on their professional knowledge within the intuitive approach of NG practice. This knowledge gives them "permission to make the relational and affective aspects of teaching through a close parent-child relationship the priority" (Boxall & Lucas, 2010, p.25).

Despite Piaget himself not directly relating his theory to education, its features have been utilised by researchers, educators and policy makers to explain and make recommendations for teaching and learning approaches. The UK Government's Plowden Report (1967) was published following a radical review of primary education and was heavily influenced by the work of Piaget, particularly his belief that children learn most effectively through active

participation and not as passive recipients. This resulted in recommendations for active learning in the curriculum that remain to this day. The main teaching implications of Piaget's theory are summarised by Berk (2001):

1. A focus on the process of children's thinking, not just its products.
2. Recognition of the crucial role of children's self-initiated, active involvement in learning activities.
3. A de-emphasis on practices aimed at making children adult-like in their thinking.
4. Acceptance of individual differences in developmental progress.

NG literature fails to consider whether Piaget's theory may provide important understanding of the teaching practices in NGs or the processes by which children make meaning from their NG experience. Despite the theories of Vygotsky and Piaget often being considered as competing views of child development, both theories consider to some extent both natural and social dimensions of learning and may be regarded as complementary theories, with neither providing a complete explanation for all aspects of development. Vygotsky's insight that effective learning takes place within the ZPD bears similarities to Piaget's belief that children develop through different stages, with knowledge being gained within their current stage of development, where they are ready to learn. Although Vygotsky and Piaget may offer valuable insight to the mechanisms of NG intervention, their contribution is largely overlooked in the literature, which is dominated by Bowlby's Theory of Attachment.

1.6.3 Attachment Theory

NGs are reported to be informed by Attachment Theory (AT) (Bowlby, 1969/1982) and reference to the underpinnings of this theory is prevalent across NG literature as previously documented. There is a dearth of published literature from the earliest years of NGs spanning two decades, with the first journal articles published in 1992 (Lyndon, 1992) and

then 1997 (Bennathan, 1997; Iszatt & Wasilewska, 1997). Lyndon's (1992) descriptive account of NGs makes the first notable link to AT by comparing Boxall's (1976) description of NGs with Holmes (1982, cited in Lyndon, 1992) and Campion's (1989, cited in Lyndon, 1992) descriptions of similar types of groups for nursery aged children, noting the value in each of the children's "opportunity to experience a close relationship with an attentive and responsive adult" (Lyndon, 1992). Lyndon links this finding to the work of others who showed the importance of the child's early relationships to their subsequent social and emotional competence:

- Ainsworth (1985) who showed the positive effects of the parent's sensitive responsiveness to their infant's cries;
- Kaye (1977) who described how infants learn social interaction and language skills through mother-child interaction;
- Bowlby (1988) who described how infants are pre-programmed to be socially co-operative, with their response determined by the way they are treated.

However, despite the advances being made in the field of developmental psychology at the time, Bennathan's (1997) report on the origins and effectiveness of NGs makes no mention of John Bowlby or AT, instead describing the intuitive understandings of Marjorie Boxall that informed her revolutionary approach. It is only retrospectively that Bennathan and Boxall (2000) identify the similarities between their NG approach and Bowlby's Theory of Attachment (1969, 1973, 1980), acknowledging the influences of research into the quality of early relationships as a predictor of subsequent socio-emotional functioning on NG theory and practice.

Investigation of the influence of AT on NG theory, practice and research displays a trend, from the implicit understandings of early child development towards a greater emphasis being placed on NGs as an 'attachment intervention'. Following Lyndon's (1992) discussion of the links between NG theory and AT, the next published literature to make mention of

this association is a summary of the interim findings of the Leicester NG longitudinal research project, arguably the first major research considering NG efficacy (Cooper, Arnold & Boyd, 2001). The authors refer to the importance of AT in the aetiology of socio-emotional difficulty in NG children as the “theoretical position that underpinned Nurture Group philosophy” (Cooper, Arnold & Boyd, 2001, p.160). By 2003, Colwell & O’Connor advocate “the aim of Nurture Groups is to provide the opportunity to form attachments to caring, supportive adults in a secure environment outside the family.” While this was not an original specified aim of the NG intervention, Bennathan and Boxall (2000) have recognised, in light of advancements in AT, that this understanding may explain the efficacy of the intervention. However, Colwell & O’Connor (2003) themselves acknowledge that this theory does not in itself explain the psychological processes that inform the effectiveness of NGs and identify questions raised by Rutter (1985) about the internal processes involved in Bowlby’s theory.

From this point onwards, significant NG literature concentrates on the ‘attachment’ aspect of NGs, highlighting the opportunities afforded for NG children to create new attachment bonds, to the exclusion of other aspects of early parent-child interaction and early nurturing care that Bennathan and Boxall identified as contributing to effective socio-emotional development in children. Some researchers have identified that it is not clear how these new attachment bonds are being created and highlight the need for further research to identify the specific mechanisms of change that inform the efficacy of the intervention (Seth-Smith et al., 2010; Mackay, Reynolds & Kearney, 2010; Billington, 2012). Given that current NG literature reflects a strong association with AT, with authors frequently using AT to explain why NG children have difficulty engaging in mainstream education and how the principles of AT provide reparative intervention, it is reasonable to expect that academics and practitioners will be drawn to Bowlby’s theoretical position to inform their understanding of NG processes. To establish whether AT fully explains the mechanisms that assist the socio-emotional development of children within NGs, AT is considered in more detail.

1.6.3.1 The origins of Attachment Theory

AT as proposed by John Bowlby and advanced by Mary Ainsworth is widely recognised as the most supported theory of socio-emotional development (Rutter, 1980; Sroufe, 1986). The theory attempts to explain both attachment behaviour between infants and their parents and long lasting attachments made to others. By linking evolutionary biology and ethology to psychoanalytic principles, Bowlby introduced the idea that social behaviour, as well as intrapsychic behaviour, is instinctive, and introduced empirical study to the nature of human relationships.

Bowlby is often referred to as the Father of AT, his theory having emerged from observations of maladjusted boys whose difficulties were thought to stem from disrupted relationships with their mothers in infancy, and his dissatisfaction with the completeness of explanations provided by existing psychoanalytic and ethological theories. Bowlby's initial work showed the difficulties experienced by children who were separated from their parents through loss or bereavement and the lasting negative effects that they experienced throughout childhood, adolescence and into adulthood. He believed in the critical importance of the mother-infant relationship, both to the infant at that moment in time and to their successful future development. Bowlby proposed a fundamental bond that exists between mother and infant, linking them through a delicate mechanism that could be disrupted, often with disastrous consequences, by separation, and set out to study the nature of this bond and the ways in which it develops (Bowlby, 1958).

Bowlby's early theorising was based on his 1944 study 'Forty-four juvenile thieves', an investigation of the early childhood experiences of delinquent children using interviews and retrospective data, from which he drew conclusions about the effects of maternal separation on later social and behavioural functioning. In order to test the long-term effects of deprivation and his hypothesis that disruption of the mother-infant attachment relationship in the first five years of life can lead to the socio-emotional and behavioural difficulties associated with delinquency, Bowlby studied a group of delinquent boys

compared to a control group who suffered emotional difficulties without delinquency. He found that more than half of the forty-four delinquents had been separated from their mothers for longer than six months during the first five years of life, compared to only two of the control group. From this Bowlby concluded that delinquency in later years could be attributed to maternal deprivation. Although this work was subsequently challenged regarding the accuracy and value of the retrospective evidence base and the lack of attention to other family and environmental influences, its importance for advancing developmental enquiry and child care policy through understanding of the importance of early relationships should not be underestimated.

AT proposes the instinctive ability to create intimate emotional bonds with significant others as an in-built component of human nature, beginning as emotional and behavioural communication and later supplemented by language, yet evident in varying forms throughout life (Bowlby, 1988). Attachment patterns, once formed, tend to persist, however during the first three years of life the pattern of attachment may be altered by the different behaviour of the attachment figure(s) (Bowlby, 1988), with attachment patterns at twelve months of age predictive of the child's behaviour at pre-school age and later becoming a property of the child himself (Sroufe, 1983). Stability is found in the security of the attachment relationship between infants and their mother from 12 to 18 or 12 to 20 months of age, so long as there are no major life events. In addition, infants who have secure attachment to their mother are almost equally likely to display secure attachment to their father (Grossmann et al., 1981; Lamb, 1978; Main & Weston, 1981).

1.6.3.2 The biological basis of Attachment Theory

Bowlby critiqued psychoanalytic theory and findings from ethology, testing his observations and intuitive understandings of the nature of human bonding against scholarly writing, such as Lorenz' work on imprinting and Harlow's (1958) studies with rhesus monkeys. Lorenz' study of imprinting in goslings showed that, for this species, attachment is innate and acts as a survival mechanism. The goslings were found to follow the individual that they first saw

when they hatched regardless of whether that was their mother or Lorenz, as they had imprinted this picture to memory. Harlow (1958), in an attempt to explain the basis of the bond between a monkey and its infant, showed that rhesus monkeys who were isolated from their mothers at a young age displayed social and emotional problems in adulthood, showing aggression and being unable to relate socially to other monkeys. He discovered that monkeys reared in isolation from their mothers who had access to a 'cloth' mother for comfort and a 'wire' mother who supplied food, would go to the wire mother only when hungry and return to the cloth mother for comfort and security.

In addition, monkeys that were reared in isolation but allowed short periods of interaction with other monkeys each day grew up with normal social development. Harlow concluded from his studies that social interaction is a requirement for healthy development and the monkeys who displayed socio-emotional difficulties were suffering from social deprivation rather than maternal deprivation. They needed a figure of comfort and security in the first few months of life that they could go to in times of anxiety and stress to assist them, through their interaction with this figure, to regulate their emotions.

Drawing on insights from ethology, Bowlby continued to develop his theory of the biological basis of attachment behaviour, describing an infant's need for proximity to their mother as a source of safety and nourishment, as a biological rather than a learned need. This biological need in infancy was Bowlby's principal focus, while also proposing that attachment behaviours do not simply feature in infancy but are a lifetime phenomenon. Babies display an innate need for touch, witnessed in their need to cling to another human being (Bowlby, 1988) and through the achievement of proximity to their parent or care-giver they internalise feelings of safety and achieve a state of relaxation that gradually allows them to venture out into the world, to explore and pursue their own projects (Bowlby, 1969/1982).

Explaining his theory of attachment from an ethological perspective, Bowlby describes how babies come into the world biologically pre-programmed to form attachments with others

through social interaction, with these attachments made not to the figure who provides food and nourishment but to the figure who provides care and responsiveness, similar to the way that Harlow's (1958) rhesus monkeys formed attachments to the 'cloth mother'. He describes innate infant attachment behaviours such as 'crying', 'approaching or following', 'smiling' and 'vocalising' that obtain care-giving responses from adults and result in the infant maintaining close proximity to and protection from their care giver (Bowlby, 1956). This fundamental biological process results in children seeking and gaining attachment from parents regardless of the parents' ability to meet the child's physiological needs (Cassidy & Shaver, 2008). Bowlby (1956) observed that infants, through their biological disposition, become attached even to physically or psychologically abusive mothers and these attachment bonds are thought to persist, even when the child is maltreated. This persistence of attachment, even when punished, was also evidenced in Harlow's (1956) rhesus monkeys studies.

Drawing on evolutionary processes, Suttie (1935, p.6) describes the child's need to remain close to their mother and alert her if they become separated as an "innate need for companionship which is the infant's only way of self-preservation" and goes on to provide the following explanation for the nature of nurture:

"The biological need for nurture might be psychologically presented in the infant mind, not as a bundle of practical organic necessities and potential privations, but as a pleasure in responsive companionship and as a corrective discomfort in loneliness and isolation" (Suttie, 1935, p.4).

Although attachment behaviours are inherently biological, it does not follow that all children will become securely attached to their parent or care-giver (Bowlby, 1956). Bowlby (1969/1982) proposes that the organisation of the attachment behavioural system involves mental representations of self, attachment figure and the environment, based on the infant's actual experiences. These mental representations, referred to by Bowlby as internal

working models (IWMs), allow infants and subsequently children and adults throughout life, to operate efficiently by assisting their anticipation of future behavioural outcomes, thus allowing them to make plans in the present and follow them through in anticipation of future consequences. The child develops IWMs of self and other based on their learned experience of others and their resulting attachment style, with children who display insecure attachment thought to lack a mental representation of their attachment figure as available and responsive to their needs.

1.6.3.3 Development of the Attachment System

Bowlby sees the process of attachment as a psychological bond in its own right, a 'primary motivational system' independent of the instinctive processes of feeding or sexuality (Bowlby, 1973a). Thus the psychological function of attachment, which results from the interplay of dynamic forces regardless of physiological dependency, differs from the child's dependency on their mother for physiological gratification, that is, the child seeking the essential requirements of nourishment and shelter without the requirement to be attached to her (Bowlby, 1958). According to Bowlby, developmental outcome is determined by an interaction between an organism and its environment, with several lines of development possible. The attachment system is thought to develop throughout infancy and childhood over several distinct and observable phases, with the nature of the attachment relationship and the environment in which the relationship is formed determining the child's developmental outcome (Holmes, 2014).

From birth to six months of age babies interact with their caregivers through smiling and mirroring of behaviour with mothers and infants building their relationship through interactions of feeding and mutual gaze. Newborn infants are found to have a preference for their mother's voice over the voice of a stranger and learn how to respond to her voice soon after birth, suggesting that the period immediately after birth may be of crucial importance for mother-child bonding (DeCasper & Fifer, 1980). Through the reliability and responsiveness of the mother, and a developing mutual understanding of each other, an

attachment relationship is developed where the infant learns to feel secure, supported and protected within their world (Hughes, 2006). As their relationship progresses, the infant shows a preference for his mother's company over others and, with the mother responding to her child's cues, an interactive relationship develops with each 'knowing' the other, resulting in the creation of an attachment bond (Hughes, 2006).

From the age of six months, as the infant becomes increasingly mobile, reciprocal attachment and care-giving behaviour develops, allowing the infant to remain within close proximity of the mother and the mother to know that the child will return to her when distressed or in danger. The infant now uses social referencing, checking for permission to venture out from their mother's safety by monitoring her facial expression, using the mother as a secure base from which to explore the world. First, within visual and auditory range of the mother and gradually extending further afield. The child's attachment behaviour is regulated by the mother's care-giving behaviour that informs the child's feelings of safety and security. This attachment care giving behaviour displays the beginnings of a reciprocal relationship between parent and child. As the child progresses through infancy and childhood, with the associated motor, language and cognitive skill development this entails, a more complex pattern of behaviour is witnessed that can not be explained in simplistic behavioural terms (Hughes, 2006). The ways in which this reciprocal mother-infant relationship develops is dependent on the security of mother-infant attachment, the individual differences of which were identified and studied by Mary Ainsworth (1963, 1967).

A study by Schaffer and Emerson (1964) around the time that Bowlby was developing his Theory of Attachment, monitored the attachment relationships of infants in the first eighteen months of life. They found that the infants formed multiple attachments, showing a preference for different attachment figures at varying stages of development. Although some of the findings are not supported by more recent research, they would certainly have been influential at this time. A discussion of more recent findings on the ways that the attachment system develops from birth will follow.

1.6.3.4 The quality of mother-infant Attachment

Mary Ainsworth's work contributed immensely to the growing literature on attachment theory and informed understanding of the progressive enquiry of the social development of infants (Bretherton, 1992). Ainsworth (1982, 1983; Ainsworth et al., 1978; Bell & Ainsworth, 1972) used an ethological perspective to investigate through naturalistic observation the quality of mother-infant interaction, with a particular emphasis on the onset of proximity-promoting signals and attachment behaviours between mothers and infants. Using narrative reports, displaying 5-minute episodic intervals, she observed mothers and infants together, analysing patterns rather than frequency of specific behaviours, to identify characteristic mother-infant interaction patterns in the first three months of life (Ainsworth et al., 1978; Ainsworth, 1982, 1983).

Ainsworth observed three attachment styles in mother-infant relationships:

- Securely attached infants who seldom cried and happily explored while their mother was present
- Insecurely attached infants who cried frequently, even when their mothers were present, and explored little
- Infants who were not yet attached and displayed no differential behaviour to the mother.

Of particular interest was her rating and evaluation of maternal sensitivity to infant signals. Harmonious mother-infant relationships were correlated to maternal sensitivity, with babies whose mothers had been highly responsive to their cries in the early months tending to cry less by the end of the first year, relying instead on facial expressions, gestures and vocalisations to communicate. She found that infants tended to be securely attached to sensitive and responsive mothers and insecurely attached to mothers who showed less sensitivity and responsiveness (Bell & Ainsworth, 1972).

Perhaps Ainsworth's most renowned work was her development of the 'Strange Situation' procedure where infants are observed playing in the presence of their mother, or a stranger following brief separation from their mother, in a laboratory setting (Ainsworth & Wittig, 1969). This study was to determine the Strange Situation classification system (Ainsworth et al., 1978) based on infants reunion behaviour after separation from their mother, analysed with their home relationship behaviour data. Studies of socio-emotional development in infancy have reliably identified Ainsworth's 'patterns of attachment' and the family conditions in which they develop. Ainsworth (1978) identified three principal patterns of attachment:

- *Secure attachment* – develops where the infant is confident that their care-giver will be available and responsive to them in a frightening or threatening situation. This attachment pattern develops through the availability and responsiveness of the parent/primary caregiver in the early weeks and months of life, attending to the infant's signals for comfort and protection in a sensitive and caring manner. Children who display secure attachment show ability to explore the world with confidence, knowing that they can return to their parent in times of need.
- *Anxious resistant attachment* – develops when an infant is unsure if their care-giver will be available and responsive in frightening or threatening situations. These children will be nervous about exploring the world, with a tendency to cling to their parent or care-giver. This pattern develops by the parent or care-giver being available and responsive on some occasions and not others, by separations of the child from the parent, or by the child experiencing threats of abandonment.
- *Anxious avoidant attachment* – develops when an infant expects that when they seek parental/care-giver attention, they will be rebuffed. This pattern develops when the parent rejects the infant's request for comfort and protection and is most extreme when the infant is repeatedly rejected.

A fourth attachment pattern known as *disorganised attachment* was subsequently identified by Main and Solomon in 1990, based on their observations of normative, high-risk and maltreatment samples. This classification is found more commonly in 'at-risk' samples of infants (Cyr et al., 2010) and is predictive of the development of mental health problems in later years (Duschinsky & Solomon, 2017). The disorganised attachment style is the only form of attachment difficulty that is referred to as a 'disorder' and given a clinical diagnosis in the Diagnostic and Statistical Manual of Mental Disorders, 5th edition, DSM-5, where it is classified as 'Reactive Attachment Disorder'.

Ainsworth's findings in her Strange Situation procedure provided the first empirical evidence to support Bowlby's theory of Attachment (Ainsworth et al., 1971, 1978). Main et al. (1985) advanced the empirical study of infant-parent attachment that considers the connection between individual differences in children's attachment patterns at age one year and the quality of infant/care giver interaction in the proceeding 12 months or to later differences in individual functioning and behaviour. By connecting attachment to representation they retain the theoretical basis of Attachment Theory proposed by Bowlby and Ainsworth but move beyond the behavioural level of other studies to the level of representation. They observed individual differences in the child's mental representation of self in relation to attachment, with a new focus on representation and language, from infancy to adulthood and propose that individual differences in patterns of attachment can be understood by examining the IWMs of relationships to understand feelings and behaviour (as assessed by the Strange Situation) along with attention, memory and cognition, as related to attachment. They observed individual differences in these IWMs as not only related to patterns of non-verbal behaviour, but also to patterns of language and structures of the mind.

1.6.3.5 *How patterns of Attachment are learned and accommodated*

“A securely attached child will store an internal working model of a responsive, loving, reliable care-giver, and of a self that is worthy of love and attention and will bring these assumptions to bear on all other relationships. Conversely, an insecurely attached child may view the world as a dangerous place in which other people are to be treated with great caution, and see himself as ineffective and unworthy of love. These assumptions are relatively stable and enduring; those built up in the early years of life are particularly persistent and unlikely to be modified by subsequent experience.” (Holmes, 2014, p.63)

AT attempts to explain behavioural patterns witnessed in infancy and childhood and their effect on developmental outcomes. Ainsworth (1978) suggests that it is the behaviour of the care-giver that determines the infant’s Strange Situation attachment classification. She suggests that:

- *secure attachment* is the outcome of sensitive and responsive primary care
- *anxious resistant attachment* is the outcome of inconsistent primary care, whereby sometimes the infant will have their needs met yet not at other times
- *anxious avoidant attachment* is the result of unresponsive primary care, where the infant’s needs are routinely not met by the care-giver.

Linking Ainsworth’s findings to Bowlby’s concept of IWMs suggests that:

- *securely attached infants* are assisted to develop a positive working model of themselves, creating a mental representation of others as being responsive to their needs and themselves as worthy of respect (Jacobsen & Hoffman, 1997)
- *anxious resistant infants* create a negative image of themselves and seek attention through exaggerated emotional responses that may display as socio-emotional and behavioural difficulties (Kobak et al., 1993)

- *anxious avoidant infants* create an image of themselves as unworthy and unacceptable to others (Larose & Bernier, 2001).

Given the emphasis placed by Bowlby on the development of IWMs and their importance to AT it was considered important to explore his IWM concept and its relevance to child developmental outcomes and NGs.

At the time that Bowlby was developing his theory, mainstream psychology relied very much on a behaviourist view of everyday interactions and provided few conceptual tools to examine the workings of the 'inner world' (Bretherton & Munholland, 1999). Bowlby's contribution was to bring the evolutionary ideas of philosopher and psychologist Kenneth Craik to psychological understanding of the internal processes informing behavioural output. Craik (1943) proposed the idea of complex 'internal working models' of environment, formed by organisms to increase their chances of survival by enabling them to evaluate the potential consequences of alternative courses of action, allowing more flexible and adaptive behaviour. These IWMs, allowed important aspects of the world, internally represented, to assist the evaluation of probable outcomes of different behaviours, focusing not on all conceivable aspects of reality but on the relation-structure of those aspects (Bretherton & Munholland, 1999). Bowlby (1969/1982) proposed that these IWMs allow individuals to generate predictions of reality by drawing on mental representations of possible outcomes of not only experienced, but potential, realities. These representations, according to Bowlby, are not restricted to models of self and other in attachment relationships, but apply equally to all representations, however it is to the IWMs of attachment relationships that major research has focused.

To understand the influence of IWMs on children's patterns of attachment behaviour an examination of the literature identifies three strands of inquiry that attempt to explain how these patterns are learned and accommodated in childhood and beyond:

1. Children learn attachment patterns of behaviour through mother-infant interaction.

Infant's display the capacity to engage in and derive pleasure from social interactive behaviour from birth (Trevarthen & Aitken 2001; Stern, 1985). Within days of their birth, babies can distinguish the smell, voice and touch of their mother from others and initially elicit her attention through their cries, later supplementing this with social and emotional communications from the second month of life (Izard, 1982). In the early months of life babies display attachment behaviours although these do not become organised into an attachment behavioural pattern until the second half of the first year (Bowlby, 1988). Patterns of attachment in infancy and childhood are influenced by the way the infant is treated by his primary care-givers (Bowlby, 1988).

Babies are born into the world with immediate physiological needs to be fed and kept warm, basic concepts of human nature that are already present in the neonate and continue throughout life. It is to their parent or primary care giver that babies turn to have this need satisfied, and it is through the parent meeting these physiological needs that the baby comes to understand her as the source of gratification, a process described by Bowlby's theory of 'Secondary Drive' (Bowlby, 1988). The baby learns through experience that their mother will provide satisfaction for their basic physiological needs and through this understanding an intimate emotional bond is created. These emotional bonds are important for mental health and social development and provide the foundation for later attachment behaviour (Bowlby, 1988). The bonds built between parent and infant are established through emotional communication with no requirement for language and, regardless of the fact that as the infant matures into childhood and beyond language becomes a communicative feature of these intimate bonds, emotional communication continues to be the principal means of engagement (Bowlby, 1988).

Knowing that an attachment figure is available and will be responsive to their needs encourages feelings of safety and the desire to continue the relationship, with attachment behaviour most noticeable in childhood but continuing throughout life (Bowlby, 1982a). The goal of attachment behaviour is to provide feelings of security by regulating behaviour

designed to keep the child in close proximity to their attachment figure. From birth infants display behaviours that result in keeping them in close proximity to a care-giver, quickly becoming preferentially directed towards a preferred attachment figure. After the age of six months, this behaviour becomes organised around their preferred hierarchy of familiar figures, with attachment becoming a property of the child himself (Bowlby, 1969/1982b). Bowlby saw the parental role of providing a 'secure base' as pertaining, not just to the child's exploration of the outer world, but also to their inner world. By acknowledging and responding sensitively to the emotional communications of their child, parents assist the development of the child's IWMs of self and attachment figures and these IWMs, once established, initially remain open to change. By contrast, when parents do not acknowledge and respond sensitively to their child's emotional communication the child will grow up uncertain of parental support and adopting the parent's false models of self, the child, and their relationship (Bowlby, 1969/1982b). The children who grow up to become stable and self-reliant individuals are those for whom parental support is readily available when they need it and whose parents have encouraged their growth towards becoming autonomous individuals (Bowlby, 1982a)

"A working model of self as valued and competent.....is constructed in the context of a working model of parents as emotionally available, but also as supportive of exploratory activities. Conversely, a working model of self as devalued and incompetent is the counterpart of a working model of parents as rejecting or ignoring of attachment behaviour and/or interfering with exploration." (Bretherton & Munholland, 1999, p.91)

Children must learn through experience that the world is a safe and satisfying place to live (or an unsafe, frightening, painful and uncertain place to live) before learning in other ways can begin (Bowlby, 1982a). Security is engendered by the knowledge that an attachment figure is available and responsive and this security promotes value and continuity of the attachment relationship (Bowlby, 1988). Attachment behaviour is most evident in childhood but can be observed throughout life as integral to human nature (Bowlby, 1988). Children's

social, emotional and cognitive development is affected by the levels of attentive nurturing care they experience in the earliest years of life. Parental interaction in infancy is influenced by the quality of the attachment bond that develops between parent and infant in the first year, with mothers' interactions with their infants at age 2.5 years correlated with the infant's attachment pattern at the age of twelve months (Matas, Arend and Sroufe, 1978). For example, the mother of a child identified as securely attached at the age of one year will be attentive and responsive to his needs at the age of 2.5 years, whereas the mother of a child identified as insecurely attached will be less attentive and responsive to his needs at the age of 2.5 years. In addition, the mother of the insecurely attached child may provide unhelpful or ill-timed responses, ignore what her child is doing or how he is feeling, or reject his requests for assistance (Bowlby, 1988). Therefore, a cycle is developed whereby the mother's behaviour throughout the child's early years is influenced by the child's attachment behaviour that has developed in the first twelve months of life.

Although attachment relationships exist between two partners, Bowlby describes attachment as a property of the individual, an organisation of a system within the attached person (Bowlby, 1973a). This system within the individual represents the dyadic relationship with their attachment figure and is based on their joint functioning (Bretherton & Waters, 1985). Bowlby (1969, 1982b) proposed a system that is activated periodically in times of stress or danger and deactivated by perceived safety, however Bretherton (1980) describes a system that is continuously active. By thinking of a continuously active system we are assisted to understand the relationship between the two facets of attachment theory, security-seeking behaviour in times of distress and the secure base phenomenon. Bowlby (1969/1982b) suggests that children do not re-appraise each situation encountered to establish whether their attachment figure is available and responsive, rather through repeated transactions with the world the child builds complex internal working models of the world, significant others and self in interaction, and it is these models that appraise and inform behaviour in new situations.

IWMs are defined as “a set of conscious and/or un-conscious rules for the organisation of information relevant to attachment and for obtaining or limiting access to that information, that is, to information regarding attachment-related experiences, feelings and ideations” (Main et al., 1985). IWMs, according to Bowlby (1980), come to function automatically through repeated use, working outside of consciousness. The initial models formed in infancy and childhood become more complex over time as cognitive awareness develops (Bowlby, 1969) and due to their stability over time, are thought to have continuity from childhood to adulthood (Bowlby, 1979).

2. Once established, attachment patterns of behaviour are repeated and set a template for all other relationships.

The child’s daily experience of interactions builds working models of family interactions that become established as influential cognitive structures (Main et al., 1985) resulting in the child building a model of themselves that reflects the image that his parents have of him. These models of interaction between parent and child persist throughout childhood and come to operate at an unconscious level, persisting in later life even with those who behave in a different fashion. Therefore, if these patterns are maladaptive due to disrupted early experiences resulting in the child displaying avoidant or insecure attachment, the child will be unable to display optimal social functioning in future relationships. According to Bowlby (1979) patterns of verbal and non-verbal communication provide the processes that generate and maintain the IWMs of attachment relationships and subsequently transmit these IWMs through parental behaviour to the next generation.

Children who develop secure attachment as infants benefit from a foundation on which affective, social, cognitive and behavioural development can flourish in subsequent years (Cassidy & Shaver, 1999). According to Bowlby (1988) patterns of attachment, once established, tend to persist, showing stability during early childhood and being predictive of how they in later years approach a new person or tackle a new task. Bowlby provides two explanations for this:

- the tendency for stability over time of the way that a parent treats a child
- the self-perpetuating patterns of attachment behaviour

This means that children who display secure or insecure patterns of attachment will elicit different responses from their parent based on their observable behaviour. A secure child will be happier and less demanding and easier to care for, whereas an insecure child will be demanding and clingy or withdrawn and aggressive, attracting an unfavourable parental response that in turn leads to further negative behaviour, and so a negative behaviour-response cycle develops (Bowlby, 1988). However, although Bowlby provides this explanation for the persistence of patterns of attachment, he also proposes that in the early years of life these patterns are a property of the relationship, only later becoming a property of the child himself. Therefore, in the first two to three years of life, if a parent alters the way they treat their child then the attachment patterns, as a property of that particular relationship, will change accordingly. It is only in later years, once the pattern has become a property of the child himself that it is then imposed on new relationships, such as with teachers and ultimately romantic partners and offspring.

The developmental effects of the persistence of attachment patterns is shown in nursery-aged children, whereby infants measured as having secure attachment relationships with their mother at twelve months were found by nursery teachers to be co-operative, popular, resilient and resourceful. In contrast, those who showed anxious resistant patterns at twelve months were described by nursery teachers as attention seeking, tense, impulsive and easily frustrated or passive and helpless, whereas those who showed anxious avoidant patterns at twelve months were described as emotionally insulated, hostile and anti-social (Sroufe, 1983).

3. Children's attachment behaviour models operate outside conscious awareness and are resistant to dramatic change

Bowlby's (1969/1982) concept of IWMs describes a mental representation of an aspect of the world, others, self or relationships to others that is of special relevance to the individual;

an integral component of the attachment behavioural system, it guides appraisals of experience and guides behaviour. These models are not passive representations but active constructions that are open to restructure.

However, Bowlby suggests that reconstruction of early IWMs is difficult since, once organised, they tend to operate outside conscious awareness and be resistant to dramatic change (Bowlby, 1980). Utilising the concept of IWMs to explain the persistence of attachment patterns, eventually becoming a property of the child himself, Main, Kaplan and Cassidy (1985) propose that the child's IWM of themselves in interaction with their primary attachment figures soon become established as influential cognitive structures. The model that the child builds of himself reflects the images that his parents hold of him and that they communicate to him in the way they respond through verbal and non-verbal communication, i.e. in what they say and what they do.

The IWMs then set a template in relation to this relationship for how the child feels about himself, how he expects to be treated and how he plans his own behaviour. This template of the self and parent in interaction are internalised and come to operate at an unconscious level. Although this template tends to persist, it is gradually updated as the child grows older and his parents treat him differently, meaning that the child's IWMs tend to, at any given time, provide a fairly accurate reflection of the child-parent relationship. However, where the child displays a model of insecure attachment, this gradual updating of models becomes obstructed by defensive mechanisms that act to exclude negative experience. Therefore, the patterns of interaction that are the result of the child's IWMs, now operating at an unconscious level, tend to persist, even when interacting with people who display different behaviour to those experienced in the early years (Bowlby, 1988).

1.6.3.6 The relevance of Bowlby's Attachment Theory today

AT has been continuously evolving for more than fifty years and is recognised as one of the best examples of the value to be gained from serious, coherent theorising in psychology (Cassidy & Shaver, 1999). There is a vast amount of literature surrounding Bowlby's original theory, how he continued to update his theory over the following years, subsequent findings from other researchers and current theoretical directions. The volume of, and continuous updating of, attachment literature makes it difficult for scholars, let alone others, to be familiar with the entire picture that is emerging (Cassidy & Shaver, 1999). Attachment Theory grew out of psychodynamic theory and has evolved as a 'contemporary psychodynamic approach' to personality and behaviour (Shaver & Mikulincer, 2005).

Bowlby, although recognising that infants can form multiple attachments, believed that there is always one primary attachment figure, usually the mother, and that this is the first attachment made by the infant and the one that remains the strongest, even when other attachments are subsequently made. However, evidence from other researchers appears to dispute these claims, most notably findings from Schaffer & Emerson (1964) and Rutter (1972). Schaffer and Emerson (1964) conducted a longitudinal study of sixty infants, aged 5 weeks to 23 months, in Glasgow to investigate the number of attachments they made across an eighteen-month period. Challenging Bowlby's theory of monotropy, they found that the majority of the infants formed multiple attachments. Interestingly, they also found that the infants whose mothers were more responsive to their demands and engaged in more interaction with them showed stronger attachments than the infants of less responsive and less interactive mothers.

Schaffer (1971) later extended these findings by showing that babies actively seek stimulation rather than passively seeking nutrition, that is, they 'eat to live' rather than 'live to eat', a finding that is in keeping with the findings in rhesus monkeys by Harlow (1958). Disputing Bowlby's claim that early childhood separation was the cause of behavioural disturbance in later years, Rutter (1972) studied groups of children in London and the Isle of

Wight to investigate the causes of delinquent behaviour and the association between a child's separation from their parent and their subsequent anti-social behaviour. Rutter found no correlation between delinquent behaviour and parental separation, in contrast to Bowlby's findings from his '44 thieves' study.

However, Rutter found that there was a link between anti-social behaviour and poverty and stress in childhood, with the children displaying anti-social behaviour typically growing up in families suffering material disadvantage and fractured or discordant relationships. Rutter (1972) also found that the children did not form only one primary attachment but had multiple attachment figures ranging from other family members to peers and sometimes objects.

From the time that Bowlby published his seminal writing, the 'Attachment and Loss' trilogy (1969, 1973, 1980), attachment research has focused almost exclusively on the personality aspects of IWMs as determinants of life-long personality, neglecting to investigate the importance of current attachment relationships and behaviour, thus overlooking Bowlby's claim that current attachment relationships remain the determinant of attachment security (Kobak, 1994).

Also overlooked is Ainsworth's study of normative development of attachment and her emphasis on mother-infant communication (Kobak, 1999). Kobak (1999) identifies a model of attachment security, determined in infancy and internalised through the creation of IWMs to become a part of personality, as implicitly informing many attachment studies, regardless of few attachment researchers explicitly endorsing such a model. He suggests that a focus on attachment as a 'relationship construct' would place emphasis on evaluating the quality of current relationships as a measure of attachment security, opening up pathways to understanding the developmental trajectory of individual differences in infant attachment security across multiple relationships.

The importance of examining the quality of current relationships is also identified by Sroufe (1997), who suggests that the study of such qualities may inform our understanding of disruptions to developmental pathways. Current limited understanding of the ways that the infant's attachment security with their primary attachment figure is transferred to the quality of later relationships raises questions about the mechanisms of so-called 'attachment interventions'. Relating this insight to NGs illuminates why our current limited understanding of the processes underpinning their efficacy has theoretical and practical implications for assisting developmental outcomes for children displaying SEBN.

Cefai and Cooper (2011, p.66) propose that the NG approach is "based in sound psychological theory concerning the importance of specific social and interpersonal experiences in social, emotional and cognitive development." Despite this, persistently overlooked in NG literature are the links between NG practice and the theories of Intersubjectivity (Trevvarthen, 2012b, 2010; Trevvarthen & Aitken, 2001) and Companionship (Malloch & Trevvarthen, 2009) that work in tandem with AT to explain such social and interpersonal experiences of children's development. These theories and their relationship to NG practice will be considered here.

1.6.4 Theories of Intersubjectivity and Companionship

Intersubjectivity and Companionship theories provide two separate yet connected and complementary theories of child development, paying attention to the social and interpersonal experiences of infancy that contribute to healthy development and learning. As complementary theories of the social nature of infant development, understandings that have developed from these theories are presented here together.

1.6.4.1 The sociable behavioural system in infancy

The similarities between the early childhood experiences of an infant with their supportive caregiver, and the care and support provided to pupils in NGs, is identified by Bennathan & Boxall (2000). They describe the importance of emotional support and physical proximity to a care-giver and the ways in which feelings are communicated and shared, often through subtle non-verbal signals between parent and child, empathy and shared experience.

In both the home and in the NG there is food, comfort, consistent care and support, close physical contact and communication by touch. NG practitioners are trained to purposefully establish eye contact with pupils and to communicate mood and feelings through facial expressions and voice. Such expression of shared feelings, satisfactions and mutual pleasure is encouraged in an attempt to consolidate the first stages of learning by mirroring the parent-child learning experience, and building a foundation on which further learning and development can be achieved. The descriptions of NG practice and experiences points to processes that are found in both attachment and intersubjective experience.

The theory of Innate Inter-subjectivity (Trevarthen, 1974, 1979; Trevarthen & Hubley, 1978), “that the infant is born with awareness specifically receptive to subjective states in other persons” (Trevarthen & Aitken, 2001, p. 4), promotes the human infant as born into the world with both the motivation and ability to communicate with other people from birth. Trevarthen & Delafield-Butt (2013a) tell us that babies are born into the world as sociable beings with an inborn expectancy for human company. However, our understanding of inter-subjectivity actually begins much earlier, with Bowlby’s Theory of Attachment (AT).

According to Bowlby (1969/1982), in order to fully understand the attachment behavioural system it is important to understand how that system operates separately from the ‘sociable behavioural system’, which he describes as the biologically based system by which humans are predisposed to seek the company of others, encompassing the behaviours of

friendliness and goodwill. This sociable behavioural system incorporates the processes and behaviours that encourage social engagement and the desire for companionship with others, out-with the confines of the infant/care-giver attachment relationship, encouraging infants and children to build relationships with their peers and with other adults. This tendency is thought to originate from a biological predisposition to seek the company of others for protection, survival and reproduction and stems from evidence of the importance of the sociable system for the development of non-human primates (Harlow, 1969). Lewis et al. (1975, p.56) seek to differentiate attachment relationships and sociable relationships by suggesting that “mothers are good for protection, peers for watching and playing with.” This could be viewed as mirroring Bowlby’s (1969/1982) explanation of the attachment system and the sociable system operating independently, responding to and meeting different needs, with the sociable system likely to be activated when the attachment system is not.

Bowlby draws a clear distinction between the roles of the attachment figure and playmate, observing the ways that children seek an attachment figure in times of hunger, tiredness and distress, wishing to be in close proximity to that person to experience feelings of security and satisfaction, then having found this security and satisfaction, content and confident that the attachment figure is close by, seeking a playmate to engage with in playful and sociable exchange. However, although Bowlby believed the roles of attachment figure and playmate to be conceptually distinct, he also recognised that the two roles are not incompatible and could be filled by one person (Bowlby, 1969/1982). So what is this sociable system that Bowlby refers to and what role does it play in the development of infants and children?

1.6.4.2 The natural sociability of infants

The potential of a baby to interact socially, and of their mother to participate successfully in this interaction, within the weeks, months and years following birth has been extensively researched through observations of natural mother-infant interactions (Bateson, 1975; Trevarthen & Aitken, 2001; Trevarthen, 1993; Koslowski & Main, 1974; Stern, 1971, 1974,

1977; Tronick, Als & Adamson, 1979). Within minutes of birth babies are found to be interested and aware of others' attentions and responses (Trevvarthen, 2005c) and are observed in expressive, intimate engagements with others in their first few hours of life (Trevvarthen, 2011b). They are born with powerful innate volitions and emotions that promote their engagement with the feelings, interests and intentions of a significant other (Trevvarthen et al., 2006). They can respond to the expressions of other people, and use imitation to create purposeful dialogue with others as early as the first week of life (Nagy, 2011).

The infant is born "wired for feelings and ready to learn" (Shonkoff & Phillips, 2000). Not only do infants have a biological predisposition to 'feel' but they are guided to explore the world through curiosity and feelings of pleasure that come from discovery. They are motivated by their emotions to approach or withdraw from a situation in order to maintain or to terminate the experience. This results in the infant experiencing motivation to pursue a positive experience through the resulting pleasurable feelings that they derive from it. As they monitor their emotions, they draw on the memory of past experience to guide their actions.

"Seeing, hearing, smelling, touching and moving with Mom in a pleasurable state carries forward in memory to the next time when this occurs and adds to an expectation of security and delight" (*Emde, 2003, p. 12*).

Reciprocal pleasurable interaction between an infant and their caregiver is created when the infant's expression of emotion as a means to satisfy their physiological needs, such as crying when hungry, wet, cold, or in pain, motivates action from their caregiver that brings resulting feelings of comfort and security. Where an infant then responds to this caregiver action by displaying feelings of contentment and pleasure, the caregiver is motivated to continue these positive emotions through the continuation of on-going pleasurable interaction (Emde, 2003).

The adaptive functions of motivation and communication help to define the meaning of experience. The motivational and communicative functions of emotions continue to guide behaviour throughout life. They are dynamic systems displaying two core dimensions, i) hedonic (pleasure/displeasure) and ii) arousal (low intensity/high intensity). These dimensions vary over time, displaying dynamic contours that regulate social interaction. However, when children experience fear, distress or overexcitement, their ability to regulate their emotions is compromised and they find themselves overwhelmed by the flood of emotion and unable to communicate effectively (Emde, 2003).

This natural sociability of infants leads them into companionable relationships with others, in which language skills are acquired through co-operative awareness and the development of confidence, confiding and acts of meaning (Trevathen & Aitken, 2001). Donaldson (1978) advocates a 'human sense' that describes the ways in which infants make meaning from the intersubjective motives and emotions that underlie language, and their intuitive self-other awareness. This 'human sense' appears to derive from initially non-verbal gestures of expression, which are displayed in sympathetic and expressive exchanges of communication with a significant other. These exchanges are found in micro-analysis of video recordings to be mutually regulated, showing the infant and other taking turns of displaying and attending to their own and each other's emotional states (Beebe et al., 2010; Stern, 1985; Trevarthen, 2003). This confirmation of the infant's responsiveness to the adult's communicative intentions is a state described by Trevarthen (1979) as Primary Intersubjectivity. What is not clear, is whether these interactions are part of the attachment behavioural system or whether they represent a separate sociability behavioural system (Hughes, 2004).

Although it has been shown that infants are pre-programmed to behave in a socially co-operative way, their ability to do so is dependent on their experiences in early childhood (Bowlby, 1988). Bowlby focuses on the safety and protection aspects of AT to explain this, observing that in order to engage with others, particularly their primary attachment figure, in reciprocal, affective, social engagement behaviour, infants must feel safe. This is confirmed by Hughes (2004), who studied the attachment patterns of maltreated children

and found that feelings of safety are required to allow infants to be responsive to social and emotional interactions with their care-givers. This responsiveness, in a safe space, facilitates the development of dyadic, reciprocal interactions that in turn assist the infant's neuropsychological development.

Trevarthen (2005c) describes an interpersonal system where infants motivate and regulate collaborative play in companionable relationships with others. In observations of infants collaborating in this way with their parent, the infant is seen to initiate interaction, with an invitation to their parent to engage with them, and then to react to the sensitivity and quality of the parent's response. These positive social exchanges, beginning within hours of birth, continue beyond the early weeks and months of infancy and are observed not only in playful activity but also during infant feeding and vocal communication.

1.6.4.3 The infant as an active agent in their own learning through sociable relationships

Beginning in the 1960's and 1970's, infant observation and microanalysis of film recordings of spontaneous play between infants and their mothers brought about a revolutionary change in the psychological approach to understanding human communication and social interaction. Infants, who were previously considered by a medical model of child development to be passive learners, reacting to external stimuli and learning from others, started to be recognised as active agents in their own development (Nagy, 2011). Brazelton (1961) observed the social responsiveness of neonates and brought the Infant Observation method that had previously been the reserve of psychoanalysis to the field of developmental psychology. New understanding of the emotional development of infants and their capacity for social relationships emerged from such infant observation studies.

The theory of Innate Intersubjectivity shifted understanding of the ways that infants develop social awareness from a view of adults directing, correcting and constraining the self-serving actions of children, to a new understanding of the mutual sharing of experience

and intentions. Stern (1995; 2000) and Trevarthen (2009; 2012a; 2012b) describe how the infant's vitality and imagination are nurtured through shared experience and exchange of feelings in mutually trusting and companionable partnerships with favoured persons. Within days of birth, infants are observed to respond to other's expressions and to imitate their actions, thereby creating a dialogue of purpose and experience (Nagy, 2011). Even at this young age, babies can focus attention, imitate movements and try to imitate simple sequences of vocal utterances (Kugiumutzakis & Trevarthen, 2014). When adults engage in vocal conversation with infants they instinctively use a form of conversation known as *infant directed speech*, also sometimes referred to as *motherese*, or baby talk (Trevarthen & Delafield-Butt, 2013a). This type of speech is characterised by a slower rate, simple sentences and more variable prosody, and promotes language development.

During face-to-face play between parents and young babies they are shown to address and reply to one another using a precise timing of infant directed speech that follows a regular beat, with changing intonation, rhythm and accompaniment of bodily movements (Trevarthen and Delafield-Butt, 2013a). The baby collaborates with the parent, using vocalisations, facial expression and movement to form short phrases of two or three seconds duration, which are organised in narratives of expressed excitement. The phases within these narrative interactions are follow a distinct pattern, comprising of four observable stage: a *beginning*, characterised by an initiation and mutual greeting; a *build of intensity*, that leads to an interchange of facial expressions and vocalisations during which the infant excitedly moves his arms and legs while orienting to his mother; a *subsidence* of this activity; followed by an *end* to the interaction, characterised by the baby looking away, before the next period of interaction commences. Within these phases, the baby and the mother are likely to each be spontaneously active, however variations are observed in the timing of their responses. The infant will display their own autonomous rhythm as they initiate and withdraw from interaction, whereas a sensitive mother will regulate her behaviour to fall into rhythm with her baby. The mother adjusts the form and timing of her actions to intertwine with the autonomous rhythm and action of the baby's behaviour. A sensitive mother will allow her baby to determine the flow of interaction, with her response rhythmically enmeshing with his action and creating a dialogue between them.

As these dialogues develop, the mother allows her action to be determined by her infant, while the infant shifts their rhythm to take account of the mother's interventions. Each of them adapts to the other during their reciprocal exchange, as they develop an attuned partnership that displays mutual enjoyment (Trevvarthen & Delafield-Butt, 2013a). Bateson (1979) labelled these reciprocal exchanges 'protoconversations' to describe their resemblance to verbal conversation with its turn-taking structure. These protoconversations demonstrate a mutual regulation of attention that is developed within a state of Primary Inter-subjectivity, where feelings and motives are regulated between the parent and infant (Trevvarthen and Delafield-Butt, 2013a). Analysis of the vocal exchanges of protoconversation using acoustic techniques, finds a *communicative musicality* to the exchange, formed of the timing, rhythms, pitch modulation and quality of sound expressions from both partners (Malloch, 1999; Malloch and Trevvarthen, 2009).

The understanding of communicative exchanges between parent and child is further developed through observations of their play. Initially this involves playful exchanges using face, hands and voice, before leading to play with objects that are gradually introduced by the mother to attract the baby's interest and participation. Trevvarthen and Hubley (1978) observed the way in which objects become a mediator in shared interest and action during one-to-one play between a mother and infant around the age of seven months. At around 40 weeks this develops further, when their shared intentions are observed in a task through person-person-object co-operation, also known as Secondary Intersubjectivity. Bruner (1977) advocates that the progression from primary to secondary intersubjectivity is facilitated by a process of narrative scaffolding, whereby, as the infant shows an increased willingness to co-operate in the shared play, the mother alters her communication to involve the infant in active engagement in the joint task, thereby allowing shared projects to develop, with each partner complementing the actions of the other. Initially the infant is dependent on the active support of their mother, however as they acquire new knowledge and skills the mother can gradually decrease her support, allowing the infant to become more independent.

As the infant develops, becoming increasingly mobile around eighteen months of age, they seek wider social relations out with the confines of the parent-child dyad. At this stage, infants are able to use their observations and interactions to develop their own sense of identity through active engagement in the physical and interpersonal world that they inhabit (Walker-Andrews et al., 2013). Infants' understanding of themselves and of the world around them continues to develop through play as they experience and contribute to the rhythms, feelings and interests of others in collaborative engagement and the sharing of meaning. This creative collaboration through play with parents, peers and others, promotes active learning experienced within social relationships.

1.6.4.4 Attunement and the intersubjective sharing of affect

Through the types of social exchanges that have been described above, a sensitive mother quickly becomes attuned to the natural patterns and rhythms of her infant's behaviour. By attending to the detail of this behaviour and responding sensitively with her own appropriate reciprocal behaviours, she evokes the infant's contentment and co-operation (Bowlby, 1988). Kaye (1977) observed such synchrony of interaction in infant feeding patterns, where the mothers remained quiet and inactive during their infant's bursts of sucking, followed by responses of stroking and talking to their infant during pauses in their sucking.

Similar regulation of action taking place between infants and their mothers was observed by Collis and Schaffer (1975) during episodes of play with toys. They observed mothers and their infants in proximity to large, brightly coloured toys, where the infant would quickly turn their attention to a toy and the mother would follow by turning her attention to the same toy. Having established this mutual attention to the toy, the mother would elaborate on the object of shared interest by touching it and naming it, thus creating a shared experience between them that was instigated by the infant and established by the mother.

Schaffer, Collis and Parsons (1977) provide a further example of this type of positive social exchange in their examination of vocal exchanges between mothers and infants at a pre-verbal level. Comparing two groups of children between the ages of 12 and 24 months, they observed patterns of turn-taking that displayed characteristics found in human conversation, during which the mother would regulate the rhythm of exchange to follow a smooth conversational pattern. These harmonious social exchanges, with their rhythm and flow, require each of the participants to have an awareness of the other's point of view, their goals, feelings and intentions. Adjustments are then made by each individual to their own behaviour to allow them to negotiate the alignment of their goals. Bowlby suggests that this harmonious and insightful process requires individuals to have an understanding of their working models of self and others, and that this understanding may be updated through their freedom of communication (Bowlby, 1988).

Such non-verbal communicative experiences, as described, are found during moments of *attunement*, when the infant is in a "quiet-alert state of consciousness" (Hughes, 2004). Stern (1985) describes attunement as a subjective sense of self, developing from a mutual, wordless experience between an infant and their caregiver. This attunement necessarily involves engagement between two partners and is a property of the dyad, relating directly to the intertwined affective states of both partners in the dyad. Attunement assists individuals to participate in the intersubjective sharing of affect that is central to the development of secure attachment, and this shared process is described as 'affect attunement' (Stern, 1985).

Infants and care-givers are found to engage in non-verbal communicative exchanges, where experience is shared using the modalities of eye contact and facial expressions (Schorer, 2003a, 2003b; Grossman et al., 1986), movement and gesture (Goldin-Meadow, 2000), voice modifications (Jaffe et al., 2001), timing (Trevvarthen, 2001), touch (Field, 1996) and interactive play (Panksepp, 2001). During these rich periods of joint experience, affect attunement is the primary mode of nonverbal, affective communication. It helps the child to feel safe, and to regulate both negative and positive affect brought about by stressful or

joyful conditions (Schoore, 2001a; Siegel, 2001), thus contributing to the child's developing sense of self. It is through such affective communicative exchanges that the foundation is laid for the infant's social awareness and their subsequent building of social relationships. Adult-infant emotional attunement is a vital ingredient in successful child development, with emotional relationships in infancy determining the child's ability to regulate their emotions and build positive relationships in later years (Bornstein, 2013).

Bowlby's concept of internal working models of attachment is a form of representation that results from emotionally meaningful repeated experiences with caregivers and links affective memories and expectations of self in relation to attachment figures. Stern's (1985) concept of "representations of interactions that become generalized (RIGs) presents a similar idea, theorising that IWMs guide infant expectations and behaviour and increasingly influence ways of sharing and adaptation.

1.6.4.5 The role of affective attunement in adult-infant relationships

Affective non-verbal communication in infants appears to lay the foundation for social awareness and is crucial for the development of social relationships. These social bonds are fundamental to human life, helping us to both seek and obtain the basic physiological needs of food and shelter, and meet our social needs for positive and fulfilling relationships. From birth, babies actively encourage care from their parent by crying, clinging, calling and following. Maternal responses to the infant's cries are critical, both for their physiological care and survival and for the development of emotional bonds (Feldman, 2012). Much of Bowlby's work on attachment derived from his observations of boys who had been separated from their mothers in infancy and early childhood, the findings of which informed his maternal deprivation hypothesis (Bowlby, 1953). Bowlby proposed that a continuous warm and loving relationship between a child and its mother is essential for the child's healthy emotional development. He was concerned not only with the availability of the mother to provide safety and security, and to engage socially with her infant in reciprocal, dyadic interaction, but also with the quality of those interactions. According to Bornstein

(2013), quality mother-infant interactions require attunement and are essential for survival and appropriate development.

Affect attunement, described by Stern (1985) as the intersubjective sharing of affect, is a crucial element in the development of secure attachment and a positive sense of self (Hughes, 2004). Infants are sensitive to the quality of their communicative engagements with others, and are motivated to join with others in mutually attuned joint exchanges. These joint exchanges of communication are observed by Marwick & Murray (2008) to be tightly regulated in their affective quality. Tronick (1989) and Trevarthen (2001) show us that it is the affective company of others that provides the fundamental primary intersubjective relation for learning and social development. Within positively attuned relationships a conducive environment is found for such social learning and development to take place.

Infants are born with an inbuilt mechanism that allows them to connect with other people by mediating their capacity to share the meaning of actions, intentions, feelings and emotions with others (Gallese, 2009). They obtain a sense of self through their interaction with others (Legerstee, 2013) and through imitation begin to perceive others to be 'like me' (Meltzoff, 2007). Legerstee (2005, 2009) suggests three predispositions that act together in infancy to create affectively attuned relationships with others that promote socio-cognitive development. These predispositions are the infant's ability to i) recognise people as similar to themselves, ii) be sensitive to their own and others' emotions, and iii) perceive whether adults are attuned to their emotions and needs.

Through attuned and empathic intersubjective experiences, the infant establishes social attunement and perceives others to be not only physically, but also emotionally 'like me' (Legerstee, 2013). Both partners contribute to the attunement which Bornstein (2013, p.266) describes as "dyadic, dynamic and holistic", with biological and psychological structures and processes interacting with their affective environment. These attuned

exchanges are enabled by both the infant's biological predisposition and expectations (Bornstein, 2013), and the adult's intuitive, communicative and empathic behaviours, to allow the sharing of affect and interests (Trevvarthen & Aitken, 2001). In attuned interactions infants and their mothers engage in mutually positive affective exchanges that allow them to transition smoothly between activities (Stern, 1985; Tronick, 1989). These highly affective emotional relationships provide the bedrock of socio-emotional regulation in infancy, childhood and beyond (Bornstein, 2013). Over time these early non-verbal attunement experiences progress through social interaction to include verbal language (Kuhl, 2007).

The home environment is said to provide the child with a rich context for learning through shared experience, regardless of socio-economic background (Tizard & Hughes, 1984). However, Sylva et al. (2003) found that child outcomes are strongly associated with the quality of the home learning environment, with intellectual and social development in children promoted by active parental engagement in activities with their child.

Nurturing relationships between parent and child are therefore shown to be an important influence on children's early development. Infants develop a sense of self as a result of their intersubjective interactions with their parent or care-giver (Legerstee, 2013), with their motivation to interact in these relationships dependent upon the attuned responsiveness of the adult (Bornstein, 2013). Tronick et al. (1978), in their still-face experiment discovered that infants are responsive to their mother's emotional expression, and Murray & Trevvarthen (1986) found them also to be sensitive to the timing of their mother's responses, during face-to-face exchanges. Papousek & Papousek (2002) describe what they call "intuitive parenting", whereby parents automatically adjust their parenting patterns to the sensory and behavioural cues of their infant by their responsiveness, and their structuring and mirroring of the infant's experiences, and regulation of their affective states.

However, despite parents being biologically pre-adapted to intuitively attune to their infants (Brazelton, 1984; Papousek & Papousek, 2002; Emde 1984; Stern, 1985) there are

circumstances in which these attuned relationships are disrupted. Infants become upset when their mothers are not responsive to their signals (Legerstee et al., 1987, Markova & Legerstee, 2006), with failures of attunement between care-giver and infant resulting in interactions that are poorly timed and mutually unsatisfying. For example, maternal depression is found to affect mothers' interactions with, and responsiveness to, their infant. Murray, Marwick & Arteché (2010) suggest from the findings of their study with post-natal depressed mothers, that the emotions that parents' express when talking to their infants using 'baby-talk' may help to regulate infant affect and behaviour, and have implications for the child's future emotional development. When studying speech patterns, they found what they call a 'sadness' in depressed mothers' baby-talk with their infants. This sadness was characterised by a higher proportion of falling intonation in the mothers' speech. Where repeated falling intonation contours were displayed, these were significantly associated in later years with adolescent affective disorder. Legerstee et al. (2007) observe that, as depressed mothers do not always respond reliably to their infant's emotional states, the infant does not learn how to share affect through engagement with positive and negative responses during adult-infant interaction. This leaves the infant unable to learn from the reciprocity of meaningful and communicative behaviour (Legerstee, 2013).

It is the caregiver's attuned and empathic interactions that allow infants to develop understanding of the minds of others (Legerstee, 2013). This is how social bonding occurs. The mother's response to her infant's cries are important, not only for the infant's survival but also for the development of emotional bonding (Feldman, 2012). Such positive emotional relationships in infancy are an essential requirement of effective socio-emotional regulation in childhood (Bornstein, 2013).

1.6.4.6 The relationship between Attachment, Inter-subjectivity, Companionship and learning in school

Attachment Theory and Inter-subjectivity Theory provide separate yet overlapping views of child development. While Bowlby's Theory of Attachment (1969/1982) describes the

infant's need for safety and protection and their desire to seek the company of others in social relationships, Inter-subjectivity Theory describes the ways in which affective relationships that promote secure attachment develop. Bowlby's theory of attachment, when understood as separate from the sociable system for optimum infant and child development, highlights the care-giver as a figure of security and comfort and not necessarily fulfilling the role of preferred social playmate. This understanding is a useful starting point for the study of social relationships, focusing on the interactions that develop through shared goals and action plans (for e.g. Bretherton, 1980; Hinde, 1976, 1982a).

During the first two years of life, emotional development is enabled by consistent caregiver interactions. The child's experiences become internalised and become part of what is expected and practiced. Qualities of emotion such as interest, joy, surprise, anger, fear and sadness, become connected to expectations, goals, actions and their consequences. These connections are built through repeated circumstances that occur with significant others in the child's daily life. The more complex qualities of emotion that involve intentions, such as pride, empathy and shame, begin during the second year of life and also develop in specific circumstances with others.

Bowlby's concept of Internal Working Models (IWMs) of attachment is a form of representation that results from emotionally meaningful repeated experiences with caregivers and links affective memories and expectations of self in relation to attachment figures, forming an internal state of meaning about external events. Stern's (1985) concept of representations of interactions that become generalized (RIGs) presents a similar idea, theorising that IWMs guide infant expectations and behaviour and increasingly influence ways of sharing and adaptation.

Early parent-infant attunement is linked to secure attachment (De Wolff & van Ijzendoorn, 1997) and a range of long-lasting effects that lead to positive child outcomes. It has been associated with social attentiveness and social problem-solving (Lindsey, Mize & Pettit,

1997), co-operation, emotional reciprocity, and maternal and child responsiveness (Deater-Deckard & O'Connor, 2000), self control (Feldman, Greenbaum & Yirmiya, 1999) and child compliance (Rescorla & Fechnay, 1996).

Bowlby concentrated his theory on the ways in which infant-parent relationships are disrupted by an infant's enforced separation from their mother. Inter-subjectivity theory allows us to extend this idea beyond physical absence to consider how infant-parent relationships can be similarly disrupted by the absence of, or changes in, affectively-attuned interaction between infants and their parents or care-givers. When an infant's interactions with their care-giver become mistimed or mismatched, the infant experiences distress (Tronick, Ricks & Cohn, 1982) and such failures of attunement result in interactions between an infant and an adult that are poorly timed and mutually unsatisfying. Ultimately such interactions can lead to undesirable child outcomes. The well-known 'Still Face Experiment' designed by Tronick, Als, Adamson, Wise, and Brazelton provide early insight into the intuitive social understanding of infants, their ability to regulate their own affect, and their ability to engage in goal-directed behaviour as early as 4-months of age (Tronick, E., Als, H., Adamson, L., Wise, S., & Brazelton, T. B. (1978). These intuitive skills contribute to social bonding between infants and their parents, care-givers and others.

Bowlby (1980) identifies how changes in social bonding in the early years can allow deep emotions of anxiety and fear to surface in the infant. As the child grows, their social circle expands and relationships with peers and teachers also become significant to their development. The importance of these new social relationships is examined by Rutter (1989), who found that having a good relationship with one teacher can offset a child's previous negative experiences in the early years. However, in order to interact successfully with their peers, children must be able to communicate effectively and maintain shared activity with others (Smollar & Youniss, 1982). The development and maintenance of friendships requires social competence, a skill that allows children to interact with others in socially acceptable ways, maintain positive peer relations and comply with adult requests (Reynolds et al., 2010). These are the same interpersonal skills that allow children to engage

appropriately and work productively in the classroom with their teachers and peers (Izard et al., 2001). Children who display SEBN often have difficulty forming meaningful relationships with both their peers and teachers and this can be a source of stress and isolation for them that impacts on their interest in school and their engagement with learning in the classroom.

The link between education and attachment is highlighted in the Sutton Trust Report, *Baby Bonds* (Sutton Trust, 2014). The report highlights the educational divide that emerges early in life between the most and least advantaged children and the role that secure attachment bonds play in children's education, behaviour and future employment. Insecure attachment patterns in childhood are associated with poorer language skills and behavioural issues in the pre-school years. These effects continue throughout childhood and adolescence with insecurely attached children less likely to go on to further education, employment or training after leaving school. Securely attached children, by contrast, show resilience to poverty, family instability, parental stress and depression (Sutton Trust, 2014).

NGs are designed to provide a restorative experience of early nurture for emotionally vulnerable children, drawing on the intuitive response of the adults in the NG that allows them to relate to each child at a developmentally appropriate level (Boxall & Lucas, 2010). By replicating the learning process that is usually found in the home environment in the first three years of life, the NG experience is said to provide the first stage of the learning process, that is thought to have been disrupted in vulnerable children referred to NGs (Boxall & Lucas, 2010).

1.7 Brain development in relation to attachment and attuned relationships

1.7.1 How the brain develops in infancy

Knowledge of brain development assists understanding of children's behaviour and NG theory has benefited from, and continues to be informed by, insights from the rapidly evolving field of neuroscience research. Study of the brain is heavily informed by experiments with mammals, and in particular rats. In this developing field of study, new insights must be considered alongside current and developing knowledge from both animal and human studies to inform understanding of brain development in children.

The development of the brain begins within a few days of conception and continues throughout infancy, childhood, adolescence and beyond (Shonkoff & Phillips, 2000). The brain is made up of different parts that grow, develop and have prominence at different stages of development. Throughout pregnancy and early childhood the structures and systems of the brain develop through a complex interplay between genetic and environmental factors, taking place both within and outwith the child (Shonkoff & Phillips, 2000).

The earliest years of life are widely recognised as a critical time for brain development. When babies are born, the brainstem and limbic system are the dominant functions of the brain, supporting survival mechanisms (Satchwell-Hirst, 2017). This lower part of the brain is sometimes referred to as the 'automated brain' and includes structures associated with emotions and motivation, including the amygdala and hippocampus. As infants grow and develop, another part of the brain, the neocortex, becomes more influential. The neocortex is also known as the 'thinking brain' and is associated with higher-level brain functions, such as language, critical thinking and decision-making (Satchwell-Hirst, 2017). As the brain continues to develop into the third decade of life, the pre-frontal cortex, an area within the neocortex, is the last area of the brain to develop fully. This is the part of the brain that is considered to be responsible for the highest-level cognitive functions (Kolk & Rakik, 2022).

Relational neuroscience brings scientific evidence together with developmental theory to consider the ways in which interpersonal experiences impact on brain development (Siegel, 2020). Neural pathways that connect neurons in the brain develop in infancy, based on the infant's experiences (Kolb & Gibb, 2011). A range of early life experiences can profoundly affect neural, behavioural and psychological development, and can lead to long-lasting changes in the brain (Smith & Pollak, 2020; Cicchetti, 2010; Pollak, 2005). Literature supports effects of early life experiences on development of the prefrontal cortex, hippocampus, hypothalamus and amygdala, and on communication across those areas (Smith & Pollack, 2020). These experiences include environmental factors, such as parent-child and peer relationships (Kolb & Gidd, 2011) and early life stress (Pechtel & Pizzagalli, 2011).

Interpersonal experiences can impact brain structures in positive or negative ways, and a direct relationship is implied between an enabling socio-emotional environment and an optimally developing brain (Schore, 2001b). Prolonged high levels of stress, both pre and post-birth, can lead to behavioural changes and abnormalities, including learning and memory impairment, attention deficits, and altered exploratory behaviour (Weinstock, 2008). In studies of rodents and non-human primates, excess maternal stress hormones are found to alter the programming of neurons in the developing foetus, which together with genetic and environmental factors, and the quality of maternal attention, determine the behaviour of the offspring (Weinstock, 2008). These findings have implications for theories of human development, however research that translates the relationship between heightened stress response and developing brain structure from mammalian studies to early childhood are limited (Fowler et al., 2021).

Within the limbic system, the amygdala is responsible for the control of emotions and behaviour, helping to regulate anxiety and aggression, fear conditioning, emotional memory, and social cognition. A relationship is found between heightened stress response and amygdala volume (Fowler et al., 2021; Barry et al., 2017; Pagliaccio et al., 2014; Klimes-Dougan et al., 2014). Recent research carried out by Fowler et al. (2021), suggests that

heighted cortisol stress response may interfere with the structural development of the right amygdala. However, the researchers also report that the inverse may be true, where a smaller right amygdala volume predisposes children to display a heightened cortisol stress response.

Parent-child relationships are found to play a critical role in brain development (Kolb & Gill, 2011). Brain structures are affected by developing attachment in infancy and the effects of early attachment style are evident throughout life (Schoore, 2001a). There are two hemispheres within the brain, the right hemisphere and the left hemisphere, and attachment is thought to particularly affect the right hemisphere (Schoore, 2000b). As discussed in Sections 1.6.3 and 1.6.4 of this thesis, the patterns of attachment that develop in infancy are dependent on intersubjective experience in the earliest years of life. Schoore (1994) proposes that early attachment experiences between an infant and their primary caregiver influence the development of brain systems at a neuronal level in positive or negative ways. One of the functions of these brain systems is to mediate the infant's ability to cope with environmental stressors, including social and emotional environments (Schoore, 2000b, 2001).

Social synchrony in relationships is a precursor to the development of the neural empathic network in the brain, which includes the amygdala, insula, temporal pole and ventromedial prefrontal cortex (Yaniv et al, 2021). Callaghan & Tottenham, 2016 describe the ways in which early parental care, the central nervous system and behaviour collaborate to form a 'neuro-environmental loop' of plasticity that contributes to the formation of stable emotion regulation circuits in the brain. Attuned attachment behaviours lay important neurobiological foundations to support self-regulation, which is vital for social communication (Jethava et al., 2022).

The concept of brain 'plasticity' refers to the ability of the brain to change structure and function, proposing that neural pathways are not fixed and can be changed and moulded

over time (Kolb & Gibb, 2011). Changes in the brain are said to be brought about by sensory and motor experiences and are impacted by the stage of development, with the same experience having the potential to alter the brain differently at different ages (Kolb & Gibb, 2011). The right hemisphere of the brain supports capacities that are essential for human interaction, including social bonding between companions (Trevvarthen, 2000). This part of the brain is also responsible for human stress responses. The neural plasticity of the child's developing brain means that they are sensitive to the effects of trauma and prolonged stress. Trauma can impact developmental processes through stress responses and in some cases can cause functional and structural changes in the brain (Glaser, 2000).

The effects of early life stress on the brain circuitry are thought to relate to altered emotion processing in children living in high stress environments (Kim-Spoon et al, 2013; Smith & Pollak, 2020). In turn, difficulties with emotion recognition, expression and regulation put children at increased risk of a range of maladaptive social and behavioural outcomes (Smith & Pollak, 2020).

1.7.2 The neuroscience of Nurture Groups

NG theory supports a bio-psychosocial understanding of child development, recognising and responding to the impacts of genetic and social influences on children's developing brains. NG practice concentrates on social, emotional and behavioural development by identifying and responding to the effects of missed or impaired developmental experiences in the earliest years of life (Bennathan & Boxall, 2000).

Many children who are referred to NGs have experienced prolonged stress and trauma in the early years of life, which may include neglect, abuse or bereavement (Nurture UK, 2021). In some cases, children who have been maltreated are reported to have lower cognitive functioning (Glaser, 2000). In infancy, internal working models of attachment relationships are stored in the right brain and impact affect regulation and the development

of stress-coping systems (Schoore, 2001a). Where infants do not develop secure attachment to their care-giver in the earliest years of life, heightened stress responses and maladaptive emotions may lead to poor socio-emotional coping (Luby et al., 2012). Social communication is vital for human relationships and mental health across the lifespan through appropriate understanding and use of verbal and non-verbal communication within a social context (Jethava et al., 2022). With nurture and support from sensitive adults, it is possible for children to build coping skills to manage stressful experiences and reduce childhood stress to manageable levels (Shonkoff et al., 2015).

Neural plasticity suggests that, not only can the brain be negatively shaped by traumatic or stressful experiences, it can also be positively shaped through rich environments and reparative relationships (Treisman, 2024). This has implications for NG practice and supports NG theory that early emotional damage, or developmental impairment, can be reversed. NG theory recognises the importance of positive early childhood experiences for providing the foundations for later successful development. While it is better to prevent developmental damage from happening in the first place, NGs provide the social and learning experiences that may have been missed in the earliest years to support the emotional, social and cognitive development that is necessary for overall good development. NG practice is influenced by practitioner understanding of the potential impacts of adversity in childhood, and knowledge and application of trauma informed practice. This understanding, combined with training that supports knowledge and understanding of attachment theory and brain development in childhood, supports NG practitioners to reflect on the impact of childhood experiences and develop appropriate responses.

Brain science continues to evolve and there remains a lack of understanding about exactly how neural changes come about, what aspects in children's environments cause changes in brain structure and function, and the influences on individual differences in children's outcomes (Smith & Pollak, 2020). However, current understanding suggests that NG intervention has potential to positively impact on children's developing brains.

1.8 Research aims and questions

1.8.1 Aims of the study

Educational research has historically been, perhaps understandably, predisposed to concentrate on outcomes in relation to academic learning and attainment, with poor regard to the emotional development of children, which is more difficult to measure. The methodologies employed in empirical research to determine the efficacy of NGs have frequently overlooked the social and emotional aspects of learning in favour of demonstrating the behavioural and resultant academic gains for nurture pupils. While behavioural gains and academic achievement are important and encouraging features that cement NGs as effective in helping children displaying SEBN to remain and achieve in mainstream schools, there remains limited understanding of the mechanisms by which these gains are made. By concentrating primarily on the measurement of behavioural features and academic progress, current research fails to determine the social, emotional and psychological processes that underpin the intervention, therefore limiting their application.

NG literature explains the effectiveness of NGs as resulting from the building of new attachment bonds between child and teacher, proposing that these new attachment relationships somehow replace or repair disrupted child-caregiver attachment in infancy. This explanation is not substantiated by evidence of new or repaired attachment bonds or styles and is based in a theory of Attachment that was being developed at the same time as the first NGs, with poor attention to more recent advances in the understanding of child development. While NGs display positive and encouraging results when working with young children displaying SEBN, debate still surrounds their place within a modern-day model of inclusive education that is not helped by continuing limited understanding of the mechanisms by which they work.

There are calls for more in-depth longitudinal research to understand the key mechanisms of change and most effective aspects of NGs (Seth-Smith et al., 2010), why and how positive effects occur (Sloan et al., 2020), and the optimal conditions for NG success (Bennett, 2015). Such research would help to produce the more comprehensive body of research pertaining to existing interventions, suggested by Cheney et al., (2014), to support evidence-based decision making in schools.

This study, carried out over one school year, set out to address some of the questions that remain unanswered and provide insight to progress debate and research on the benefits of NG provision in schools. The project explores the relational and learning experiences of pre-school and early primary school children in NGs to understand how they participate and make meaning of their experience in this unique intervention, and identify similarities and differences between children and groups. Drawing from the current evidence base, three lines of enquiry are considered in this thesis to further understand their implications for NG practice.

Aim 1. Relationships

The literature provides evidence that NGs allow children to build positive relationships within the groups, with a primary focus on the teacher-child relationship. Positive, fulfilling and supportive relationships are known to provide the foundation for early development and learning, observed in the embodied, participatory exchanges that take place between normally developing infants and their parent or care-giver. It is not clear whether similar exchanges take place within NGs to support children's development. Improved understanding of such mechanisms can help to inform teaching practice in NGs, as well as lend indicators for improved attention to socio-emotional concerns in mainstream and nursery teaching.

By addressing the inter-personal dynamic between adult and child, and between the children themselves in the NG, this project aims to extend theoretical understanding of

embodied inter-subjectivity, traditionally defined in mother-infant relations, to the pre-school and school age child. By doing so it will introduce new theoretical perspectives in an attempt to close the gap between attachment-related, and inter-subjectivity-related theoretical explanations of SEB improvement. Further, this study will not only introduce new theoretical concepts and conceptual tools to better understand NG efficacy and practice, but will introduce new analytical methodology to gain detailed insight into child and teacher relational behaviours.

Aim 2. Regulation of action and emotion, and co-operative engagement in tasks

Participation in learning tasks requires the co-operative involvement of willing partners, i.e. pupils and teachers. Pupil involvement requires the ability of the pupil to engage in tasks with interest and to regulate their actions and emotions in co-operative engagements with others. When children have missed out on early nurturing experiences at home it is likely that they are missing aspects of affective attunement that lead to social and emotional competence for engagement in co-operative activity. NGs are thought to allow children to develop affective, trusting relationships in a supportive environment, however it remains unknown which particular aspects of NG intervention assist the building of attuned relations. By developing an understanding of the processes that assist social and emotional development in NG pupils we can address the debate about the aspects of NGs that are most helpful.

Aim 3. Reliability, predictability and routine

The literature review has evidenced that secure attachment relations develop through reliable and predictable patterns of engagement with significant others in infancy. These engagement patterns ensure that social anticipations and expectations are met and confirmed, providing a sense of knowing and security. Insecure attachment relations in infancy are shown to be a predictor of SEB difficulties in older children. It therefore appears paramount to determine whether or not the degree of reliability and predictability of social

engagement patterns found in the NG, for children of pre-school and primary age, bears any relation to the success of NGs in working with a child's SEB needs.

Attention will first be made to the temporal structure of the overall NG experience, and its variance. A preliminary working hypothesis suggests that those NGs with regular structure and predictable patterns ought to be on good starting grounds to provide pupil's with a greater sense of security, thereby allowing reliable patterns of social engagement to develop. Further, because human relations, with their vital importance, develop during NG social interactions, these interactions will also be mapped, measured, and analysed.

Drawing on studies of non-verbal mother-infant engagement, episodes of shared interaction where teacher and child are actively and directly engaged together in a common task will be identified. The temporal course of these interactions will be analysed to identify the moment-by-moment interplay of interaction within the over-arching form and structure of the activity. Typically, episodes of shared interaction occur in mother-infant engagement in multiple interactive episodes of 20-30 seconds duration each. By measuring the child's contribution to the engagement and the reliability or regularity of the teacher's responsiveness, and vice versa, this arm of the study aims to define the interpersonal, temporal and psychological structure of embodied interaction.

Three research questions were identified from the literature review to address the gaps in knowledge identified in the above lines of enquiry. The research questions are detailed here and the methodology by which they will be investigated is outlined in the following chapter.

1.8.2 Research Questions

Question 1: What child and teacher relational behaviours and experiences are observed in the Nurture Group that assist socio-emotional development and learning engagement, and how might these inform understandings of the relationship between attachment-related and inter-subjectivity-related theoretical explanations of SEB improvement?

Question 2: How does the Nurture Group intervention support children's regulation of action and emotion in co-operative engagements with others in tasks, and how might this build affective, attuned and trusting relationships?

Question 3: What is the reliability and predictability of the Nurture Group experience and how does this impact on the development of secure attachment relationships and on the Nurture Group's capacity to meet children's needs?

2 METHODOLOGY AND ETHICS

2.1 Research approach and methodology

2.1.1 Conceptual framework and researcher positionality

The research presented in this thesis draws on a number of theories and paradigms to address the research questions. The literature review has explored the dominance of Attachment Theory (Bowlby, 1969/1982) to explain the effectiveness of NGs, and the researcher believes that aspects of Attachment Theory are useful to explain the needs of children referred to NGs and goes some way towards developing understanding of the mechanisms of change. This study, however, provides focus on the ways in which children experience and make meaning of their time in the NG, and draws on the theories of Inter-subjectivity and Companionship to understand the social aspects of NG practice that can not be explained by Attachment Theory.

The researcher adopted a social constructivist ontological position, whereby development of understanding requires active engagement in meaning-making (Jones & Brader-Adaje, 2002). The researcher's position recognises the child, not as a passive recipient of learning, but as an active participant in the co-construction of knowledge. Social constructivism reflects the social aspect of learning, where subjective experience and social processes work hand-in-hand in the development of knowledge through interaction with others. Reality is therefore determined by the experiences of the learner, as they actively construct or make their own knowledge (Elliott et al., 2000).

The constructivist approach concentrates on the experiences of individual participants and on processes over time. It is an appropriate position to allow the researcher to gain knowledge of how NGs work with individual pupils to support their individual needs and the construction of individual and shared meanings. Shared meanings (Myers, 2008) appreciate that people are different and seek to understand how differences inform the way that

people find meaning.

Alongside, this ontological position, the research for this study sits within an Interpretivist epistemological paradigm, where it seeks to understand the subjective experience of children in the NG. The NG approach promotes that NG teachers should attempt to see the world as the child sees it, and the Boxall Profile supports teachers to make sense of the child's behaviour by understanding what lies behind the behaviour. NG teachers are encouraged to use their reflections on the child's Boxall Diagnostic Profile scores to consider how the world looks to the child (Bennathan & Haskayne, 2007). Interpretivism supports the qualitative methods employed in this study to explore the interactions, emotions and behaviour of NG children and explore the meanings that are attached to these experiences. Interpretivist research is subjective by nature and acknowledges that studies of human experience, such as emotions, feelings, and other aspects of being human, cannot be objectively known. This study did not seek to find a 'truth', but to gain understanding of children's own experiences in the NG. In stating their positionality, the researcher believes that there is not only one path that leads to knowledge and not only one methodology that will uncover the 'truth'.

All research may be influenced by the world-view of the researcher. In this study, the researcher aligned with the views of Kivunja & Kuyini (2017) who state that:

- Context is vital for knowledge and meaning
- Realities are multiple and socially constructed
- There is an inevitable interaction between researcher and participants

The researcher acknowledges their own subjectivity through which their knowledge was co-constructed with the participants to the study.

2.1.2 Defining the research design

To address the research questions, a mixed methods longitudinal nested case-study approach, informed by an initial case study, was employed to provide the richness of understanding and robustness of evidence that was required to satisfactorily address the research questions. This approach allowed findings to be reported across the levels of individual NG pupil, individual NG and the complete case (findings from 16 pupils attending 4 NGs in 2 primary schools) (Fig.3).

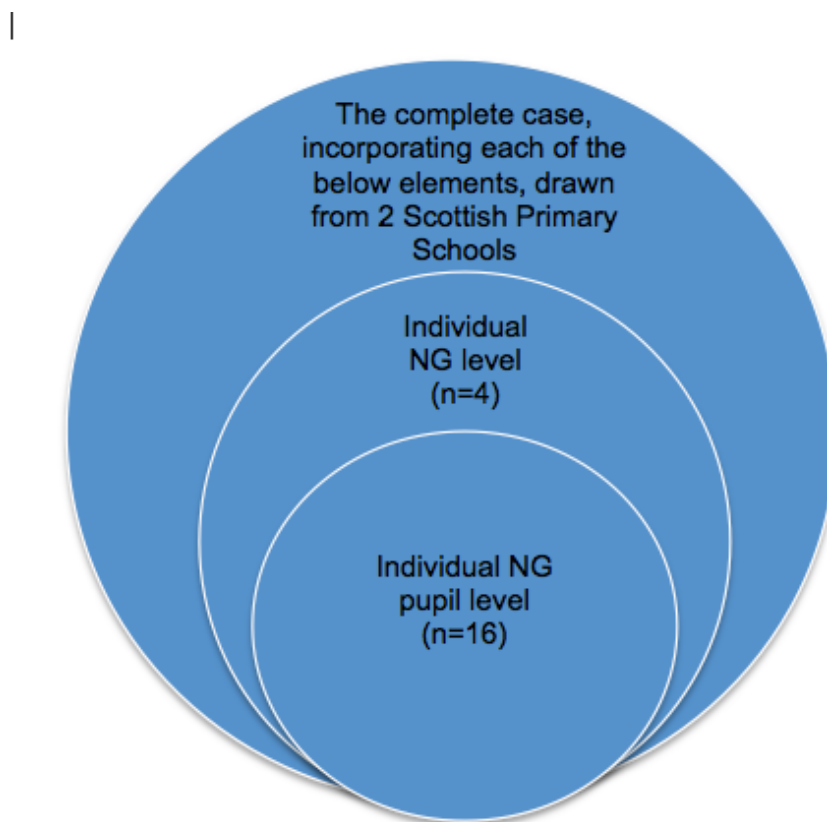


Figure 3. Nested case study research design

The literature review highlights the shortcomings of current theoretical explanations to explain the mechanisms of change in NG efficacy. The research methods for this study were situated within an exploratory analysis framework, allowing the study to build on existing theory and to investigate new ideas and theoretical perspectives. The researcher was immersed in the NGs through a period of observation prior to the start of the study, where

the children's interactions and behaviour, as well as the NG features and operations could be witnessed first-hand. A pilot study for the project provided an opportunity to observe NGs in practice and to record data for preliminary analysis. Utilising the researcher's existing knowledge, the results of the literature review and observations made in the NGs, a narrative approach to the study was identified as an appropriate methodology to answer the research questions.

2.1.3 Narrative approaches to research in the social sciences

2.1.3.1 *What is narrative?*

The term *narrative* elicits a variety of interpretations across scholarly understandings, with different disciplines defining the term in different ways. A commonality amongst interpretations rests with the idea of narrative as a story or a composition (Hazel, 2007). The term is used to describe discourse (Moss, 2019), articulated personal meaning (Roberts, 1997), a mode of thinking, a structure of organising knowledge, or a vehicle in the process of education (Bruner, 1996; Hazel, 2007). Insights from the disciplines of psychiatry and psychotherapy help us to understand the importance of narrative in our lives. For example, Roberts (1999, p.3) describes narrative, or stories, as "the means by which we make meaning" and Bruner (1990) refers to narrative as 'the foundation of meaning making'.

The idea that narrative is the primary form by which meaning is created in human experience is reiterated across other disciplines, from English literature to science (Bresler, 2006). Sociologist, Arthur Frank (1993), explains how we construct our past histories from our experiences, with our memories being affected by our motivations. All human beings construct narratives, and these narratives provide a means by which we organise and make sense of our experience (Bruner, 1991; Kearney, 2002), evaluate our actions, and understand our intentions (Cunliffe & Coupland, 2012).

2.1.3.2 *The structure of narrative and its enquiry*

Stories, or narratives, contain “structures of meaning” that allow us to make sense of experience, with shared stories providing the “fabric of relationships and the basis for community” (Roberts & Holmes, 1999, p.12). Stories bind together people, families and social groups, through their narratives of shared meaning. They have the potential to bring both cognitive and emotional significance to our experiences. Stories help us to construct our social identity, give our actions and events moral weight, and allow us to contain experiences that are threatening or unpredictable (Bowman, 1989). It is through the hearing and telling of stories that children learn about the people and the social norms of their world (Taylor, 1996). Stories allow us to understand and make sense of the world in which we live by exploration and negotiation. We use stories to explain and describe our experiences, with attention to both the textual aspects and the lived multi-sensory experience, thus providing an observable form to understand a process.

Stories generally follow a recognised structure that can be found in the earliest children’s fairy tales to the most advanced scholarly writing. Both everyday and written stories contain an experience, where the endings satisfy some tension that has been generated in their beginnings (Bresler, 2006). The common structure of stories is recognised across a range of mediums, such as media, documentaries, newspaper articles, theatre, music, dance, poetry and visual art. This common structure is comprised of four parts: 1) an *introduction* that sets the scene, describes the background, outlines the form and direction the story will take and explains the context, 2) a *development* of the ideas that creates understanding, encourages interest and develops enthusiasm to continue, 3) a *climax*, where the story reaches an intensity that creates a rich, shared understanding or moment of intense expressive feeling, culminating in, 4) a *conclusion*, where the intensity diffuses as the outcome is explained and understood and the story draws to an end.

The structure of storytelling was studied by Labov and Waletzky (1967), who were interested in the ways that ordinary people tell stories about their own life experiences.

They identified specific language techniques that are used to report past events and used them to develop a framework to assist the analysis of narratives. This framework was applied to a range of narrative situations and types, such as oral memoirs, traditional folk tales, novels, therapeutic interviews and narratives of every-day life. The framework outlines the structural organisation of narrative, and defines narrative as a way of recounting past events, in which the order of the narrative clauses matches the order of the original events as they occurred and informs Labov's Narrative Model (Table 6). Labov (1997) specifies that it is the structure within this model that differentiates narrative from other means of storytelling.

Table 6. Labov's Narrative Model²³

Narrative category	Narrative question	Narrative function
ABSTRACT	What was this about?	Signals that the story is about to begin and draws attention from the listener.
ORIENTATION	Who or what are involved in the story, and when and where did it take place?	Helps the listener to identify the time, place, persons, activity and situation of the story.
COMPLICATION	Then what happened?	The core narrative category providing the 'what happened' element of the story.
RESOLUTION	What finally happened?	Recapitulates the final key event of a story.
EVALUATION	So what?	Functions to make the point of the story clear.
CODA	How does it all end?	Often a generalised statement which is 'timeless' in feel.

The basic model consists of the four categories of Orientation, Complication, Resolution and Evaluation. Labov notes that the evaluation section is vitally important in bringing meaning to the narrative, but may occur at any stage throughout the narrative. Two additional sections, Abstract and Coda, are sometimes added to the model at the beginning and end. The Abstract is a short summarising statement provided before the narrative commences, and the Coda is a statement that returns the setting to the present.

²³ This model is adapted from Sample Unit C5 in Simpson, P. *Stylistics: A resource book for students*. London UK: Routledge. <http://www.routledge.com/textbooks/0415281059/>

In his study of narrative, Labov (1997) found the units to be temporally organised, with at least one temporal juncture being present in each fully formed narrative. The temporal juncture is described as the separation between two clauses that allows for the statements only to have the same interpretation for the listener if the order of events before and after the juncture remains the same. This means that if the listener's interpretation would be changed by a reversal of the order of events then the clauses must be separated by a temporal juncture.

Despite language and narrative studies traditionally focusing on the written text (Ong, 1982), narrative enquiry has its roots in the study of connection (Bresler, 2006). Stories, as a form of interpersonal communication, are not merely collections of words but involve the desires, needs and relationships of the participants (Cobley, 2013). Buber (1971) describes how, in connection we evolve in relation to both people and things as we perceive and respond to them. He suggests that the written narrative is a mode of transmission of experience between the author and the reader, where the reader undergoes a change of self that comes from their response to the author's perceived voice. This type of responsive interaction between the reader and the author is compared by Bresler, (2006), to the conceptualisation of art as an experience. Such experience is found through visual art, such as viewing and appreciating a painting, and musical art, such as performing or listening to a piece of music. Both art forms involve communication between the artist or performer and the viewer or listener. Bresler (2006, p.11) refers to this communication as 'embodied narrative'²⁴.

The work of philosopher Walter Ong resonates with Bresler's stance. Ong describes how communication involves a richness of experience that encompasses gestures and body language, and utilises the senses of sight, touch, taste, hearing and smell, as well as voice (Ong, 1982). In musicality, this multi-sensory aspect is displayed through the visceral and

²⁴ All references to embodied narrative throughout this thesis draw on the work of Bresler (2006) and Ong (1982) and refer to an active process that develops through a rich, physical experience, shared by two people and involving the body and senses, in a form of communication that need not be verbal.

temporal quality of the experience; important aspects that are not prominent in verbal language or visual text (Bresler, 2006). Ong (1982) refers to the dynamic and vitality of sound, philosophical ideas that are advanced and imbued with psychological understanding by Stephen Malloch and Colwyn Trevarthen in their study of communicative musicality (Malloch & Trevarthen, 2009).

Steven Malloch identified the musical nature of infant directed speech through his study of infant-parent communication (Malloch, 1999). Using computer-based acoustic analysis he examined the elements of co-operative and co-dependent communicative interactions between mother-and infant, identifying three elements that are essential components of attuned interaction. The first element is 'pulse' which he describes as "the regular succession of expressive events through time", identified by the patterning of the pitch level of the mother and infant's vocalisations (Malloch, 1999, p.32). The second element is 'quality', which consists of contours of melody and timbre within the vocalisations. These contours display the harmony and voice quality that are used to create communicative understanding between the mother and infant. The units of pulse and quality found in gestures of vocalisation and bodily movement form the building blocks of the third element of attuned interaction, that of 'narratives' of experience and companionship. Malloch (1999, p.45) describes narratives as "the very essence of human companionship and communication," allowing two people to create and share emotional experience.

Narratives allow meaning to be created in joint activity (Trevarthen, 1998) in the same way as musical performance unifies performers and listeners in a shared experience (Bresler, 2006). The relationship between musical structure and classroom learning is described in an observation by Bresler (2006, p.25):

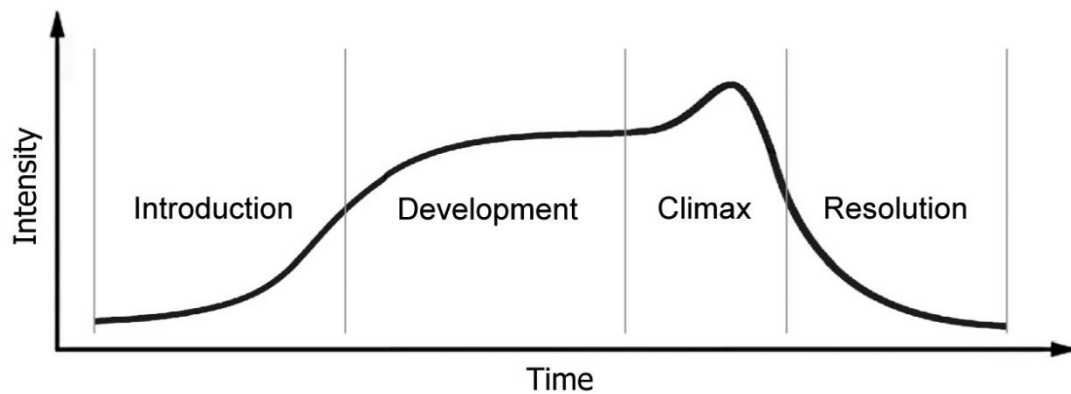
"In this moment of "Aha," classroom life assumed a coherent form (introduction to the lesson, its development, closure), with a distinct orchestration (teacher as

conductor, students organised in various ensembles, each with their distinct timbre), characterised by certain dynamics, textures and rhythms.”

Embodied narrative is concerned with the processes and the spaces that facilitate the creation and communication of narratives (Bresler, 2006). This concept has similarities to the observations of psychiatrist Arthur Kleinman (1988) in his description of the narrative of patient case histories. Kleinman describes the ways in which illness-meanings are actively created by the practitioner in dialogue with the patient. Importantly, he notes that different practitioners will create different case histories for the same patient, as the stories that they construct are influenced by their own interests, needs and purposes. Thus, we see that narratives are active, participatory, social and individual.

Egan and Ling (2002) suggest that, by assisting the ordering and orientation of our emotions, episodes of narrative act as a tool, facilitating the personal connectedness that is necessary for us to perceive, conceptualise and make meaning. They describe the experience of sharing a narrative of artistic expression, whether through music, dance, art or story-telling, as the “arc of a narrative” (Egan & Ling, 2002, p.96). This arc of narrative shares similar features to Labov’s narrative model (Labov, 1997) and also to Trevarthen and Delafield-Butt’s narrative contour of intensity. Trevarthen and Delafield-Butt (2013a) describe the collaborative function of narrative that takes place in positive social engagements of action and awareness through a four-phase model (Fig.4).

Figure 4. Narrative intensity contour²⁵



Description: Narrative intensity contour of affective and expressive engagement in a project over its four phases: (i) interest and engagement in the project begins at a low-intensity in the introduction, which invites participation; (ii) the coordination of the actions, interests, and feelings of participants intensifies over the development, as the project is developed; (iii) a peak of excitement with achievement of a goal in mutual intention is reached at the climax; after which (iv) the intensity reduces as the purposes of the participants share a resolution, allowing them to move on to other projects, whether together again or separate.

2.1.3.3 The use of narrative methodology for this study

For the purpose of this thesis it is important to define the use of the term narrative and outline the ways in which it provides understanding and enquiry in this research process. The work of Jerome Bruner underpins the use of narrative in this study. Bruner (1990) describes the principal property of narrative as its inherent sequentiality, or ordered structure. The structure of narrative is a common thread across studies of narrative, however Bruner advocates the importance of the way in which individual narrative components provide meaning only as a part of their whole.

²⁵ Reproduced with permission from Trevarthen and Delafield-Butt (2013a).

“A narrative is composed of a unique sequence of events, mental states, happenings involving human beings as characters or actors. These are its constituents. But these constituents do not, as it were, have a life or meaning of their own. Their meaning is given by their place in the overall configuration of the sequence as a whole.”
(Bruner, 1990, p.43)

Narrative, as described, provides both an understanding of how individuals make sense of experience and a methodological tool with which to explore such experience. Narrative methodology is attuned to the claim that NGs provide a unique intervention in the lives of vulnerable young children, by providing a means to investigate the meaning and experience that are at the heart of those claims (Billington, 2012). Narrative is said to be at the heart of the learning process, due to its implication in the efficient organisation and encoding of memory, and in planning and problem-solving abilities (Hazel, 2007). Narrative enquiry, as a methodology, enables the investigation of the rich, embodied experiences of children in NGs. Many of these experiences are created with others, and narrative enquiry lends itself to the investigation of the ways in which these experiences are constructed, along with measurement of the quality of such interaction.

Successful intersubjective interaction within positive relationships has been shown in infant studies of vocal patterning to display shared rhythm, quality and narrative form (Malloch, 1999; Malloch & Trevarthen, 2009). These are the hallmarks of creative musicality, which, together with expression in body movement, allows for the co-creation of meaningful, embodied experience in every day projects (Gratier & Trevarthen, 2008; Trevarthen & Delafield-Butt, 2013a). Narrative enquiry provides a methodological field in which to research embodied experience by investigating the ways in which narratives are constructed and attended to.

Narrative patterns of participatory engagement can be used to investigate the interconnectedness of individuals within a dyadic partnership (Delafield-Butt & Adie, 2016).

Non-verbal narrative structure is identified by attention to the ways in which partners engage; through their body movement, facial expression and eye gaze, patterns of engagement can be identified and measured. These narrative patterns allow measurement of the duration, pattern and consistency of engagement, as well as the individual and shared contribution (Delafield-Butt & Adie, 2016). The study of narrative patterns of engagement therefore provides a descriptive means to explain the processes of intersubjective experience.

The child's world is socially and cognitively structured starting with the narrativity of proto-conversation in infancy. Simple actions before birth, then as a baby, develop through interactions with a sensitive care-giver into more sophisticated skills. Single movements are chained together to produce small projects, which are then organised into larger projects. This active learning and successful accomplishment leads to repetition, and children make meaning through these repeated active learning projects. By considering narrative patterns of everyday experience we can examine the practices, rituals and routines that form the structure of our lives. The narratives that we construct as we go about our daily activities form a framework in which our individual practices, rituals and routines can be examined through attention to the sub-narrative of individual experience. This allows us to examine the individual differences across a population.

Narrative episodes of intersubjective interaction allow us to identify behavioural and relational patterns of engagement. Additionally, by understanding the narrative patterns of typically developing infants and children at different stages of development, we can begin to understand the experiences and nuances of atypical development.

2.1.4 Measuring the quality of social interaction engagement using the Leuven Wellbeing and Involvement scales

A key element of this study involves measurement of the quality of social interaction engagement between children in the NG and NG staff and peers. Chapters 4 and 5 describe observational methods employed during periods of social interaction in NG phases and activities. The Leuven Wellbeing and Involvement scales (Appendix G) were used throughout the study to measure the quality of experience during periods of social interaction engagement in tasks.

The Leuven Wellbeing and Involvement scales, developed by Ferre Laevers and a team based at the Research Centre for Experiential Education at Leuven University, Belgium, provide a framework to support both educational research and practitioner observation in early education settings (Laevers, 1994). The framework can help practitioners to investigate and measure the quality of children's engagement in learning experiences in their setting (Mathers et al. 2007; Laevers, 2000; Woods, 2016). The Leuven Wellbeing and Involvement scales are recognised in Scotland's National Practice Guidance for Early Years, *Realising the Ambition: Being me*, as a useful tool for practitioners to evaluate the quality of their facilitation of play pedagogy (SG, 2020). Research shows that the highest learning outcomes are achieved in settings where value is placed on children's playful enquiries and deep engagement in tasks (Fawcett, 2009).

The Leuven scales place the child at the centre of their own learning by focusing observation on their experiences within the learning environment (Leuven, 2000) and helping the observer to attune to the significance of the child's experience as a conduit to learning (MacRae & Jones, 2023). The Leuven Scale of Wellbeing provides indicators and descriptions of the child's level of emotional wellbeing on a scale from Level 1 (Extremely Low) to Level 5 (Extremely High). Laevers (2000) describes the signs of good emotional wellbeing in children, where their emotional and physical needs are being met, as: feeling at ease, acting spontaneously, and showing vitality and self-confidence.

The Leuven Scale of Involvement aims to measure the child's level of engagement with tasks through observation of the intensity of activity and how well this is sustained, from Level 1 (Extremely Low) to Level 5 (Extremely High). Very highly engaged children are said to be continuously and intensely engaged (Laevers, 1993). This type of intense engagement is likened to the 'state of flow' described by Csikszentmihayli (1979, cited in Laevers, 2000), where the full potential of experience is operational, and is usually achieved through play (Laevers, 2000).

Involvement is recognised in children's concentration and persistence in an activity and may be observed when a child is playing alone or with staff or peers (Laevers, 1997). High levels of involvement are characterised by motivation and intensity of experience, which takes places at a physical and cognitive level and affects learning outcomes (Laevers, 1997; Pascal & Bertram, 1995). Laevers (2000) argues that if optimal learning environments are to be achieved, high levels of involvement in children's play and activities must be provided for.

Laevers (1993) highlights the link between involvement and the child's exploratory drive, whereby the intrinsic type of involvement that leads to deep level learning is only found when the exploratory drive is activated. Features of involvement include motivation and involve intensity of perceptual and cognitive functioning (MacRae & Jones, 2023). This type of involvement is found to occur only in the area highlighted by Vygotsky as the 'Zone of proximal development', where the activity undertaken matches the capabilities of the person (Laevers, 1993).

The concept of involvement is not linked to any specific behaviours or level of development (Laevers, 2000) and is therefore considered by the researcher as an appropriate measure to explore the quality of experience of children in NGs, who present with variable behaviours and at different stages of development. Furthermore, the scales are grounded in observation of non-verbal indicators of wellbeing and involvement, such as facial expressions, and do not depend on verbal communication skills.

The Leuven scales of wellbeing and involvement can be used individually, however are most often used together as complementary assessments. The rationale underlying the focus on these two aspects is that together they provide insight and opportunities to improve the developmental processes that lead to deep level learning involving changes at the level of fundamental schemes (Laevers, 1993).

The Leuven scales are not routinely used in Nurture Groups and do not feature in the Nurture Group research studies examined in the literature review for this thesis. They are most frequently found in observation-based practice in early years settings as a tool to support reflective practice, helping practitioners to adapt their practice to suit the child's needs.

The scales support the observer to focus on the individual child and attune to signals from the child that they are fully involved in an activity (MacRae & Jones, 2023). Laevers (2015) suggests that completing the observational scale provides scientifically based confirmation of practitioners' intuitive understanding of the quality of children's experiences. This resonates with Boxall's assertion that Nurture Group practice is grounded in the intuitive understanding and responsiveness of skilled NG staff (Lucas et al, 2010).

In addition to their use as an observation tool for practitioners, the Leuven scales can be used as a research analysis tool (Laevers, 2000). In this study, the Leuven Wellbeing and Involvement scales were employed as an analysis tool to measure the quality of pupil experience by attuning to the involvement and intensity displayed in social interaction activity. These measures were triangulated with observation of narrative patterns and rhythms of interaction to identify indicators of deep level learning experiences. This study is concerned with understanding processes and experiences that lead to social, emotional and learning outcomes in the NG, and the Leuven scales are thought to capture the complex interaction that takes place between features of the child and the environment (such as a sensitive teacher or an environment conducive to learning) (Declercq, 2011). It is suggested

that when a child experiences multiple small episodes of high wellbeing, this impacts on the structural features of the child (Declercq, 2011). Measurement of the quality of social interaction activity provides an indicator of the potential impact of the experience on cognitive learning structures.

The Leuven scales could be criticised for their potential for practitioners to take a deficit view of children who fall at the lower end of the scales and for the scales to encourage the development of interventions that focus on a linear view of learning development and feed into discourse around normal development and school readiness (MacRae & Jones, 2023). A similar criticism has been levied at NGs, however NG staff training mitigates this risk by helping staff to reflect on and empathise with children's missed early learning experiences. The scale can be adapted to suit individual child needs and communication styles and assists practitioners to develop individually tailored strategies and support.

The Leuven scales are not a prescriptive tool, but act as a guide to encourage reflection. They encourage awareness of non-verbal communication, including facial expression, body language and gesture and support the practitioner to attune to the child. This makes them particularly suitable for observing children in the NG who are operating at a level below their chronological age. The scales are reported to have high rates of inter-scorer reliability (Laevers, n.d) and in this study are considered a reliable way to assess subjective experience.

2.2 Research Methods

The research methods included a pilot study, an individual case study and a multiple longitudinal nested case study. The pilot study was carried out in advance of the data collection for the case studies, which form the main research study. The individual and multiple case studies were sequential analysis processes of data that was collected following the pilot study and analysed for the main research study. This process supported an

exploratory analysis framework by allowing predetermined and emerging analytic approaches to be combined, to answer the research questions using a combination of theory-seeking and theory-testing approaches. The two-phased case study approach to analysis was developed to allow findings from in-depth study of a single case (Phase 1: one child in one NG in one school), to focus the investigative process on key areas of interest across a wider population (Phase 2: fifteen pupils across four NGS in two schools).

2.2.1 Pilot Study

Prior to data collection for the main study, a pilot study was carried out to test data collection and analysis methods. Data was collected from a NG session in an urban local authority primary school in Scotland. Video and audio recordings were conducted with three pupils, with a mean age of five years, and two NG teachers, during their regular NG session. Additional video data for analysis was sourced, with permission for analysis and reporting, from a professional documentary recording filmed in a NG in an urban local authority primary school in the West of Scotland (Woods & Pinder, 2011).

The pilot study recordings allowed the researcher to test camera angles and the quality of picture and sound for analysis. Preliminary analysis was conducted on a short video recording from the pilot study data to test measures of data analysis and reporting²⁶. Audio from the recording was extracted and PRAAT²⁷ computer software was utilised to analyse the vocal pitch. Video recordings were analysed to identify the movement and facial expression patterns of the participants. This data was annotated using the ELAN²⁸ annotation package. These annotations allowed non-verbal narrative structures to be identified through body movements, facial expression and eye gaze. The duration, rhythm, timing and patterning of these individual movements and vocalisations were measured, plotted, and described to inform the analysis of data for Phase 1 of the research process.

²⁶ Video analysis techniques are described later in this section.

²⁷ <http://www.praat.org/>

²⁸ Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands; <http://tla.mpi.nl/tools/tla-tools/elan/>

2.2.2 Phase 1: Case study of the patterns of social and learning engagement of a 5-year-old child in a part-time Nurture Group

Building on the findings of the pilot study, the first phase of the research project concentrates data analysis on a case study of a five-year old child attending a NG during their Primary 1 school year.

2.2.2.1 *Aims of the Case Study*

The case study provides an in-depth, observational exploration of the relational and developmental journey of one child in the NG. Using narrative methods, the aim of the case study is to understand the child's NG experience, their developmental progress and the influences on that progress. The case study contributes to an exploratory analysis framework by providing observations, insights and conclusions that inform the design of the second phase of the study. The research project follows an exploratory process of staged progression, building on existing theory and investigating new ideas and theoretical perspectives. The detailed and focused analysis in this case study provides new insights for analysis and understanding to inform Phase 2 of the study and for theorising beyond the identified case.

2.2.2.2 *The Case Study Design*

The case study is concerned with the processes and outcomes of the NG experience for one child. The term *processes* refers to the causal explanation; discovering *how* and *why* attendance in the NG may deliver the measurable and observable outcomes. The case study aims to understand the processes by which the developmental gains identified by the existing standardised assessment measure, the BP, may be achieved.

The case study allows different sources of evidence, each providing their own strengths and weaknesses, to be explored in instances where one source is unlikely to provide sufficient validity on its own (Gillham, 2010). This case study draws together different kinds of

evidence to contribute to the overall research aims of the thesis. The case study design enables a process of inductive theorising, whereby theoretical understanding is sought by an investigative procedure that assists the researcher to make sense of the findings once they have been evidenced and collated. This process allows the research design to emerge throughout the course of the project as data is collected and observations are made, building theory rather than testing existing theory.

Case studies search for evidence within a particular context, and recognise the importance of the context in shaping behaviour (Gillham, 2010). They are interested in processes, meaning and understanding, thus making the case study a suitable method of enquiry for this study that is concerned with understanding behaviours displayed within a particular contextual environment. Using a combination of qualitative and quantitative methods, the processes and dynamics of NG practice can be explored from a holistic perspective.

“Investigators use a case study design in order to gain an in-depth understanding of the situation and its meaning for those involved. The interest is in process rather than outcomes.” (Merriam, 1988, p.12)

By concentrating on a single case, the Phase 1 approach for this study aimed to identify how different factors interact to create a phenomenon (Merriam, 1988) by allowing the interpretation of data within a particular context (Cronbach, 1975). The following description of how qualitative research assists understanding of the meaning of an experience could equally be applied to explain case study methods and encompasses the appropriateness of such method of enquiry in this particular study.

“It is an effort to understand situations in their uniqueness as part of a particular context and the interactions there. This understanding is an end in itself, so that it is not attempting to predict what may happen in the future necessarily, but to understand the nature of that setting – what it means for participants to be in that

setting, what their lives are like, what's going on for them, what their meanings are, what the world looks like in that particular setting – and in the analysis to be able to communicate that faithfully to others who are interested in that setting....The analysis strives for depth of understanding.”

(Patton, 1985, p.1, cited in Merriam, 1988)

This case study uses psychological theories, concepts and measurement techniques to investigate a psycho-educational intervention. The particular methodology described in this chapter is informed by sociocultural theory together with insights from Attachment, Inter-subjectivity and Companionship theories. These theoretical perspectives are highlighted within the existing NG literature, if not necessarily by name, as possible explanations for NG efficacy, however to date there has been no in-depth analysis to explore the validity of any of these theories to the outcomes attributed to the intervention. This case study and analysis of further participant data, aims to begin to address this shortfall. The design and measures of analysis for the case study are described in Chapter 3 of this thesis.

2.2.3 Phase 2: Longitudinal nested case study of 15 children across 4 Nurture Groups in 2 Primary Schools

2.2.3.1 Aims of the longitudinal nested case study

Phase 2 of the data analysis for the study builds on Phase 1 by providing focussed investigation of key areas of interest from the case study findings across a wider population of 15 children attending 4 NGs in 2 primary schools. This phase aims to establish whether the results of Phase 1 are specific to the case-study child or whether they are applicable to a larger population. In this way, similarities and differences in processes and outcomes across NGs and children can be explored. As it was not possible within the parameters of this study to undertake in-depth case analysis for all child participants, the second phase of the study is designed to draw on the current NG evidence and the nested case study findings to make conclusions.

2.2.3.2 Longitudinal nested case study design

This phase of the study uses the methodology developed in the first phase of the study to investigate key findings from the individual case study across a wider population, thereby testing the insights from the case study and identifying where similarities and differences are found across children and NGs. The design and analysis of the longitudinal nested case study are described in Chapter 4.

2.2.4 Limitations of the study design

The two-phase study design intended to mitigate some of the limitations of research conducted with a small sample size and in particular, the limitations of case study research. The individual case study and nested case studies are presented within the broader evidence base to inform the conclusions of the thesis. The limitations associated with case study research were considered in the study design and the strategies that were adopted to assess the approach. The framework set out by Bassey (1999) was adopted to guide the methodology, confirm the design of the study and mitigate any limitations.

2.2.5 The Nurture Groups participating in the study

The research was carried out in four NGs situated within two primary schools in one local authority area in Scotland (identified hereafter as Primary School A and Primary School B).

2.2.5.1 Primary School A

Primary School A is a local authority school situated in an urban area of socio-economic deprivation. The NG in School A operates in a dedicated classroom within the main school building and is staffed by two Early Years Practitioners working on an outreach basis from

two local authority Early Years Centres that serve the local neighbourhood. To align with the NG literature, the practitioners in this study are hereafter referred to as NG teachers and this is used as the common term throughout the thesis to describe staff who have received nurture training. Many of the children who are referred to the NG, and their families, have been known to the NG teachers from a young age. Often there are long-standing family connections to the Early Years Centres, with multiple generations of children being cared for by practitioners with many years of service. In some cases strong bonds have been established with families through child-care or outreach activities in the community. School A has four NG classes to which children are referred from Primary 1, Primary 2 and Primary 3 classes in the school and from the pre-school on-site nursery. Children who are referred to the NG attend for one session per week during the school day along with peers from the same school year group.

Three NG classes from Primary School A were selected for the study. These were the Primary 1 group (NG1), Primary 2 group (NG2) and pre-school nursery group (NG3). The Primary 3 NG was not selected for the study as it comprised a very small number of children who had been attending the group for a number of years. Many of these children were irregular attenders and had clinical diagnosis contra-indicated to positive NG outcomes and therefore did not meet the inclusion criteria for the study.

The child participants in Primary School A attended the NG for one session of between sixty and seventy five minutes per week. Outwith this time the children attended their usual mainstream class.

[2.2.5.1.1 Nurture Group Classroom A](#)

The Nurture Group in School A operates from a dedicated classroom within the main school building for the sole use of the group, set out with the following areas:

- *Welcome Corner.* This area is in the corner of the room by the window and looks out onto the playground. The area includes a small sofa, as well as cushions and beanbags on the floor that are placed to form a partially enclosed space. This space is also used as a story corner and there is a display of books available. Individual 'challenge' books for each child in which the staff record the child's daily 'challenge' activity, and in which the child draws a picture after snack time, are stored on the display along with the story books. On the wall are four 'face' pictures, displaying the emotions of 'happy', 'sad', 'worried' and 'sleepy' and small name tiles, one for each child, that can be attached to the pictures with blue-tac. A chart detailing the children's rota for making snack is also displayed. For each session, the children take turns to make snack and the child who is making snack is also responsible for handing out, and collecting in the challenge books from the other children at the end of Welcome Time.
- *House Corner.* This area consists of two separate but adjacent spaces. In one space is a small mattress, blanket and pillow, made up like a small bed, plus a small table with a toy telephone and cash register and a baby's cradle. The other space has a wooden toy kitchen with play food and utensils, a small table and two chairs and an ironing board and iron. Separating the two spaces is a full-length mirror and a rail of dressing up clothes.
- *Drawing Table.* This area has a table and two chairs and provides drawing materials such as paper, pens, pencils and an 'etch-a-sketch'.
- *Sand Pit.* The sand pit has a range of toys and containers for playing with, providing opportunities for filling, measuring and pouring. There is also a small table beside the sand pit with a tray of small items for more intricate sand play.
- *Dolls House.* A wooden dolls house, furniture and figures are set on a table for imaginary play.
- *Play Doh table.* A table is set up with home-made play doh in a variety of colours and scents, along with cutters and equipment.
- *Craft Table.* The craft table provides art materials such as paper, pens, glue, scissors, material, buttons, pipe cleaners and empty packaging and is set out as a large square table surrounded by chairs where the children can work alone or with others.

- *Painting Easel.* A painting easel is provided along with varying sizes and colours of paper, tubs of paint and paintbrushes, and painting aprons.
- *Game Tables.* In the centre of the room two tables with chairs are set out with a variety of games and puzzles. At snack time these tables are cleared and put together to make the snack table around which all of the children and teachers gather together.

2.2.5.2 *Primary School B*

Primary School B is situated in a small town in a more rural setting. The school catchment area is diverse and encompasses multiple pockets of socio-economic deprivation alongside less deprived areas. This school has one NG class that caters for children from Primary 1 to Primary 4 school years, providing a range of child ages within the same group. The NG is operated by two members of staff; an Early Years Practitioner from a nearby local authority Early Years Centre and a Pupil Support Assistant employed in the primary school where the NG is located. As with School A, the members of staff will hereafter be referred to as NG teachers. The children in Primary School B attend the NG for one session of ninety minutes per week. Outwith this time the children attended their mainstream class.

2.2.5.2.1 *Nurture Group Classroom B*

The NG in School B operates from a portable building situated at the far end of the school playground. The building, containing two classrooms, is separate from the main school and is also used by the Breakfast Club and After School Club, where wrap-around care is provided for pupils attending the school. The NG share the use of one of the classrooms with these clubs and this means that items required by the NG must be brought out and tidied away at the beginning and end of each session. The room does not have the dedicated areas that are easily recognisable in the NG room in School A, however tables and areas are set up at the start of each weekly session in a routine manner to provide the following:

- *Welcome Corner.* This area is in the corner of the room furthest from the door. It is set out with a rug surrounded by cushions where the children are encouraged to sit in a circle. This area is used for group discussion and sharing of successes, stories, concerns and ideas. At commencement of the study this area was primarily used at the end of the session for the children to come together, however throughout the course of the data collection a 'Welcome Time' was introduced where the children would come to the corner immediately on arrival in the Group.
- *Activity Tables.* Three long tables are set out each morning with games and craft activities. The children are directed to a game each morning for their Challenge, after which they are free to choose their own activity.
- *Snack Table.* At snack time two of the activity tables are cleared and pushed together to make a large snack table.

In addition to these areas there are some toys and play equipment that can be brought out for play in the welcome corner.

2.2.5.3 Referrals to the Nurture Groups

Children are referred to the NGs in both schools from the first four years of the primary school, and in School A from the pre-school on-site nursery, giving an age range of pupils within the selected NGs of three to eight years. Each child attended the NG for one session of between sixty and ninety minutes per week, with each session attended by up to eight children. The children presented with complex and differing needs, having been assessed by their class teachers for NG intervention using the Boxall Profile and considered for their suitability to join the group by the NG teachers. A careful balance was maintained in the NG between children who displayed quiet, withdrawn behaviour and those whose behaviour may be characterised by episodes of loud, disruptive and sometimes aggressive displays.

All of the selected NGs adhered to the key principles of the Classic NG model, first described by Bennathan and Boxall (2000) and differentiated from other NG models by Cooper, Arnold

and Boyd (2001). However, within the Classic NG model, variations are found, and these particular groups show variation from the model originally developed by Marjorie Boxall by the children's attendance pattern and can be described as New Variation NGs (Cooper & Whitebread, 2007). The children attended these NGs for only one session each week, spending the remainder of their week in their mainstream class, whereas the original NG model promotes attendance for five sessions per week, comprising a part of every school day. It is unknown whether the amount of time spent in the NG affects the outcome of the intervention and the literature review highlights current debate surrounding this.

2.2.6 The Participants to the study

The necessary criteria for the inclusion and exclusion of NGs and child participants for this study were determined from the literature review and considered for their suitability to answer the research questions. In order to relate the findings from this study to the findings from other research, and to the writings of Marjorie Boxall and Marion Bannathan, founders of the original NGs and on whose theories the current Nurture UK literature and training remains firmly based, only NGs conforming to the Boxall NG principles were selected for the study. In addition, NGs that had been in existence for less than one year were excluded as it was considered that the effects of the intervention could be affected by teething troubles within the groups. As consistency, stability and routine are reportedly some of the main aspects for efficacy in NGs, these attributes were identified as priorities for the NGs selected for this study.

Similarly, it was important to identify selection criteria for the child participants. The original classic Boxall NGs were designed for children who encountered difficulty settling into the first year of primary school. Over the years NGs have been expanded within primary schools to include older children and more recently children in nursery classes. For the purposes of this research, an age range of three to eight years was chosen to include children from the Pre-school Nursery year through to Primary Four. This is the age range for which the BP

used in this study was standardised and this age range allowed for the identification of differences according to age.

The selection of NGs allowed patterns, consistencies and variations across groups that include children of similar and different ages to be identified. All of the child participants were referred to the NG on the basis of need as defined by their BP scores, along with the class teacher and NG teachers' intuitive judgement. Completion of the Data Sheet for NG Participants (Appendix A) by the NG teachers allowed children to be selected for the study who were deemed to fit the NG criteria described by Marjorie Boxall. This excludes children with any pre-existing clinical diagnosis, such as Autism or ADHD. Selection criteria for the study:

- Child must be within the age range of 3-8 yrs
- Child must not have a pre-existing clinical diagnosis of any developmental or neurodevelopmental condition
- Child must display areas of developmental need on the Boxall Profile
- Where a range of child ages are represented within the NG, participants to the study should be selected to represent as wide an age range as possible
- Where both male and female children are represented in the NG, participants to the study should be selected to represent a balance of sexes

At commencement of the study, all children attending NG1, NG2 and NG3 (n=4 for each NG) were included in the study as they met the above selection criteria. To maintain an equal number of child participants from each NG in the study, four children were selected from the eight children attending NG4 using purposive sampling. In this NG, two girls and two boys who met the selection criteria were selected to provide a range across age and sex. This included the oldest child and the youngest child in the NG (one male and one female) and two children whose ages fell between the oldest and youngest (one male and one female). Some pupils within this NG did not meet the selection criteria and were not included in the study.

Of the sixteen child participants selected for the study, ten were male and six were female. This split represents the ratio of boys to girls across the selected groups and is also representative of an overall nationwide trend, with more boys than girls being referred to NGs. Across the four NGs, nine NG staff participated in the research. Each of the NGs were staffed by two NG teachers²⁹ on a regular basis, however, due to illness and other absences there were occasions when other trained staff would stand in for one of the regular NG teachers in some of the NGs. The composition of each group is detailed in Table 7.

Table 7. Nurture Group staff and pupils

Nurture Group	School	Description
Nurture Group 1 (NG1)	School A	NG1 comprises 4 pupils from the mainstream Primary 1 class. The NG is staffed by 2 NG teachers (T1, T2) and operates for one session per week. During the course of the study 2 further staff members stand in on occasions to cover illness and training (T6, T8). Child participant 5 (C5) is 4 years old and male, C6 is 5 years old and male, C7 is 5 years old and female, C8 is 6 years old and female. All 4 pupils commenced NG attendance for at least 2 school terms during their pre-school nursery year prior to attending this NG.
Nurture Group 2 (NG2)	School A	NG2 comprises 4 pupils from the mainstream Primary 2 class. The NG is also staffed by T1 & T2, with additional cover from T5 during the course of the study. The NG operates for one session per week. Child participant 1 (C1) is 6 years old, C2 is 6 years old, C3 is 5 years old and C4 is 6 years old. All four children are male and they each attended the NG for 2 terms during their pre-school nursery year, followed by 3 terms of their Primary 1 year.
Nurture Group 3 (NG3)	School A	NG3 comprises 4 pupils from the pre-school nursery class. The NG is also staffed by T1 & T2, with additional cover from T5, T6, T7, T8 & T9 during the course of the study. The NG operates for one session per week. Child participant 11 (C11) is 3 years of age and male, C12 is 3 years of age and female, C13 is 4 years of age and male, and C14 is 3 years of age and female. Each of these pupils commenced the NG for the first time at the beginning of this study.
Nurture Group 4 (NG4)	School B	NG4 comprises 8 children from primary school classes 1,2,3 & 4. The NG is staffed by T3 & T4 and does not run if either of these teachers are unavailable. The NG operates for one session per week. From the group of 8 pupils, 4 were selected for inclusion in the study. C15 is 5 years old and male, C16 is 7 years old and female, C17 is 7 years old and male, and C18 is 8 years old and female. C16, C17 & C18 had attended the NG for one term prior to commencement of the study. C15 joined the group at the beginning of this study. The pupils selected for the study were chosen to provide a range of ages and a balance of male and female participants.

²⁹ NG staff in this study are referred to throughout the thesis as NG teachers, although they may be employed as Early Years Practitioners or school support staff. The reference to NG teachers is not intended to suggest that staff participants in this study are registered teachers. See section 2.2.5.1 for explanation of terminology.

2.2.7 Data collected for the study

2.2.7.1 *Audio and Video recordings*

The data for Phase 1 and Phase 2 of the project was collected at the same time and forms the project research data. The two phases of analysis (Phase 1 and Phase 2) were carried out in succession (Phase 1 followed by Phase 2) using data drawn from the project research data. Video and audio recordings were carried out in each of the four NGs across one school year, which consisted of three terms punctuated by holidays at Christmas and Easter. The researcher was present in the NGs for each recording session and the recordings were made using three video cameras. The cameras were located within the room in positions that aimed to ensure that the best possible picture of the nurture room and participant interactions would be provided by viewing the three video recordings simultaneously.

During each session, one child was selected to be the primary focus of the recordings, on a rotating basis, allowing for detailed recording of their movements and interactions during the session. Of the three cameras, one was fixed to record the main section of the room, while the other two were manipulated to allow closer, detailed recordings to be made. In situations of one-to-one and group interactions, attempts were made to record the body movements and facial expressions of all participants in the interaction. The cameras were equipped to record sound, however at times the background sounds interfered with the recording of participant vocalisations. As the primary focus of the study was on non-verbal interaction, the sound recordings were of secondary importance, however this may be deemed to be a limitation of the study.

Manipulation of camera angles was carried out by the researcher during periods of transition between NG activity phases when field notes were not being made. The structure of the NG sessions meant that the researcher could anticipate the following activity session and be prepared to re-align any video recordings as needed to capture the focus child. As

such, disruption to the children's activities was avoided and the children's attention to the cameras was minimised due to their focus being on moving from one activity to the next.

Across the school year, recordings were made during each NG session for each of the four NGs. The number of sessions varied by NG and school due to the timetabling of NG sessions within the school calendar. Each child participant was the primary focus of the recording during a minimum of four and maximum of six sessions at regular intervals throughout the year. The number of recordings per child was dependent on the variables of child absence and NG holidays. Each recording was for the duration of the relevant NG session of between sixty and ninety minutes.

Table 8. Nurture Group sessions recorded

School	Nurture Group	No. of sessions recorded
School A	NG1	23
School A	NG2	23
School A	NG3	18
School B	NG4	19

2.2.7.2 Boxall Profile scores for child participants

Completed BPs were requested for all child participants at commencement and completion of the data collection. These timescales coincided with the natural time points at which the NG teachers would request profiles to be completed by the mainstream class teachers. The researcher was dependent on the mainstream classroom teachers' workload and compliance with the NG teachers' request for their timely production and it did not prove possible to obtain completed BPs for all participants at the end of the study. BP data was provided at commencement of the study for all child participants in NG1, NG2, NG3 and NG4, and at the end of the study for all child participants in NG1, NG2 and NG4. The timing of the request falling at the end of the school year, along with staff absence, resulted in BP scores at the end of the study not being completed for the child participants in NG3.

2.2.7.3 Data Sheet for Nurture Group Participants

The NG teachers were asked to complete a Data Sheet for Nurture Group Participants (Appendix A) for all NG pupils at commencement of the study. The principal purpose of gathering this information was to establish background information that would assist the researcher to ensure that child participants met the inclusion criteria for the study. The information gathered additionally provided details of the length of time that each child had been attending the NG, the type of nursery or pre-school provision attended and the duration of this attendance. This provided contextual information that was anticipated would be beneficial to understanding the results of data analysis (Appendix B). There was also an opportunity for the NG teachers to provide any other relevant information about the child.

2.2.7.4 Attendance Records for Nurture Group participants

A copy of the NG Attendance Register was obtained to allow the researcher to establish any significant absences that may affect the child's NG experience and the results of the study.

2.2.7.5 Researcher Field Notes

On each occasion that the researcher visited the NG a field note diary entry was completed. These entries consisted of observations and information about the NG and the focus child that may be relevant to the analysis or understanding of the data collected. Examples of entries included anecdotal conversations with the NG teachers, details of the child's absence, or events outwith the NG that may affect the child's observable behaviour or mood. The field notes added contextual information to the data that helped the researcher to make sense of the results.

2.2.8 Data analysis

Data coding and analysis methods and procedures for each phase of the study are described in the relevant chapters of this thesis. The methods of video data analysis were consistent throughout the study and are described here.

2.2.8.1 Video data analysis

Following the recording of video data, the recordings from three cameras were digitally transferred to a password-protected computer and stored in anonymised files by date, NG and child participant. To analyse the data, the files were exported to ELAN³⁰ computer software annotation package. Three video recordings for each NG session were saved within an ELAN file. The recordings were synchronized to allow multiple views of the nurture room from different angles to be viewed simultaneously. This process allowed the recordings to be viewed and annotated with micro-second precision.

Selected video clips for closer inspection were digitally transferred to create small-sized movie files using QuickTime Player (v7)³¹ and separate WAV files (*.wav) of the movie soundtrack were created and exported to ELAN. Sound could therefore be identified and annotations made using the ELAN Waveform Viewer. Analysis of video data was annotated in ELAN using a coding and tier system to record annotations. These systems are detailed in Chapter 3 and Chapter 4 of this thesis. A worked sample of how data was analysed via the Elan computer software coding and annotation system is provided in Appendix C.

³⁰ Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands; <http://tla.mpi.nl/tools/tla-tools/elan/>

³¹ H.264 Codec, QuickTime, Apple Inc.

2.3 Ethical considerations and consent

Ethical consent to conduct the study was obtained from the University of Strathclyde (Appendix D). As a graduate member of the British Psychological Society, the researcher additionally abided by the *BPS Code of Ethics and Conduct* and the *BPS Code of Human Research Ethics*. Abidance by these codes ensured that the following principles of ethical research were adhered to:

- Respect for the autonomy, privacy and dignity of individuals, groups and communities.
- Scientific integrity
- Social responsibility
- Maximising benefit and minimising harm.

2.3.1 Respect for participants

‘Psychologists value the dignity and worth of all persons, with sensitivity to the dynamics of perceived authority or influence over persons and peoples and with particular regard to people’s rights’ (*BPS Code of Ethics and Conduct, 2018, p.5*).

The researcher sought to ensure that the participant’s right to privacy, self-determination, personal liberty and natural justice were considered in the design and conduct of the research. Procedures were developed and followed that allowed the researcher to gain valid consent from the participants and to ensure appropriate confidentiality, anonymity and fair treatment.

2.3.1.1 Obtaining Consent from local authorities and schools

The variation in the number of NGs and the value placed on the groups within different locations added an unforeseen difficulty to the recruitment of participants for this study.

Areas with a large number of NGs were reluctant to agree to further independent research due to either a notion that their NGs were over-researched, or local authorities already conducting their own research. This is a valid point, as NGs have become something of a 'hot topic' for researchers over the last decade. This may be partly due to a clearer understanding of their benefit to children, families, schools and communities in the face of growing numbers of children being classified with SEBN, and partly due to the implications of Scottish Government policy to address the attainment gap between children from the most and least deprived backgrounds. Both of these reasons for investment in NG research are valid as a means to begin to address the difficulties faced by children who encounter barriers to engagement with learning in mainstream classrooms.

This project aims to add value to current research findings by investigating the mechanisms of change within NGs. While adding to the depth of current understanding of NG efficacy, the results additionally provide insights for practice that may assist children in areas where NG placements are not available.

Five local authorities within reasonable travelling distance for the researcher were approached with a request to undertake this study within their primary schools. As each of the NGs within the schools selected for the study would be visited on a weekly basis it was important that the distance to be travelled to conduct the research was feasible in terms of both researcher time and cost. Four of the authorities were unable to agree to the research in their schools with given reasons being: schools currently over-researched; existing NG research project underway; NGs being withdrawn due to budget cuts or redeployment of resources; NGs not currently established in primary schools. One local authority agreed to allow the researcher access to primary schools in their area, subject to consent of the head teachers and NG teachers in individual schools. Following this agreement in principle, the head teachers of the two primary schools with established NGs in the area were approached with details of the study and a request to carry out the research in their schools.

The selected schools were the only schools in this local authority area operating established NGs that adhered to the principles of the Classic Boxall NG. For the purposes of this research it was important that the NGs conformed to the Classic Boxall model in order to relate the findings from this study to the findings from other research and the writings and guidance of NG founders Marjorie Boxall and Marion Bennathan, on whose theories the current Nurture UK literature and training remains firmly based.

Meetings were arranged between the researcher, the head teacher and the NG teachers to discuss the aims of the study and the methods that would be used to collect and analyse the data. Consent was given for the research to be conducted in four NGs across the two primary schools. Information about the study was also sent to the Managers of the Early Years Centres where three of the NG practitioners were employed. Consent was received by email from each of the Managers for their staff to participate in the study. The fourth NG teacher was employed as a Pupil Support Assistant in the primary school where one of the NGs was located and consent was obtained from the Head Teacher of this primary school for participation in the study.

2.3.1.2 Obtaining consent from the participants

A meeting was held between the researcher and the NG practitioners to discuss the research project. The teachers were given an Information Sheet (Appendix E) describing the purpose of the study and informed consent was obtained from each teacher by the signing the attached Consent Form. Throughout the course of the study a number of additional staff members were allocated to the NGs to cover for NG teacher absence. An Information Sheet was provided and a Consent Form for Nurture Group Teachers was signed by each of these staff members prior to inclusion in the study.

An Information Sheet and Consent Form for Children (Appendix F) was distributed to the parents or carers of all children attending the NGs selected for the study by the NG

teachers, either directly by the NG teachers or through their mainstream class teacher. Informed consent was obtained from a parent or carer for each child to participate in the study prior to commencement of the study by signing the attached Consent Form. At commencement of the study, each child in the participating NGs was asked for their verbal consent to participate in the study. This consent was periodically renewed throughout the course of the recordings.

Additionally, each of the schools participating in the study gathered routine consent from parents of all pupils for the photographing and filming of pupils and their work, and for the use of these images. These consents were not accessed by the researcher, however where school staff advised that consent to use images was not provided, these pupils were not invited to participate in the study and their images were not reproduced.

2.3.1.3 Participant confidentiality

The confidentiality that would be provided to the participants was detailed in the Consent Forms. At the time of data collection for this study, GDPR laws were not in force, however every effort was made to ensure appropriate levels of privacy through the use of school and university consent forms, to comply with the Organisation for Economic Co-operation and Development (OECD) privacy guidelines. It was agreed that the names of participants and the names of the schools would be anonymised and would be replaced by codes in all stored and published data. The consent form included details of how the data would be used, and included the sharing of the study findings, and footage or images from the video data, in academic publications and at professional conferences. The NG teachers, child participants and the adults who provided consent for the children were made aware that they would be recognisable in any published or presented video footage and images. It was not appropriate for facial images to be blurred as the study included recording and analysis of facial expression and eye gaze. The parent of one child in NG2 did not provide permission for images to be used and the researcher ensured that images of this child were not reproduced. Permission was sought from the participants to keep the data indefinitely for

research purposes and the participants were informed that they may be asked to participate in follow up studies.

The level of anonymity that could be ensured for the schools was discussed and agreed between the researcher, the head teachers and the NG teachers. Throughout the study, draft presentations, research papers and research posters were shared with the NG teachers and their consent was verbally obtained prior to dissemination. The data that was collected was transferred each day from the video cameras to a password-protected computer, where all data was anonymised.

2.3.2 Scientific integrity

The researcher ensured the scientific integrity of the research by clearly defining the aims of the study and mitigating any risks of harm by careful consideration of the consent and ethical approval processes. Scholarly standards were maintained by following the University research supervision procedures and by gaining approval to present interim findings at multiple academic conferences throughout the duration of the study.

2.3.3 Social responsibility

The researcher acknowledged their responsibilities within a shared collective duty for the welfare of participants involved in the study. The research aimed to gather and analyse data that would support beneficial outcomes for individuals and society. Throughout the research process, the researcher worked in partnership with research participants and academic colleagues, shared interim findings from the study and sought feedback. This allowed the researcher to reflect on the knowledge that was produced and the contribution that it could make to society, at all times working within the boundaries of their own competence.

The researcher was attentive and responsive to any unintended consequences of the research. While the study set out to investigate children's interactions within the NG and did not have a primary focus on NG teachers, during the course of data analysis it became apparent that NG teacher practice formed an important element of children's social interactions in the NG. This had to be carefully managed in discussions with teachers and reporting of findings, as the aims of the study did not include an appraisal of teacher practice. As the study aimed to understand the processes that were thought to effect positive change in pupil SEB functioning, careful attention was made to presenting the findings at a process and NG level to mitigate against problematic interpretation of findings.

2.3.4 Maximising benefit and minimising harm

The researcher sought to maximise the benefits of their work at all stages of the study and continues to do so in the dissemination of the findings, acknowledging their potential for application in practice. At inception of the study the potential risk to participants was appraised and it was ascertained and stated in the Consent Form that it was not considered that the study would be distressing or harmful to the participants or the guardians of the child participants in any way. This statement was held in mind by the researcher and reflected on throughout the course of the study.

The researcher visited the NGs on a number of occasions prior to the commencement of data collection and was welcomed into the groups as a visitor. It was not unusual for the NG to receive visitors, such as parents, other school staff, or students, who in all cases were introduced to the children as 'a visitor'. The children enjoyed having a visitor in the NG, especially when they stayed for snack time and shared the toast and juice. As such, the children had become familiar with the researcher prior to the start of the study and the researcher had an opportunity to introduce the children to the video cameras in a visit close to the commencement of data collection. In this way, the children were able to feel at ease with the presence of both the researcher and the video cameras due to their familiarity.

During the course of data collection, it was agreed in discussion with the NG teachers, that the researcher would not take part in snack time on days when video recording was taking place and would remain on the edges of the group in order to maintain the conditions that were required for meaningful participant observation. This allowed the researcher to change the direction and zoom functions on the mobile camera, observe children without interruption and record field notes. This process was trialled for the first few sessions to ascertain the children's response to the non-participation of the researcher in the group. The stance was found to be successful as the novelty of the cameras and the visitor quickly wore off and the children almost seemed oblivious to their presence. Sensitivity to the children's needs and desires was however maintained throughout, and at times the researcher was only too happy to listen to a child's story or engage in conversation, which in itself helped to mitigate any potential researcher-participant power imbalance.

To minimise any potential harm for the participants, the children were told that the researcher was observing and recording the session as she was interested in finding out about the things that happen in the NG. Attention was made to the NG, rather than the children, as the focus of study. The children were not asked to do anything differently and a key aim was to observe the participants in their natural context. Efforts were made to ensure that participant behaviours were as natural as possible and were not influenced by the presence of the researcher, who was concerned with watching them doing what they would be doing anyway. The children were not made aware that one child would be the focus of each recording and the cameras were angled and distanced in such a way that this would not have been obvious. Particular care was taken not to draw attention in any way to the focus child.

It was deemed to be appropriate and ethical to conduct this research in NGs as the outcomes are intended to support and improve policy and practice. By working to improve adult-child relational practice and children's engagement with learning, the study intends to improve outcomes for children.

2.3.5 Trustworthiness

Drawing on the work of Bassey (1999), the concept of trustworthiness was used in this study to establish respect for truth. The methodology for this study did not lend itself to measures of reliability and external validity. While, it may be possible to propose a certain level of internal validity, for example, a relationship between NG or participant variables, the case study method does not seek to determine cause and effect. The case studies in this research project studied a singularity (the NG intervention), within a boundary of space and time (the Nurture room, up to 90mins weekly over one school year). The research was conducted in the natural context in which the intervention took place and concentrated on the study of aspects of the intervention that would be of interest to practitioners, policy makers and other researchers.

The trustworthiness of the research was determined using a framework and questions set out by Bassey (1999) that draws on the work of Lincoln & Guba (1985, cited in Bassey 1999) and has been adopted here to establish the ethic of responsibility for truth. The framework questions (Bassey 1999) that were used to establish the trustworthiness of the research are set out under each section heading below.

Collection of raw data

Has there been prolonged engagement with data sources?

Has there been persistent observation of emerging issues?

Have raw data been adequately checked with their sources?

Data for this study was collected over the course of one school year during which the researcher sought to be immersed in all aspects of the NG experience, learning from the actions and conversations of the NG teachers and children through a period of 'prolonged engagement' (Lincoln & Guba, 1985). The researcher was present in the NG at every session throughout this period, collecting data and making observations. The researcher arrived

prior to the start of the session and remained for a period of time at the end of the session to allow discussion with the NG teachers. Prior to this, the researcher had undertaken a 3-month placement, observing the Nurture Groups in School A to learn about their operation and had additionally spent one session recording data for the pilot study. This provided an initial opportunity to identify interesting features of NG practice that were deemed worthy of more focused attention: a process that was expanded during the data collection process. In addition the researcher had placement experience in the two Early Years Centres that staffed the NGs in School A on an outreach basis. This allowed the researcher to consult with the NG teachers during conceptualisation and design of the study. The pupils involved in the study were also consulted to explain the researcher's presence and obtain their consent to participate, and throughout the study their agreement to participate was confirmed at regular intervals. The NG teachers were consulted at all stages of the process, allowing them to participate in the design, data collection, findings and dissemination of the research.

Throughout the data collection period, raw data and research findings were regularly discussed with the NG teachers. Written papers and conference presentations were shared with the NG teachers and the primary school Head Teachers and discussions between the teachers and the researcher enabled the results and interpretations to be checked for validity and understanding.

Analysis of raw data

Has there been sufficient triangulation of raw data leading to analytical statements?

Data for this study was collected from multiple sources to increase the validity of findings and consisted of:

- BPs completed by the pupils' mainstream class teacher(s)
- Information Sheets completed by the NG teachers

- Video and audio data collected by the researcher on regular occasions throughout the course of the study
- Observations made by the researcher in the NGs
- Field notes made by the researcher in the NGs
- Existing NG literature from a variety of sources

Multiple methods of analysis were used to improve triangulation of raw data. While the study primarily had a qualitative focus, elements of quantitative data were collected and analysed to support qualitative findings, adding to the robustness of the findings. In keeping with recommendations of Bassey (1999) for case study research and Merriam (1998) for small-scale studies, data from different sources and using multiple methods of enquiry were brought together to strengthen confidence in the research findings. Some of the data, e.g. Boxall Profiles and analysis methods, e.g. narrative enquiry, supported elements of both qualitative and quantitative analysis, further strengthening statements that could be made from the findings.

Interpretation of analytical statements

Has the working hypothesis, or evaluation, or emerging story been systematically tested against the analytical statements?

Has a critical friend thoroughly tried to challenge the findings?

It was recognised that difficulty can arise, particularly in observational research methods, in being able to robustly explain how changes that are observed have happened. For this study, the research process set out to understand the process of change that takes place for improvements in children's SEB functioning to be realised through NG intervention. This was a tall order for a study that was not scientifically measuring cause and effect. The steps detailed below were taken to provide a certain amount of rigour to testing the analytical findings.

The findings that emerged from the data were subject to peer examination, whereby the researcher asked colleagues to comment on the findings as they emerged. Throughout the course of the study the researcher presented the interim findings from the research at numerous conferences and workshops attended by both academics and practitioners. This provided opportunities to discuss the findings as they emerged throughout the research period and to receive and consider feedback from different sources. The researcher was also a member of an academic writing group where written text was routinely presented for critique by colleagues who worked in the fields of psychology, education, childhood studies and psychotherapy.

The individual case study allowed a story about particular NG processes to emerge from the data and the findings from the case study were used to determine the focus for the longitudinal nested case studies in the four NGs. This allowed the findings for one child participant to be compared and tested for the other child participants to determine the accuracy of analytical statements, within a context that acknowledged the individuality of experience for individual children in the NG.

The researcher sought to ensure that the output from the research findings were realistic and did not in any way exaggerate the findings by not making any assumptions, being clear about the facts and results (whether expected or not) and clearly stating where results were uncertain. Awareness of the limitations of the study was maintained and strengthened throughout, particularly the inability to determine cause and effect. A balance was strived for between presenting enough detail to be able to justify the conclusions that were being made without providing a level of data and analysis that would overwhelm the reader.

Reporting the research

Is the account of the research sufficiently detailed to give the reader confidence in the findings?

Does the case record provide an adequate audit trail?

The case studies are concerned with understanding NG processes from the experiences of individual children, situated in the context of the world in which they operate. The social constructivist influence on the research design does not conform to the view that there is a single reality and means that the interpretation of results will contain an element of subjectivity. While it is suggested that the processes employed in this study will be replicable, it is recognised that the results are contextual to specific NGs and children. Educational intervention, by its very nature, is multifaceted and contextual, with different experiences and outcomes displayed for different children, and indeed for the same child on different occasions. This study recognises that children's experiences are affected by internal and external social, emotional and environmental influences that fluctuate continuously. The case study research methods may not yield the same results in a different NG or with a different child, however this does not discredit the findings, which are to a certain degree, tested through the two-phase process employed in this study.

Replication of the data collection methods and process of analysis of certain NG features with other children and in other NGs would provide important insight into any differences across both children and NGs. As each child comes to the NG from a different background, with a different set of experiences and difficulties, it would not be expected for them to experience the NG intervention in the same way. To that end, the NG model allows the intervention to be tailored to the needs of the children that it serves. A 'one model fits all' approach would not be well placed to elicit the evidenced successes of the NG approach.

It may be appropriate within the design of this study to focus on *dependability* and *consistency* (Lincoln & Guba, 1985). In this way, rather than expecting to find the results to be replicated in other settings or from other researchers, the consistency and dependability of the results is considered. In other words, the results make sense for the cases to which they apply. To ensure the dependability of the results, the researcher sought to detail the assumptions and theory behind the study, the basis for selection of participants, participant demographics and the context in which the data was collected. Triangulation of results, as

previously described, along with detailed description of analysis, are intended to provide further dependability of the findings.

Due to its nature, the individual child case study is concerned with NG processes and outcomes for one individual child. Although the findings are not intended to be generalisable to all NGs or NG pupils, the case is intended to provide insight to key features of NG practice that support SEB improvements for pupils. Purposive sampling was used to select the case to be studied and, while it would not make sense to expect this case to be representative of others, processes of change for this case can be tested in other cases to identify common features of success. Within the NGs, each child is an individual, with different experiences, expectations and outcomes, and as such it is important that each child is viewed independently and that the findings are contextualised. This is true not only for individual children, but for individual NGs. Every child and every group offers an insight into the NG process that must be examined for what we can learn about individual cases, while also contributing to what we can collectively learn about NGs and the children they serve.

The researcher viewed the children's experiences as they occurred and understanding was constructed from the researcher's own knowledge, the research of others and discussions with the NG teachers and research supervisors. The knowledge that was created, developed within the specific context of the NGs and the pupils, and while it is not generalisable to all children and NGs, elements of understanding will be transferrable to other situations. While knowledge that relates to the experience of an individual pupil may be viewed as a limitation, it is not viewed as a deficiency. As knowledge gained from interpretive research is viewed as a human construction that is created within specific contexts, it is neither appropriate or desirable to seek generalisability across all cases.

“The search is not for abstract universals arrived at by statistical generalisations from a sample to a population, but for concrete universals arrived at by studying a specific

case in great detail and then comparing it with other cases studied in equally great detail.” (*Erickson, 1986, p.130*)

The individual and nested case studies are concerned with such concrete universals. Learning from the Phase 1 individual child case study is explored further in Phase 2 of the study with other cases, thereby transferring understanding from one situation to another, providing a form of ‘naturalistic generalisation’ (Stake, 1978) by using a full and thorough knowledge of one case to see similarities in others. In this case it would be entirely appropriate to allow another researcher, NG teacher, or educator, to decide which elements of the study may be applied to their own situation using a process of reader or user generalisability (Wilson, 1979), whereby the applicability of research findings from one case or situation to another is determined by the reader. This study will adopt strategies to allow the findings from this research to be discussed in relation to the processes and outcomes from both this and other NG studies.

3 RESULTS OF THE PILOT STUDY

The pilot study (described in Section 2.2.1) identified narrative patterns of social engagement found within NG interactions, and the following example from the results is presented as an exemplar of child-teacher interaction observed within a social interactive activity, that informed the methods employed in Phase 1 of the project (Ch.3).

3.1.1 Descending the Stairs Together, and Counting: a co-created narrative episode

A 31-second joint interactive episode between a NG child and NG teacher, as they engage in an everyday task of walking down the central school staircase, was identified for analysis to understand the social, emotional and interactive aspects of the engagement. The findings are presented (Fig. 5) and discussed below.

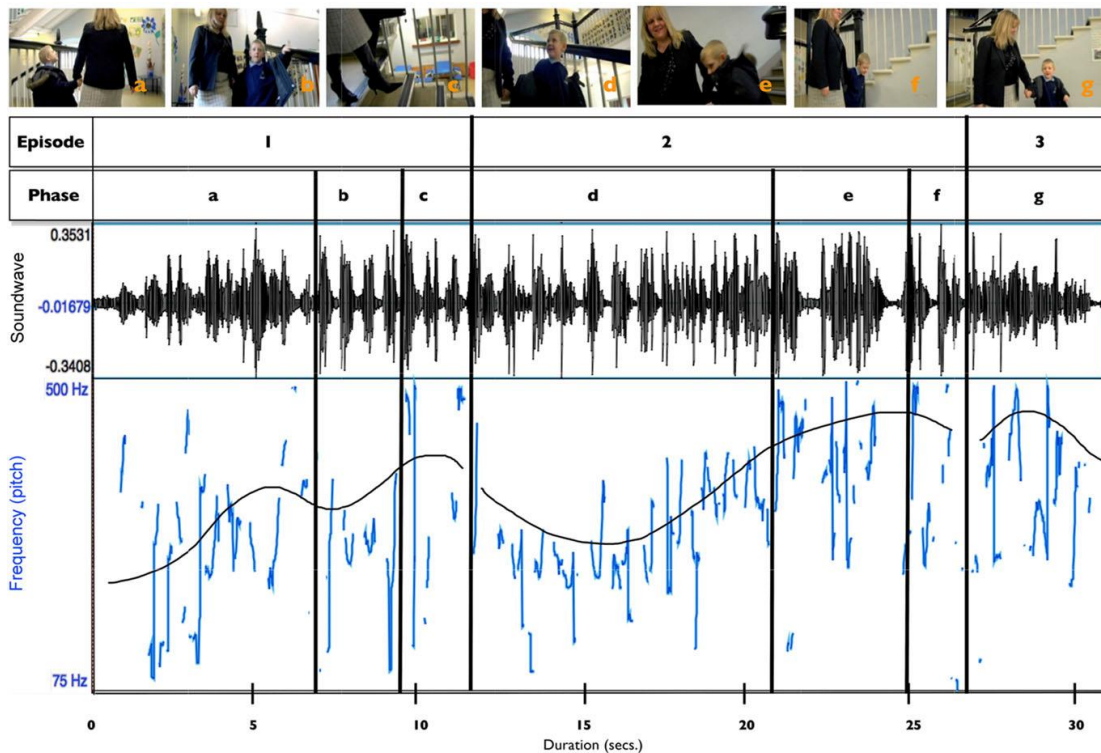


Figure 5. Descending the stairs together and counting: a co-created narrative episode³²

Description: A co-created narrative episode between child and teacher. Picture board illustration (top row) organised by its three sub-narratives (Episodes 1–3), the first two with three phases (a–c; d–f) and final one with a single phase (g). The sound wave shows clearly marked rhythmicity of vocalisations by teacher and student. The sound wave spikes indicate footfalls on the steps. The pitch of each vocalisation is calculated (frequency, Hz) and plotted. The dyadic structure of child–teacher interaction displays a narrative pattern of intensity and progression as the pair move through the phases of introduction to the task, development of rhythmic shared interaction as they descend the stairs together, a climax as they share simultaneous joy on reaching the bottom of the stairs, and a conclusion of the activity as they leave this activity behind to commence something new. Narrative contours (black) approximately overlay the rise and fall of vocal pitch. (a) Introduction, as the teacher structures the opening of the interaction, explaining the task ahead as they walk towards the top of the staircase. (b) Development, as they descend the first section of stairs, their footsteps falling into rhythm as they count the stairs together. (c) A small climax marked by excitement in vocal pitch as they reach the first turning, quickly concluding and leading straight into a limited introduction to the next task as they negotiate this first turning and make their way to the second flight of stairs. (d) A second development begins as the child looks to the teacher as she counts the stairs aloud to re-establish their rhythm and (e) smiles as they share understanding of their collaborative activity. This reaches a second small climax, this one larger than the first, as they reach the end of the flight of stairs, and begin to negotiate the second turning, leading to the final sub-narrative. They (f) develop this task by concentrating together on its completion as they descend the final flight of stairs before (g)

³² Permission was obtained for the publication of images and is detailed in Chapter 2 of this thesis.

they share a final climax of peak satisfaction and joy as they reach the bottom, the teacher smiling as the child lets out a whoop of joy. The piece concludes as they leave the staircase behind, now quiet, and head towards a new activity.

3.1.1.1.1 Discussion of findings

This short interaction of just over 30 seconds was found to be structured by both the teacher and the staircase, providing regular rhythm to the task with each step that was taken, and framing the project by anticipation of what was yet to come. The teacher provided guidance to the child during the task and through its completion. The teacher opened the project by describing the task ahead to the child as they walk towards the top of the stairs. Then, leading the child by the hand, the teacher counted the stairs as they walked down the three flights, negotiating two turnings on the way. The interaction between the child and teacher of descending the staircase was found to present an overarching narrative structure that consisted of the following phases:

- *An introduction* as the child and the teacher walked along the landing towards the top of the staircase. Preparing for the task they were about to embark on, the teacher talked to the child, explaining the task ahead. She took the lead as she encouraged the child to count the stairs as they started their first descent, saying “Now let’s count these stairs. Are you ready?” Their task proceeded as the child showed his willingness to engage with their joint project, by taking the teacher’s hand and joining with her to count the stairs together. The teacher’s vocalisations were regular and rhythmic, each with ascending pitch-glides that progressed from below middle C to the top of the octave above middle C (ca. 80 Hz to ca. 500 Hz) (7 out of 8 utterances), encouraging arousal and interest in her partner.
- *A development* of the interaction between the child and the teacher as their vocalisations and footsteps fell into rhythm and the child was able to anticipate the counting of the next step. The pair negotiated a turning on the stairs which interrupted the rhythm of their action and the child looked up at the teacher as she took the lead, holding the child’s hand to keep him beside her and counting aloud,

and their rhythmic footfall and counting returned. As the child became increasingly confident of his involvement in the interaction, he excitedly started to count ahead of their footfall as they negotiated a second turning, reaching a peak of development in their interaction, before the teacher re-established the rhythmic counting and they synchronised their actions and vocalisations for the final few steps.

- A *climax* to the interaction that was reached as the pair arrived at the bottom of the stairs and the teacher's vocal pitch was raised to the top of the scale as they counted the final steps together "nineteen, twenty, twenty-one stairs." The child and teacher shared a moment of joy in their completion of the task that was expressed as a broad smile from both child and teacher and an exclamation of "woo-hoo! " from the child.
- A *conclusion* to the journey as they both walked away from the staircase, each satisfied with what they had achieved. The teacher confirmed the success of the task to the child, saying "good counting", leaving him with a positive memory as the task was left behind and he moved on to something new.

This 31-second narrative episode was found to contain:

- Seven separate distinct phases, identified a–g, which were carried out in sequence by the participants, enabling them to successfully complete the overall task.
- Three sub-narratives, (Episodes 1-3), each comprising a combination of successive phases toward achievement of the overall task, and with each episode describing a smaller, shared project with its own *introduction*, *development*, *climax* and *conclusion*, embedded within the larger task.

The seven phases describe:

1. *The organisation or setting up of the activity* as the child and teacher walked towards the top of the staircase, coming together from their own separate previous activities

to participate in a shared task. The teacher structured the interaction, taking the child's hand and inviting him to join her in this shared activity. The child responded willingly, holding the teacher's hand and contributing his enthusiasm to share in the activity.

2. *Walking down the first section of stairs together.* As they started to descend the stairs the teacher began counting "one, two" before the child joined in "three, four, five" as they descended to the first turning and their footsteps and vocalisations began to align. The teacher showed sensitivity to the child's willingness to engage in the task, responding appropriately to build confidence in his ability to perform the activity successfully.
3. *A transition as they negotiated the first turning on the stairs.* Their footsteps fell out of alignment with each other and the teacher ensured the child's continued attention to the task as she said "right " and guided him by the hand to the next step.
4. *Walking down the second section of stairs together.* The child's attention had been successfully concentrated on their continuing journey by the teacher and he counted the next step "six " before the teacher came in with a deliberate "six " in conjunction with placing her foot on the next step. The teacher stepped and counted aloud in a rhythmic manner "seven " and the child fell into alignment as they counted together "eight, nine, ten" while they shared eye contact and smiled.
5. *A transition as they negotiated the second turning.* The child excitedly counted quickly, ahead of their footfall "nineteen, twenty, twenty-one " as they turned the corner of the stairs, displaying enthusiastic involvement in the task.
6. *Walking down the third section of stairs together.* The teacher again maintained structure and rhythm, responding to the child's willingness to perform the task, as she purposefully counted aloud "eighteen " while placing her foot on the next step. In doing so she responded to the child's over-excitement and contained it within the boundaries of the structure they had created together. The child fell back into step and together they count "nineteen, twenty, twenty-one" as they completed the final steps of their journey.
7. *Reaching the bottom of the stairs together,* the child broke into a broad smile and exclaimed "woo-hoo" as the teacher also smiled in a shared moment of satisfaction.

The teacher acknowledged a successfully completed project, saying to the child “Good counting” and they walked away from the staircase together, ready to start something new.

Together, these stages identified a shared narrative interactive project between child and teacher of descending the staircase together, and counting, that was formed by three individual yet complete sub-narratives (identified as episodes in Fig.4), each displaying its own *introduction*, *development*, *climax*, and *conclusion*. The transition points were formed by the small landings between flights of stairs, forming a natural break in the development of the overall narrative that concluded what came before it and at the same time initiated what is to come. These points, “c” and “e”, created breaks between the sub-narratives where the rhythmic quality of interaction was interrupted and the child and teacher, as partners in interaction, renegotiated their actions and intentions prior to embarking on a new sub-narrative, all the time working towards completion of the overall project. In this way, a type of ‘stories within stories’ was evident, that was structured by the physical environment and manifest by the psychomotor need to navigate it purposefully and efficiently.

Sub-Narrative Episode 1 comprised the setting up of the complete project and the journey down the first section of the staircase. There was an *introduction* to the project as the child and teacher came together and the teacher explained to the child the task that they were about to embark on. The project *developed* as the child and teacher began to share in the task and became actively engaged towards achieving their goal. This stage was dependent upon the child being willing to engage with the chosen task and the teacher responding with sensitivity to his individual needs. A *climax* was reached, although not fully completed, as they reached the first turning on the stairs and their interaction plateaued as the child began to disengage from the interaction, with a small *conclusion* to the episode as they recognised the achievement of the first stage of their task and turned their attention to the next stage.

Sub-Narrative Episode 2 comprised the descent down the second section of the staircase. There was an *introduction* as the child and teacher negotiated their activity, taking a couple of steps to align their footsteps and vocalisations, before falling into rhythm. This episode displayed positive engagement and alignment of goals, with the partners sharing positive affect and rhythmicity of action through the *development* of the engagement. A *climax* to the interaction was reached as the child became increasingly engaged and excitedly counted faster, ahead of their footfall. The teacher *concluded* the episode by counting aloud in a rhythmic manner with each corresponding footfall, restructuring the interaction, which briefly plateaued before entering a new episode.

Sub-Narrative Episode 3 comprised the final descent of the staircase. The child and teacher both displayed active engagement in the project at the *introduction* to the final descent, quickly *developing* their interaction through rhythmic footfall and counting. The teacher raised the pitch of her voice, bringing an active *climax* to the project as they reached the bottom of the stairs. The episode *concluded* quickly as the child and teacher walked away from the successfully completed task, each sharing in the joy of a successfully completed project.

Importance of the findings for this study

This example analysis from the pilot data displays the way in which a positive intersubjective project of social interaction was co-created between the child and NG teacher. It is thought from this evidence that NGs could afford children such every-day, but socially, emotionally and psychologically rich opportunities, by creating a safe and supportive environment in which affective relationships can be developed. Evidence of narrative patterns of social interaction engagement activity between the child and NG teacher suggests that a fundamental form of embodied meaning-making, that may assist social and emotional development and learning, is present in NGs.

4 PHASE 1: CASE STUDY: METHOD AND RESULTS

4.1 Abstract

This case study examines the social and learning patterns of a 5-year-old child attending a part-time Nurture Group (NG) in a primary school in Scotland. The case study forms Phase 1 of a larger research project that examines the relational and learning processes and experiences of pre-school and primary school children in Nurture Groups. Using in-depth case analysis, the case study allowed new understandings and theoretical explanations for social, emotional and learning gains in the NG to be advanced, thereby assisting the development of research questions and analysis measures for Phase 2 of the research project. The case study examined: 1) social, emotional and behavioural outcomes for the case-study child, 2) the structure and routine of NG sessions and activities, 3) the occurrence and quality of social interaction engagements, and 4) narrative patterns of social interaction during NG activity phases.

The NG was found to offer routine and consistency across and within sessions. Episodes of social interaction in shared participatory tasks between the case study child and their peers and NG teachers were found to display features of emotional engagement and narrative structure commonly found in intersubjective interaction between mothers and infants. These NG interactions displayed rhythmic patterning and were found to develop over time within particular NG phases, activities and companionable relationships. The findings suggest that NGs may help pupils to engage with school learning by facilitating progressive narratives of meaning-making within shared projects of embodied social interaction. It is proposed that NGs support the security features of Attachment, alongside the social, emotional and cognitive processes of Inter-subjectivity and Companionship, and that this unique combination, in which the skills of the teacher are instrumental, promotes the regulation of actions and emotions that are required for the co-construction of knowledge.

4.2 Introduction

Phase 1 of the study employs an individual case study to examine the patterns of participatory engagement in episodes of social interaction and learning experience, for one child participant, during NG sessions over the course of one school year.

The subject of the case study is Child 6 (C6), a five-year-old male pupil attending a part-time NG within a mainstream primary school. The school (School A) is situated in an urban area of multiple deprivation and is described in more detail in Chapter 2 of this thesis. C6 was selected as the subject of the case study following the researcher's observations in the NG and examination of the child's SEB needs identified in their Boxall Profile (BP) assessment. C6 was considered by the researcher to be representative of the nurture children described by NG founder Marjorie Boxall for whom NGs were originally designed (Boxall, 2010, p.200-201). C6 did not have any diagnosed developmental condition and the NG teachers reported that any barriers to learning were believed to be social and behavioural in origin. The NG teachers described C6 as a quiet, sometimes withdrawn child, who displayed a lack of confidence in social situations and delayed speech development affecting verbal communication.

During the study, C6 lived at home with his mother, to whom he was said to have a very close relationship, and younger sister. From an early age, both children attended a local authority Early Years Centre, where one of the NG teachers was based. The family were known to the NG teachers through many years of engagement with the Early Years Centre and associated community outreach activity. C6 transitioned from the Early Years Centre to the nursery class of another local primary school one year prior to his pre-school year. However, it was reported by the NG teachers that he was unhappy in the nursery class and encountered difficult peer relationships that ultimately led his mother to withdraw him from the class. C6 later joined the nursery class in School A at the beginning of his pre-school year, attending on three full days and two half days each week. During this year, a referral was made from the nursery to the NG for support for identified SEB needs. C6 was

accepted into the NG and attended for two school terms prior to Primary 1 (P1) school entry, where he joined a small group of nursery children for a one-hour NG session each week.

The NG for nursery pupils adhered to the same Boxall nurture principles as the NG for primary school pupils, however the nursery session was of slightly shorter duration as it did not include the traditional NG snack time. Following the summer break, on entry to the first year of primary school (P1), the NG referral for C6 was maintained due to continuing BP evidence of SEB need. Attendance in the NG re-commenced mid-way through the first term of the school year when a NG class was developed for a small group of P1 pupils who were having difficulty settling into school. Throughout the course of the study C6 attended the NG for a single weekly session of 60-75 minutes duration, spending the remainder of the week in the P1 mainstream class.

The findings of the case study contribute to the aims of the wider research project by providing insight into NG processes that assist children to make meaning of their school experience and to engage with classroom learning, thereby assisting the development of an analysis framework for Phase 2 of the study.

4.3 Methods

The case study was carried out using naturalistic target child observational methodology and employed psychological theories, concepts and measurement techniques to analyse the data and investigate NG processes. The methodology was informed by a social constructivist perspective, providing a focus on the mutual reliance of social and individual processes in the co-construction of knowledge through interaction with others. This approach is explored in more depth in Chapter 2 of this thesis. The case study was concerned with the processes involved in the NG experience that led to the displayed SEB outcomes for C6, where the

term 'processes' refers to the causal explanation, i.e. discovering how and why participation in the NG contributed to the observed developmental outcomes.

The case study design allowed a process of inductive theorising to take place, whereby theoretical explanations were sought through the investigative procedure. This process allowed the researcher to make sense of the findings once they had been evidenced and collated, rather than testing a previously developed hypothesis. In contrast to methods that test existing theory for all of the data collected, this method allowed for advances to be made in understanding, and the building of new theoretical explanations through in-depth case analysis, that then informed the measures of analysis for the remaining data (Phase 2 of the study).

Within the particular context and activities of the NG, processes, meaning and understanding were searched for, while also paying attention to the ways in which the NG context may shape behaviour (see Gillham, 2010, discussed in Ch.2 of this thesis). By concentrating on a single case, opportunities to identify significant factors within NG practice, and where they interact and work together to assist children's socio-emotional development and engagement with school learning, were amplified. The case study followed a four-stage pathway of enquiry:

Stage 1: SEB development measured by pre- and post-Nurture Group Boxall Profile scores

The first stage of analysis examined SEB development using the Boxall Profile (BP). The BP is routinely completed at start and end of the school year by the mainstream class teacher and subsequently reviewed by the NG practitioners to inform their practice. The BP aims to measure attachment concerns and behavioural difficulties that are thought to interfere with school learning, inform areas for intervention and measure progress over time. The BP results inform the child's referral to the NG, the day-to-day practice within the group developed by the NG practitioners, and the child's readiness for reintegration to the mainstream class on a full-time basis following NG attendance. For this study, the BP scores

for C6 were examined to understand the child's SEB needs at commencement of the study, development over time, and to contextualise the results from further stages of the case study.

Stage 2: Routine, predictability and timing of Nurture Group sessions and social activities

The second stage of analysis concentrated on the structure and operation of the NG. Routine and predictability are commonly reported features of NGs that are thought to contribute to improved SEB development for NG pupils, suggesting that NGs that offer routines, predictability and regular structure are more likely to provide a greater sense of security for children with developmental needs. The routine, predictability and timing of the NG sessions and social activities for C6, and their variance, was measured to understand the features of this particular NG and implications for success.

Stage 3: Occurrence and quality of social interaction engagements within Nurture Group sessions and activities

The third stage of analysis investigated the social interactions in which C6 engaged with others during NG sessions and activities. Periods of social interaction activity with others and solitary activity were identified, coded and compared over the course of the study. Opportunities for different types of social interaction activity within NG phases were identified. The quality of social interaction engagements was measured by observation and recording of the child's levels of wellbeing and involvement using the Leuven Wellbeing and Involvement scales (Appendix G). From these observations, high points of engagement in immersive social learning within NG phases and activities were determined.

Stage 4: Narrative analysis of social interaction engagements during Nurture Group activity phases

The final stage of analysis employed narrative methodology to analyse aspects of affective engagement in social interaction during NG activities. This arm of the study aimed to define

the interpersonal nature of the child's engagement with others in the NG. A written narrative description of each of the observed NG sessions was developed from researcher observations within the nurture room and observation of video recordings, detailing the child's interactions with others in the NG. Opportunities for social interaction and aspects of affective engagement in social relationships between C6 and others in the NG were identified and described to aid understanding of where and how these interactions develop. Following this, a second stage of narrative analysis brought insights from studies of mother-infant intersubjective interaction into the classroom setting, to identify episodes of shared interaction where C6 was actively and directly engaged with another person in a common task. Following identification, these social interaction engagements were analysed to identify their narrative structure and the levels of affective attunement between partners, allowing high points of attuned engagement to be established.

4.3.1 The Data

Over the course of a school year, the following data was collected for Child 6:

- *Data Sheet for Nurture Group Participants* completed by NG practitioners for C6 (Appendix A & B)
- *Boxall Developmental and Diagnostic Profile* for C6 at commencement and conclusion of the study, completed by the mainstream class teacher (Appendix H)
- *Video and audio recordings* of participation in five NG sessions for C6 at selected intervals across one school year
- *Field notes* made by the researcher in the NG
- *Attendance Record* for NG pupils.

4.3.2 Data analysis framework

A framework was developed to extract and analyse the video and audio data that included:

- A *written narrative observation* for each of five recorded NG sessions for C6, detailing the child's movements and interactions with others. This process allowed the researcher to become familiar with the data and acted as a rich source of information throughout the case study analysis. The researcher sought to identify and describe instances where social interaction behaviour displayed the child's *connection to adults, attachment behaviour, social experiences, emotional expression and communication*.
- Identification of the *ordering, timing and duration of NG phases* for each of the five observed sessions. This provided an overview of the structure of the NG sessions that assisted further analysis and contextualisation of results.
- Identification of *opportunities for social interaction*, recording the time spent by C6 in *group activity, one-to-one child/teacher activity, peer-to-peer activity* and *solitary play*. The duration and type of interaction was recorded across NG phases and coded during phases of Free Play using an adaptation of the 'Social Code'.
- Mapping of *narrative episodes of social interaction engagement* to give measure of their character, detailing their frequency, rhythmicity and phases of narrative activity.
- *Micro-analytic analysis of selected social interaction engagement activity* to identify narrative patterns of engagement, displaying body movements, emotional valence, eye gaze and vocalisations of partners that contribute to these episodes of engagement.
- Observation of the child's *levels of wellbeing and involvement* during episodes of social interaction engagement activity, measured by the Leuven scales for Wellbeing and Involvement.

4.3.3 Measures of Analysis

Using ELAN³³ computer software, five analytic tiers to support the coding and annotation of video and audio recordings were developed.

Tier 1: Nurture Group phase

Twelve NG phases (Table 9) were identified and annotated by their time stamp (the timing at which they occurred within the NG session, marked by start and end time) and description. Measures by which NG phases were identified are detailed in Appendix I.

Table 9. Description of Nurture Group phases

Phase number	NG Phase description	Code	Phase number	NG Phase description	Code
Phase 1	Welcome Time	WT	Phase 7	Snack Time	ST
Phase 2	Transition 1	T1	Phase 8	Transition 4	T4
Phase 3	Challenge Time	CT	Phase 9	Challenge Books	CB
Phase 4	Transition 2	T2	Phase 10	Transition 5	T5
Phase 5	Free Play 1	FP1	Phase 11	Free Play 2	FP2
Phase 6	Transition 3	T3	Phase 12	Tidy up	TU

Tier 2: Social interaction periods and type of interaction (the Social Code)

Periods and types of social interaction involving the observed child were identified and annotated by time stamp and description during the NG activity phases of Welcome Time, Challenge Time, Snack Time and Free Play (Table 10).

³³ Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands; <http://tla.mpi.nl/tools/tla-tools/elan/>

Table 10. Description and coding of interaction types

Interaction type	Code	Description
Teacher group	TG	The observed child engages in interaction with one or more NG teacher in addition to one or more other children.
One to one	1:1	The observed child engages in interaction with one NG teacher.
Solitary	S	The observed child plays alone.
Peer to peer	P:P	The observed child engages in interaction with one other child. No NG teacher is involved in the interaction.
Two to one	2:1	The observed child engages in interaction with two NG teachers. No other child is involved in the interaction.
Peer group	PG	The observed child engages in interaction with two or more other children. No NG teacher is involved in the interaction.

Phases of Free Play were further analysed using an adaptation of the Social Code (Fawcett, 2009, p. 88, derived from Sylva 1980, pp.237-239) that concentrates on social interactions for a target child within a group setting. The use of the adapted Social Code in this study allowed detailed coding of the child's social interaction, using category descriptions that best describe the types of interaction observed in the NG (Table 11). In addition to episodes of social interaction with others, the code provided insight to parallel play, where the child plays alongside others but no interaction takes place, and to interactions where a teacher was present but not involved in the interaction.

Table 11. Description and coding of social interaction in Free Play phases

Interaction type	Code	Description
Solitary	SOL	The observed child plays alone.
Peer to peer	PAIR	The observed child engages in interaction with one other child. No NG teacher is involved in the interaction.
One to one	1:1	The observed child engages in interaction with one NG teacher.
Teacher group	TG	The observed child engages in interaction with one or more NG teacher in addition to one or more other children.
Two to one	2:1	The observed child engages in interaction with two NG teachers. No other child is involved in the interaction.
Peer group	PG	The observed child engages in interaction with two or more other children. No NG teacher is involved in the interaction.
Parallel	/P	The observed child plays alone but close to another child or group.
Teacher present	(T)	A NG teacher is present but is not involved in the interaction.

Tier 3: Narrative patterns of social engagement

Narrative patterns of social interaction engagement displayed during NG activity phases of Welcome Time, Challenge Time, Snack Time and Free Play were identified and annotated by time stamp and description. Narrative phases of interaction (Table 12) were annotated to record observable narrative cycles of engagement for C6 within joint activity sessions.

Table 12. Description of narrative phases of interaction

Narrative phase	Description
Introduction	An initial act by one participant that could have been or was treated as an invitation to engage in social interaction.
Build	A response to another participant's initiation is displayed and engagement in social interaction builds in intensity.
Climax	A high point resulting from a period of building intensity of social interaction involving one of the following: 1. a shared, joyous and intersubjective moment, which was co-created and simultaneously experienced by partners. 2. an unshared, but co-created increase of intensity, expressed in (and/or): <ul style="list-style-type: none">• energy of exchange increases• faster exchange of reciprocal turns• increase of physical proximity
Resolution	A decrease of energy and intensity following a Climax with the ensuing calm shared by the two partners: <ul style="list-style-type: none">• often following a climax immediately,• sometimes appearing in the next engagement after another initiation and/or build.

Tier 4: Emotional Valence

The emotional expression of participants, displayed within selected episodes of shared social interaction activity was identified and annotated. Emotional valence was described and coded using positive, negative and neutral categories (Table 13) and changes in the emotion of each participant to the interaction were recorded.

Table 13. Description and coding of emotional valence

Emotional valence	Code	Identification and description
Baseline	0	Neutral emotion.
Smile	+1	Upturned corners of mouth with or without smiling eyes.
Laugh	+2	Open mouth and laughing sound.
Frown	-1	Downward corners of mouth and/or frowning eyes.
Distress	-2	Crying, shouting, withdrawn or aggressive behaviour accompanied by frown.

Tier 5: Eye gaze

The attention to selected episodes of shared social interaction activity between C6 and NG teacher(s) was identified by participant eye gaze and annotated by time stamp and descriptive code (Tables 14 & 15).

Table 14. Description and coding of child's eye gaze

Child's eye gaze focus	Code	Identification and description
Teacher	T	Child's eye gaze is directed to the face of the NG teacher who is involved in direct social interaction.
Object	O	Child's eye gaze is directed to object of interaction.
Away	A	Child looks away from the object of interaction, or from the other participant(s), for more than 2 seconds.
Other child	OC	Child's eye gaze is directed to another child participant in the interaction.
Other teacher	OT	Child's eye gaze is directed to another NG teacher participant in the interaction.

Table 15. Description and coding of teacher eye gaze

NG teacher eye gaze focus	Code	Identification and description.
Child	C	NG teacher's eye gaze is directed to observed child's face.
Object	O	NG teacher's eye gaze is directed to object of interaction.
Away	A	NG teacher looks away from the object of interaction or from the other participant(s) for more than 2 seconds.
Other child	OC	NG teacher's eye gaze is directed to another child participant in the interaction.
Other teacher	OT	NG teacher's eye gaze is directed to another NG teacher participant in the interaction.

4.4 Results

4.4.1 Stage 1: Social, emotional and behavioural development measured by Pre- and Post- Nurture Group Boxall Profile scores

The first stage of enquiry contributes to addressing Research Question 1 by investigating the SEB development for C6 shown in the Boxall Profile (BP) scores. BP assessments were completed by the child's mainstream class teacher at commencement and conclusion of the study, with an interval of three NG terms (equivalent to 2.5 school terms) between assessments. The scores on each strand of the BP Developmental Profile and Diagnostic Profile were recorded at start and end points of the study and the total scores for each profile and clusters within each profile were calculated (Appendix H).

The scores for C6 were compared with the representative sample score of competently functioning children provided by the BP (AFC score)³⁴ at start and end points of the study, and changes in individual strand scores were measured. A narrative description of the SEB needs of C6 at commencement of the study was developed from the BP sub-strand descriptions that outline the developmental needs, emotional barriers to learning and behaviours that interfere with learning in the mainstream classroom measured by the strand. A similar process was undertaken at conclusion of the study to understand progress and change over time. The BP strands and sub-strand descriptors that inform the combined score for each strand are detailed in Appendix J³⁵. The Developmental and Diagnostic Profile scores for C6 are considered in turn, followed by a discussion of the findings.

³⁴ This score relates to the range of scores of competently function children determined by the Boxall Profile and is described in Section 1.4 of this thesis.

³⁵ The sub-strand descriptor wordings are used throughout this thesis to describe the SEB features that relate to each BP Developmental or Diagnostic strand.

4.4.1.1 Pre- and Post- Nurture Group Boxall Developmental Profile scores

The total Developmental Profile and profile cluster scores for C6 at start and end points of the study were compared (Fig. 6).

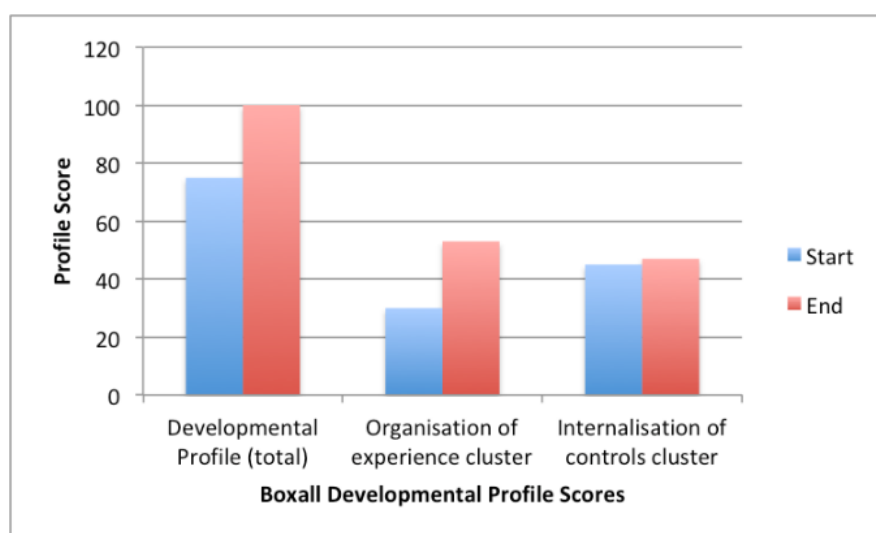


Figure 6. Developmental profile and cluster scores at start and end of study (Child 6)

Results displayed a gain of 33.33% on the Developmental Profile score between start and end of the study. An increase in the total score on this profile indicates progress in the developmental areas that assist the child's engagement with educational opportunities. Improvement was found across both profile clusters, with the greatest gain on the *Organisation of experience* cluster, with an increase of 77.67% between scores at start and end of the study. On the *Internalisation of controls* cluster, a small gain of 4.44% was found.

In order to examine in greater detail where improvements were made within each cluster, the scores on individual cluster strands were examined and compared at start and end points against the AFC score (Fig. 7).

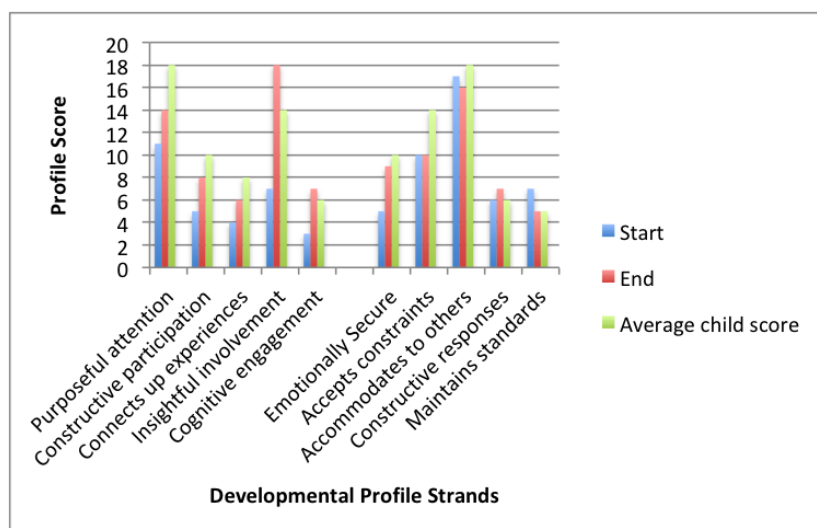


Figure 7. Developmental strand scores at start and end of study (Child 6)

4.4.1.1.1 Organisation of experience cluster

The *Organisation of experience* cluster comprises the first five strands of the Developmental Profile (Fig. 7, left to right). The strands that contribute to this cluster reflect levels of engagement with the world and awareness of others, and are arranged in order of increasing developmental complexity. The BP founders propose that in order to score well in the later strands, the child must obtain a high score on the preceding strands. High scores on all of the strands are said to describe “a child who is organised, attentive and interested, and is involved purposefully and constructively in events, people and ideas” (Bennathan, 2007).

At commencement of the study, the total score for C6 on this cluster was equivalent to 48% of the lowest AFC score. The lowest scores were on the strands *Constructive participation*, *Connects experiences*, *Insightful involvement* and *Cognitive engagement*, where scores were 50% below the lowest AFC score for each strand. On the first strand in the cluster, *Purposeful attention*, C6 performed better, with a score of 11, against the range of AFC scores between 18 and 20, although function was limited to 61% of the lowest AFC score. The lowest score for C6 was found on the final strand in this cluster, *Cognitive engagement*,

and reflected the low scores of the preceding strands. Despite displaying a higher score on the *Purposeful attention* strand, describing an ability to attend to personal needs and teacher requests, C6 did not display the subsequent self-organisation, communication or relational skills that were needed to engage confidently with his peers.

Overall, within the *Organisation of experience* cluster, C6 was found to be functioning well below the AFC range across all aspects at commencement of the study. Low scores on this cluster are said to indicate an underlying need for attachment and early learning experiences that will assist the child to organise their experience (Boxall & Lucas, 2010). The scores for C6 suggest that the child did not have the required levels of organisation, attentiveness and interest to be purposefully and constructively involved with events, people and ideas (see Bennathan, 2007).

At conclusion of the study an increase in scores was found for all strands on this cluster, suggesting that over the course of NG attendance, C6 had developed skills that foster more attentive and constructive engagement with events and people. The greatest gains were found on the *Insightful involvement* and *Cognitive engagement* strands (gains of 157% and 133% respectively), bringing these strands to fall within the AFC range. On the other three strands, *Purposeful attention*, *Constructive participation* and *Connects up experiences*, the score had increased some way towards the AFC score range.

4.4.1.1.2 Internalisation of controls cluster

The *Internalisation of controls* cluster comprises the second group of five strands on the Developmental Profile (Fig.7) and measures aspects of emotional security and social functioning. At commencement of the study, C6 obtained a total score of 45 on this cluster, equivalent to 85% of the lowest AFC score (Fig.7). C6 was therefore much closer to average functioning on this cluster than on the *Organisation of experience* cluster. Again, the strands are sequenced with increasing complexity, as in the previous cluster. High scores on all of

the strands describe a child who is emotionally secure, makes constructive, adaptive relationships, is able to cooperate with others and has internalised the controls necessary for social functioning (Bennathan, 2007).

At commencement of the study, the lowest score for C6 in this cluster was found on the first strand, *Emotionally secure*, with a score 50% below the lowest AFC score. On the second strand, *Accepts constraints*, C6 scored 71% of the lowest AFC score. The next strand, *Accommodates to others* recorded an even higher score, achieving 94% of the lowest AFC score, while on the final two cluster strands, *Constructive responses* and *Maintains standards*, scores fell within the AFC range. C6 displayed sequentially increasing scores across the strands in this cluster and this pattern of scores is at odds with the sequential nature of the strands and the assertion by Bennathan (2007) that unless a child scores well on earlier strands, they will be unable to achieve high scores on the later strands.

Overall, C6 scored highly on this cluster at commencement of the study, with the resulting profile indicating that the child can interact and co-operate with others, work within expected behavioural boundaries and accommodate to the needs and wants of his peers. Within this however, there an element of emotional insecurity is displayed, along with needs relating to the regulation of emotions and behaviours.

At the end of the study, C6 maintained scores within the AFC range on the final two strands, *Constructive responses* and *Maintains standards*, while the score on the second strand *Accepts constraints* remained unchanged. On the *Accommodates to others* strand, a small decrease in score of 6% was found, taking C6 to within 89% of the lowest AFC score. Across the cluster, the greatest gain was found on the *Emotionally secure* strand, where greatest need had been displayed at the start of the study. An increase of 80% was recorded on this strand, improving the score to 90% of the lowest AFC score. This indicated that the greatest developmental gains in this cluster related to the areas of improved self-esteem, displaying

greater use of eye contact when being addressed by the teacher, and greater investment of feeling in the child's own achievements.

4.4.1.2 Pre- and Post- Nurture Group Boxall Diagnostic Profile scores

The total Diagnostic Profile and profile cluster scores for C6 at start and end points of the study were compared (Fig. 8).

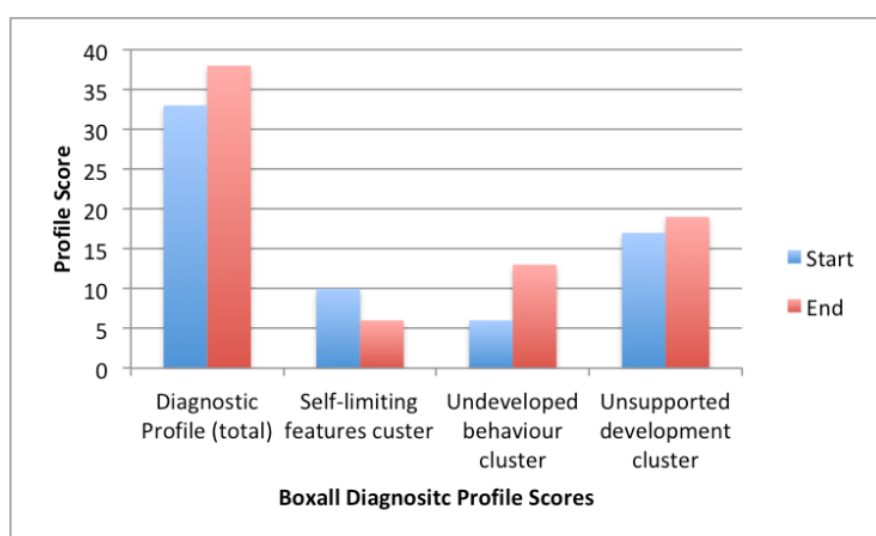


Figure 8. Diagnostic profile and cluster scores at start and end of study (Child 6)

Results showed a gain of 15% on total Diagnostic Profile scores following NG attendance. An increased score indicated that more significant observable behaviours that interfere with school learning were present at conclusion of the study compared to the start of the study. Results were variable across the three profile clusters, with improvement shown on the *Self-limiting features* cluster, but negative gain on the *Undeveloped behaviour* and *Unsupported development* clusters. Recognition of the variability of progress across clusters pointed to the need to investigate the clusters, strands and sub-strands that contribute to the total scores. To aid understanding, the strands were also compared to the BP AFC scores provided in the Boxall Profile (Fig. 9).

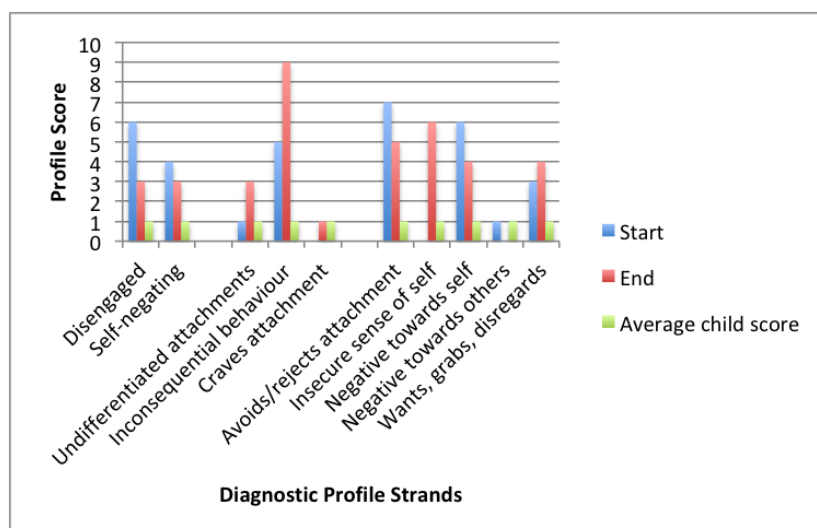


Figure 9. Diagnostic profile strand scores at start and end of study (Child 6)

The Diagnostic strand scores for C6 at start and end of the study were compared to the AFC range, where 0-1 is the range of average scores of competently functioning children, i.e. the higher the child's score, the further removed from the average score, indicating a higher level of disfunction.

The scores for C6 were found to be variable across the strands within each cluster, with high scores indicating where the child encountered problems that interfered with learning. Strand scores for C6 were consistently higher than the AFC scores at start and end points on the *Self-limiting behaviour* cluster, which contains the strands, *Disengaged* and *Self-negating*. For the other two clusters, *Undeveloped behaviour* and *Unsupported development*, the scores for C6 did not show the same consistency, with some strands displaying scores within the AFC range and others displaying large variation from the AFC range. The three diagnostic clusters, their strands and sub-strands were considered in turn.

4.4.1.2.1 Self-limiting features cluster

The *Self-limiting features* cluster includes the strands *Disengaged* and *Self-negating*. This cluster provides insight to the reasons for the child's inability to engage with the world around them, which may be related to the child's mental health, a learning or developmental disability, or emotional neglect (Bennathan, 2007). At commencement of the study C6 has a score five times greater than the highest AFC score on the *Self-limiting features cluster* (Fig.6), against the AFC range of 0-2. A high score in this cluster is said to mean that there are features within the child that prevent engagement with the world around them and Bennathan (2007) suggests that such children require a warm, supportive relationship and that this is the starting point for nurture teachers to plan focused intervention.

Across this cluster, C6 scored highest on the *Disengaged* strand, with a score six times greater than the highest AFC score. On the *Self-negating* strand, C6 scores four times greater than the highest AFC score. The profile for C6 suggests that the child has a negative view of self and does not have the confidence or self-assurance to successfully engage with other people and objects, thus identifying risk factors to successful learning in a mainstream class.

At conclusion of the study, the score on the *Self-limiting features* cluster displayed an improvement of 40% on the initial score. Gains were made across both cluster strands, however the greatest improvement was found on the *Disengaged* strand, with a 50% improvement in score, compared to 25% improvement on the *Self-negating* strand. The positive gains that were made brought C6 much closer to the AFC range of scores, with scores on both strands reaching the same level. The strand on which the greatest improvement was found also displayed the greatest need in this cluster at commencement of the study. The BP sub-strand descriptors indicate that, following NG intervention, C6 was better able to relate to people and events, was motivated to pursue work and play activities

independently and with less support, displayed improved self-regard and was better able to approach new tasks or difficult situations.

4.4.1.2.2 Undeveloped behaviour cluster

The *Undeveloped behaviour* cluster includes the strands *Undifferentiated attachments*, *Inconsequential behaviour* and *Craves attachment*. This cluster considers the child's behavioural characteristics and describes immature behaviours that hinder adjustment to school. The strands contained within this cluster are intended to help teachers, who may be frustrated by the child's demanding and disorganised behaviour, to see the underlying causes of the behaviour. Such insight helps teachers to plan strategies to meet the child's needs in a way that helps the child to mature. Children who have high scores on this cluster will be functioning at an early level, but are considered to have the ability to form positive attachments if early level relationships and appropriate experiences are available to them (Bennathan, 2007).

At commencement of the study, C6 scored within the AFC range on two out of three strands in this cluster. Age-appropriate functioning on the strands *Undifferentiated attachments* and *Craves attachment* indicates that C6 had been able to form meaningful attachment in the early years of infancy. However, on the *Inconsequential behaviour* strand, C6 scored five times above the AFC range, indicating inappropriate patterns of behaviour, fleeting interest in objects and activities, and the inability to conform to normal social constraints and expectations. Therefore, despite evidence of existing meaningful attachment relationships, C6 had not gained the required skills to be able attend to people and objects and effectively regulate his behaviour.

At conclusion of the study, the scores on all three strands displayed negative gain for C6. The score on the *Craves attachment* strand, although increased, remained within the AFC range, however the *Undifferentiated attachments* and *Inconsequential behaviour* strands

displayed greater deviation from the AFC range than at commencement of the study. The *Undifferentiated attachments* score had increased by 300%, to a score three times greater than the highest AFC score and suggested regression towards more baby-like behaviour. The *Inconsequential behaviour* score had increased by 80% and suggested that C6 had become further removed from the ability to operate within normal social expectations. These outcomes may be displayed through fleeting interest, lack of attention and restless or erratic behaviour.

4.4.1.2.3 Unsupported development cluster

The *Unsupported development* cluster includes the strands, *Avoids/rejects attachment*, *Insecure sense of self*, *Negative towards self*, *Negative towards others*, and *Wants, grabs, disregards others*. It is proposed that high scores on this cluster represent the absence of early nurturing care, leading to poor experiences and poor development of attachment (Bennathan & Boxall, 1998). The first three strands in this cluster describe behaviour that is directed towards self and high scores on these strands are said to be indicative of a child who is turning their hurt inward (Bennathan, 2007).

The highest score in this cluster at commencement of the study was found on the *Avoids/rejects attachment* strand, where the score was seven times greater than the highest score in the AFC range. This strand describes a lack of trust characterised by negative attitude and mood, and abnormal eye contact and gaze. A high score was also found on the *Negative towards self* strand that indicates outbursts of emotion, negating the child's own achievements, sulking and feeling that others are against them. These scores were in keeping with the findings on the Developmental Profile. However, on the *Insecure sense of self* strand that relates to variability of mood and behaviour and attention-seeking, C6 obtained a score that fell within the AFC range of scores.

Across the first three strands in this cluster, C6 scored 13, against the AFC range of 0-3. It is thought that children who score highly on these strands can be assisted by patient and supportive staff, who understand the origins of their behaviour (Bennathan, 2007). In this case, the withdrawn behaviour displayed by C6 appeared to be the effect of the child's low self-confidence and lack of trust in others. The final two strands in this cluster describe behaviour that is directed towards others. On the strand *Negative towards others* C6 scores within the AFC range, while on the strand *Wants, grabs, disregards others* the score is slightly above the AFC range. The later scores in this cluster helped to confirm understanding of the first three strands and together the cluster portrayed C6 as a child whose social and emotional difficulties were played out through internalising behaviour.

At conclusion of the study, variable outcomes were found across the *Unsupported development cluster*, where improvements were shown on three out of five strands. Improvements on the *Avoids/rejects attachment* and *Negative towards self* strands suggested that C6 was better able to relate to others through the development of trusting social relationships. However, a large increase in score on the *Insecure sense of self* strand indicated the development of contrary and attention-seeking behaviours and variable mood. On the remaining two strands, C6 maintained a score within the AFC range on the *Negative towards others* strand and displayed a small increase on the *Wants, grabs, disregards others* strand. This result would appear to be in keeping with the increase found in the *Insecure sense of self* strand in this cluster.

4.4.1.3 Discussion of findings from Stage 1 of the case study

The BP provided insight to the difficulties encountered by C6 for learning within the mainstream classroom and identified changes in SEB development observed by the mainstream class teacher following NG attendance. At commencement of the study, the Developmental Profile scores highlighted difficulties centred around self-esteem, communication, active participation and contribution to joint tasks. BP sub-strand indicators suggested that C6 found difficulty completing activities or seeing things through to the end,

and displayed a lack of curiosity or interest in new things. An element of emotional insecurity, and the inability to make eye contact or seek assistance from the class teacher, was also evidenced. The findings suggest that, by lacking the skills required to attend to and complete tasks, C6 was missing out on opportunities to gain a sense of accomplishment and pride in his own achievements.

Teachers are asked to interpret the Developmental Profile scores through reflection on the observations of the Diagnostic Profile, helping them to see the world from inside the child's head and understand the reasons for the child's behaviour. It is thought that a child's strengths and weaknesses, evidenced on the Developmental Profile, can be better explained with a clearer understanding of what may lie behind their behaviour. By considering the scores on individual clusters and strands of the Diagnostic Profile for C6, an understanding of the behaviours that interfered with learning effectively in the mainstream class was gained.

Behaviours displayed in the Diagnostic Profile scores for C6 at commencement of the study describe a child who related minimally to others, avoided contact with peers and teachers and displayed abnormal eye contact and gaze. The child appeared to lack trust in adults' intentions and showed fear. He had little motivation to pursue activities, showing only a fleeting interest, and found it difficult to engage with activities with any degree of sustained attention. The Diagnostic Profile painted a picture of a child who lacked the basic, essential skills that are required for successful engagement in school learning and explained why difficulty was encountered with learning in a mainstream classroom setting. Within NGs, practitioners are encouraged to use the Diagnostic Profile to reflect on what the world looks like to the child, and to use their own skills and experience to consider positive strategies that will assist the child.

The difficulties described in the Diagnostic Profile were largely relational and motivational, and described a child who was unable to form and maintain positive relationships, or to

maintain attention to tasks with any interest or enthusiasm. These findings support the NG referral for C6. The BP scores were provided by the child's mainstream class teacher and were therefore a reflection of the behaviour that was displayed in the mainstream classroom. The BP is an indicator of the child's difficulties to inform individually tailored intervention in the NG, and is not necessarily representative of observed behaviours in the NG. However, the profile does appear to reflect the observations of the NG teachers, who described C6 as shy, difficult to engage and lacking in confidence.

Despite these difficulties, C6 displayed a range of behaviours at commencement of the study that are in keeping with the average scores in a sample of competently functioning children in the primary school age range. Average functioning was displayed on the strands: *Undifferentiated attachment*, *Craves attachment*, *Insecure sense of self* and *Negative towards others*. The sub-strand descriptors for these four strands relate to acting-out, attention-seeking and variable behaviour. These are not traits that were evidenced in the profile scores for C6 or in the observations made by the NG teachers, suggesting that C6 is a child who could be thought to be "turning their hurt inwards" (Bennathan, 2007).

These findings contribute to answering Research Question 1 by identifying the social, emotional and behavioural needs of the case study child at commencement of the study. Together, the combined Boxall Profile Diagnostic and Developmental elements at commencement of the study described C6 as a child who lacked confidence in his ability to engage with others. He avoided contact and displayed his fear of interaction through his facial expression, particularly the inability to maintain eye contact and observably negative demeanour. He showed minimal relatedness to others, resisting or thwarting attempts to engage his attention. He found it difficult to build trusting relationships, generally choosing to spend time alone, while additionally displaying negativity towards himself. This description defined a child with considerable social, emotional, behavioural and learning needs, who was functioning below the developmental and behavioural expectations for his age, and therefore conforms to the description of the nurture child for whom NGs were originally developed (Boxall & Lucas, 2010).

Following structured NG intervention, C6 displayed improvement across the Developmental Profile, with clearly visible areas where improvements were made. By conclusion of the study, improvement was evidenced on the Developmental Profile almost universally across all areas of SEB development, with the greatest improvement on the *Insightful involvement* strand, where one of the greatest areas of need was identified at commencement of the study. This strand is concerned with emotions, curiosity, constructive interest, and reciprocal friendships that provide companionship. An increased score on this strand could suggest that the child was more able to regulate his emotions, thereby allowing him to pursue his interests and follow through his child-like curiosity, ultimately leading to shared interests and the ability to create and maintain friendships.

The Developmental Profile scores showed that C6 had become increasingly emotionally secure and displayed this by making eye contact with his teachers and seeking assistance when required. The results showed that he could identify feelings and emotions and display appropriate responses. He was more able to contribute to co-operative play, by using conversation appropriately to engage with his peers, and adapt to their ideas, showing concern and thoughtfulness to others.

The Diagnostic Profile was less clear, with many of the scores becoming further removed from the average scores over time in the NG. Despite displaying scores that were within the average range across four out of ten strands at commencement of the study, these scores were maintained on only two strands, *Craves attachment* and *Negative towards others*, at completion of the study. Scores on the remaining two strands *Undifferentiated attachments* and *Insecure sense of self* both increased outwith the average range. The highest score was found on the *Inconsequential behaviour* strand of the Diagnostic Profile, where the score was 90% higher than the average child. A high score on this strand indicates restless and erratic behaviour with only fleeting interest shown to activities. It can also indicate boisterous and noisy behaviour with lack of attention to normal social constraints and expectations.

In some cases, Diagnostic scores may get worse before they get better. Boxall & Lucas (2010) state that difficulties that are highlighted on the Diagnostic Profile can be more deep-seated and require further intervention, while noting the findings by Cooper & Whitebread (2007) that children displaying such deep-seated difficulties will still make significant gains in the NG. The Diagnostic Profile is not designed to provide a diagnosis for mental health or developmental concerns. Its purpose is to identify behavioural issues, and provide a basis for consideration of the cause of the child's difficulties, allowing strategies to be designed. Behaviours that are measured have a range of influences, including social and environmental factors, some of which are outwith the control of the school, and it is recognised that these can fluctuate over time.

A key finding from the BP assessments was that the greatest improvements on the Developmental Profile were made in the areas where greatest need had been identified at commencement of the study, bringing some of the areas where poorest social and emotional development was evident to a level of expected functioning for the child's age. This finding suggests that the initial assessment had allowed the NG teachers to understand the child's needs relating to impaired developmental experiences in infancy and tailor NG intervention to supporting those needs, resulting in social and emotional development in some of the areas where greatest need was observed. The BP confirmed that C6 had made good developmental progress in the NG and had been able to transfer some of the acquired developmental skills to the mainstream classroom. However, worsening of a range of behaviours that inhibit or interfere with involvement in the mainstream classroom were observed by the mainstream class teacher at the end of the study, largely in relation to attention-seeking and restless behaviour. These findings contribute to answering Research Question 1 by identifying where social, emotional and behavioural development is evidenced for the case study child between the start and conclusion of the study.

4.4.2 Stage 2: Routine, predictability and timing of Nurture Group sessions and social activities

The second stage of enquiry contributes to addressing Research Question 3 by investigating the routine, predictability and timing of the NG sessions and activities. C6 attended the NG for one session of 60-75 minutes duration each week throughout the course of the study. During the first term, four pupils from the two P1 mainstream classes attended the NG sessions, with a fifth pupil joining the NG for terms two and three.

4.4.2.1 Nurture Group structure and routine

The NG sessions took place on the same day and time each week and the NG pupils registered with their mainstream class prior to being collected by the two NG teachers to take them to the nurture room. The NG teachers (T1 & T2) were Early Years Practitioners from nearby local authority Early Years Centres who operate the NG as part of their community outreach service. The primary role of the Early Years Centres is the provision of family support and early learning and childcare for vulnerable children below school age and their families. On occasions when one of the practitioners was unable to attend the NG due to illness, holiday or training, another member of staff from the Early Years Centre would step in to allow the NG sessions to continue. Within each of the Early Years Centres, a core group of staff have received training from Nurture UK and replacement staff are selected from this small group. Consistency of staffing is considered by the school management team to be an important element for successful outcomes in the NG, by providing pupils with the familiarity of key personnel and supporting continuity of the NG sessions.

The NG sessions were found to display consistent structure, with each session comprising a series of activity phases, separated by periods of transition, that were conducted in the same order each week. The ordering and duration of five NG sessions and their phases of activity and transition, spread across the school year, were examined to establish the reliability and predictability of this structure (Table 16).

Table 16. Measurement of Nurture Group phases and transitions

NG phase	Duration (min)						Standard Deviation (min)
	Session 1	Session 2	Session 3	Session 4	Session 5	Mean	
Welcome Time	7.4	7.32	7.52	7.19	11.45	8.17	1.83
Transition 1	0.2	1.35	0.4	0.37	1.02	0.67	0.4
Challenge Time	7.06	12.0	16.07	8.46	11.33	10.98	3.49
Transition 2	0.29	0.12	0.17	0.26	0.33	0.23	0.09
Free Play 1	17.0	17.26	13.47	23.51	17.07	17.66	3.63
Transition 3	1.04	1.13	2.45	1.0	2.22	1.57	0.71
Snack Time	9.11	10.28	10.41	12.49	11.19	10.7	1.25
Transition 4	2.14	1.17	1.38	2.3	2.17	1.83	0.52
Challenge Books	3.02	2.27	2.1	1.26	3.14	2.36	0.76
Transition 5	0.2	0.18	0.11	0.03	0.09	0.12	0.07
Free Play 2	9.22	6.14	4.38	10.45	8.11	7.66	2.42
Tidy Up Time	1.5	2.36	1.06	4.21	1.57	2.14	1.25
Total session time	58.18	61.58	59.52	71.53	69.69	64.09	6.10

The duration of the observed NG sessions ranged from 58.18 minutes to 71.53 minutes (mean = 64.09). Despite variations being found in the duration of both the NG sessions and the individual phases, the ordering of the phases within each session was found to be consistent.

4.4.2.2 Nurture Group rhythmicity and patterning

The order and duration of NG phases (Table 16), when plotted on a line graph, displayed rhythmicity and patterning across sessions (Fig.10).

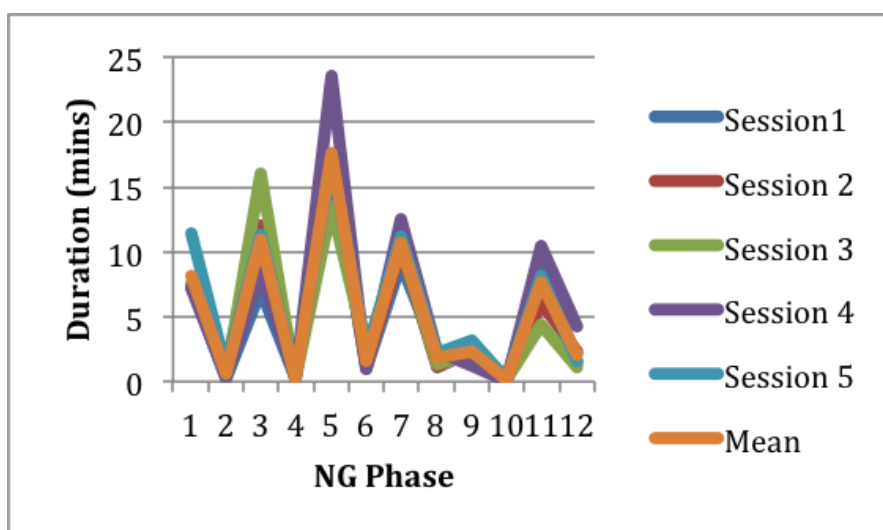


Figure 10. Patterning of the duration of Nurture Group phases across sessions

Description: The high points (NG phases 1, 3, 5, 7, 9 & 11) represent the NG activity phases of Welcome Time, Challenge Time, Free Play 1, Snack Time, Challenge Books and Free Play 2 respectively. The low points (NG phases 2, 4, 6, 8, & 10) represent the transition phases between NG activity phases when the pupils move between activities.

Rhythmicity of the NG sessions was evident, with each session found to follow the same pattern of high and low points across the session. The high points of activity displayed in Figure 9 form an over-arching two-stage narrative structure to the NG session, featuring:

- an *Introduction* to the session as the children arrive in the nurture room and settle into the Welcome Corner. Although not recorded, this *Introduction* will have commenced when the NG teachers collected the pupils from their mainstream class and walked with them to the nurture room. Welcome Time (Phase 1) is identified as the start of the NG session and continues the *Introduction* before *Building* in intensity as the pupils and staff begin the session and work towards revealing what today's challenge will be.
- a *Build* that continues into Challenge Time (Phase 3) where it continues to increase in intensity towards
- a *Climax* during Free Play 1 (Phase 5), before decreasing in intensity through a gradual

- *Resolution* that flows through Snack Time (Phase 7) and Free Play 2 (Phase 9), ending when the pupils move into the final transition (Phase 10). Following this transition
- a sharp *Build* of intensity peaks in Free Play 2 (Phase 11) indicating
- the *Climax* of a second, smaller narrative, concluding the activity phases with a high point that displays similar duration to Welcome Time. This second narrative falls quickly after *Climax* towards the final transition and
- *Resolution* that ends the NG session as the pupils leave the nurture room to return to their mainstream class.

4.4.2.3 *Chunking of time*

Each NG session of up to 75 minutes was segmented into shorter ‘chunks’³⁶ of time (NG phases) that followed in the same order each session. Phases of activity were interspersed with phases of transition during which children moved from one activity to the next. The NG activity phases consisted of both prescribed activities that each child must attend to and periods of free time where the child may choose their own activity (non-prescribed)³⁷. Figure 11 illustrates the composition of a typical NG session for C6 (Level A) that comprises prescribed and regular activities and transitions between (Level B), where the activities include individual and shared projects of interaction (Level C), each comprising smaller elements of action (Level D).

³⁶ Throughout this thesis, the concept of ‘chunking’ is informed by the work of Miller (1956) who proposed that by segmenting a sequence of elements into blocks, or chunks, information becomes easier to retain in memory and recall in the correct order.

³⁷ The terms ‘prescribed’ and ‘non-prescribed’ activity are used throughout this thesis according to the definition presented here.

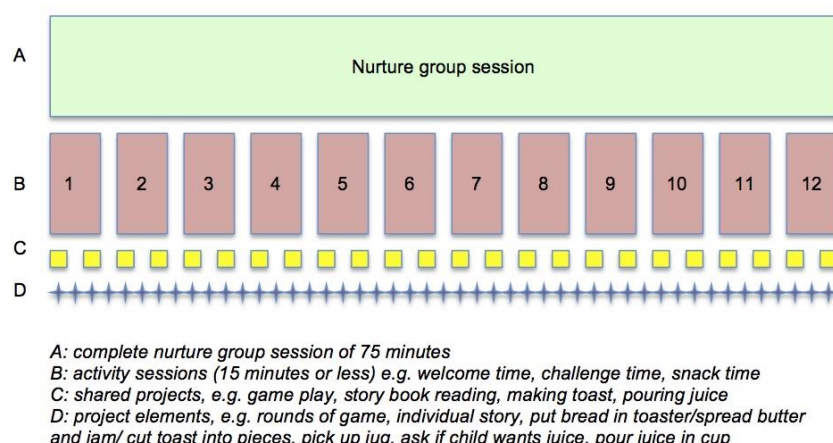


Figure 11. Components of typical Nurture Group session (Child 6)

Despite the activity phases following a regular pattern and taking a recognisable form, there was a considerable amount of variation in the duration of these phases (Table 16). The greatest variation was found during the phases of Challenge Time and Free Play 1. These phases frequently included game-play activity, such as playing a board game, and the duration was determined by the time taken to play the game rather than a specific time allocated to the phase. In this way, games could be played until they were concluded, regardless of time, and this appeared to be an important feature of NG activity and learning, highlighted in the following extract from researcher observations in the NG (Table 17).

Table 17. Extract from researcher observation (Child 6, NG Session 4, Snack Time)

Child 6	Session 4
NG Phase: Snack Time	
T2 reminds the children of their 'targets' for the day. C6 has been given a target to choose an activity and finish the activity before moving on to something else. C6 focuses on T2 and watches while she reminds each child of their target. T5 says "[C6] done well because he played Four in a Row with T5" and T2 continues, looking at C6 and saying "and did you finish the game [C6]?" C6 shrugs his shoulders and turns to T5 who is nodding and he shares a smile with her and nods his head too. T2 reinforces this action by saying "Well done". C6 stretches his arms in the air and looks happy and relaxed as snack time draws to a close.	

A particular element of Challenge Time was that the children were directed to participate in a group activity and see it through to the end. When they become distracted during the activity, the NG teacher was consistent in directing their attention back to the activity.

During Free Play phases, children were encouraged to choose their own activity and they frequently flitted between multiple activities throughout this phase.

In this particular NG, the children were given targets, informed by areas of need identified in their BP scores and NG teacher observations in the nurture room. The NG teachers reminded the children of their targets throughout the sessions and highlighted achievements with recognition and praise. In this example, T2 had reminded each of the children of their targets for the session. T5 was aware that C6 had achieved his target during a shared game-play session in Free Play time and highlighted this, simultaneously raising awareness with C6 of his own success, assisting T2 with recording the achievement, and sharing the success with the other children in the NG. T2 took the lead from T5 and engaged in direct conversation with T2, asking him to remember and confirm that he finished the game. Unsure of his response, C6 turned to look at T5 and seeing that she was smiling and nodding her head, he responded by smiling and nodding his head too.

The sharing of joy at successful completion of the target was reinforced verbally by T2 when she said “Well done”, noting her pleasure for everyone in the group to hear. This example displayed how the NG teachers worked together to identify the needs of individual children, provided opportunities for social, emotional and learning development, and recognised and shared the joy that was found in the successful completion of tasks.

4.4.2.4 Discussion of findings from Stage 2 of the Case Study

The NG sessions were found to provide routine and consistency, being held on the same day and time each week and attended by the same NG teachers and pupils. The Boxall NG model supported the attendance of the same children and NG teachers in the NG each week. The NG experience of the case study child was composed of a variety of solitary and social interactions and projects through which he learned how to follow instructions, make choices, interact and cooperate with others, complete tasks and achieve targets. Embedded

within the social interaction projects were smaller elements of action that combined to form each task, for example rounds of a game that contributed to the overall game play session. This structure provided elements of predictability and routine, whereby the child could learn what to expect each time he came to the NG.

The narrative patterning that was evident across NG sessions (Fig.10) emphasised that, regardless of inconsistencies in timing, the pattern and rhythm of the sessions remained consistent, thereby providing structure, routine and predictability for the child. The findings in this section contribute to answering Research Question 3 by identifying elements of rhythm, routine, consistency and predictability within NG sessions.

4.4.3 Stage 3: Occurrence and quality of social interaction engagements within Nurture Group sessions and activities.

The third stage of enquiry contributes to addressing Research Questions 1 & 2 by investigating the occurrence and quality of social interaction engagements in the NG.

4.4.3.1 *Occurrence of social interaction engagements within NG sessions and activities*

Six NG phases were found to provide opportunities for meaningful social interaction and these were identified as the activity phases of *Welcome Time*, *Challenge Time*, *Free Play 1*, *Snack Time*, *Challenge Books* and *Free Play 2*. During these NG phases, opportunities existed for pupils to participate in a combination of solitary activity and social interaction. *Transition* phases, by contrast, involved pupils moving from one activity phase to the next, with limited interaction with others. Therefore, for social interaction analysis, the *Transition* phases were not included. The *Tidy Up* phase was also discounted from analysis as this comprised a short phase at the end of the session where the children helped to tidy the nurture room before returning to their mainstream class. The *Transition* and *Tidy Up* phases, by their nature, are not designed to provide opportunities for purposeful social interaction.

The total time available for social interaction during the NG phases of phases of *Welcome Time*, *Challenge Time*, *Free Play 1*, *Snack Time* and *Free Play 2* was calculated for each NG session. Within each of the NG phases, the type and duration of observed social interaction activity or solitary activity was measured and coded, allowing a picture to develop of the NG phases where engagement in social interaction with others took place (Fig. 12).

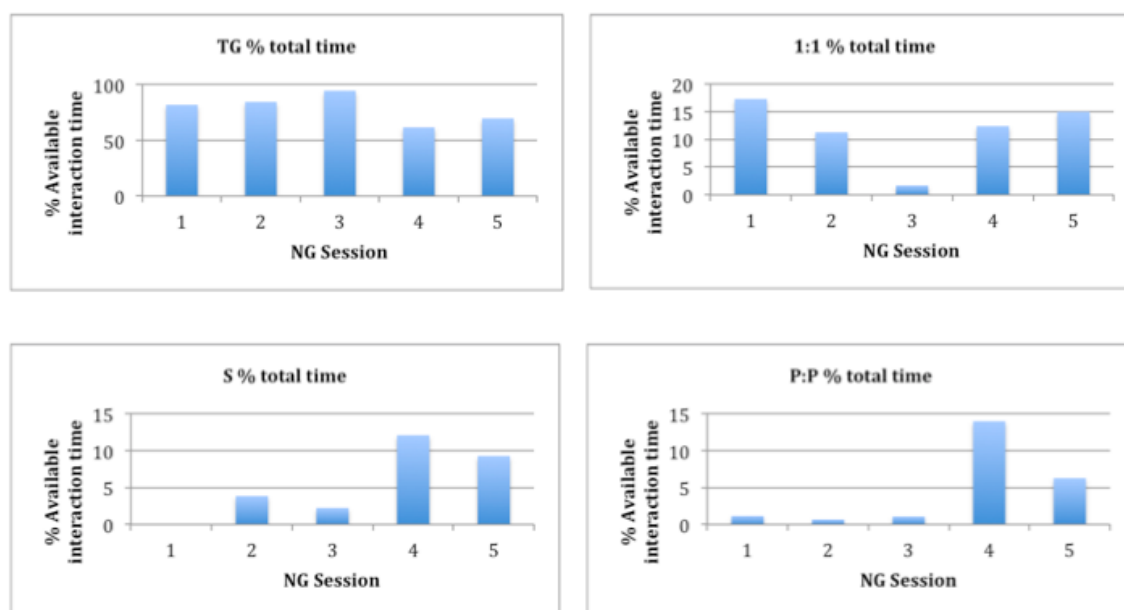


Figure 12. Interaction time by social interaction type (% of available interaction time)

Description: The percentage of time by type of social interaction engaged with, compared to the total available social interaction time during NG activity phases, is displayed by the type of social interaction (TG, 1:1, S, P:P) for NG Sessions 1-5. Coding is described in Table 9.

Over the course of five observed NG sessions, C6 was found to spend the majority of available interaction time during the earlier NG sessions engaged in social interaction episodes that included the involvement of a NG teacher (Session 1=98.85%; Session 2=94.48%), with very little time spent in solitary activity (Session 1=0%; Session 2=3.86%) or peer-to-peer activity (Session 1=1.15%; Session 2=0.67%). During later sessions however, the time that the child was engaged in solitary and peer-to-peer activity increased (Solitary activity: Session 4=12.04%; Session 5=9.25%. Peer-to-peer: Session 4=13.96%, Session 5=6.26%), with a corresponding reduction in teacher involvement (Session 4=73.87%;

Session 5=84.48%). There were no observed episodes of two teachers/observed pupil (2:1) interaction and only one brief peer group (PG) interaction which was of less than 10 seconds duration.

During video analysis it became apparent that individual NG phases offered varying opportunities for different types of social interaction activity and that these interactions were not always determined by the child. *Welcome Time*, *Challenge Time*, *Snack Time* and *Challenge Book* phases were found to be prescribed group activity periods, in which all of the pupils and teachers participated. These phases were largely teacher-led with pupils participating in activities together, as a small group, under direction of the NG teacher(s). Within these group activity phases, the social interaction periods were predominantly coded as teacher-group activity (TG). Short episodes of 1:1 interaction were sometimes observed within these activities, however they were of limited frequency and duration, and the main opportunities for 1:1 social interaction were found within the two *Free Play* phases (FP1 & FP2).

During *Free Play* phases, pupils were encouraged to choose an activity that they wished to pursue from the full range that was on offer in the NG. This choice included whether to play alone, with one or more of their peers, or with teacher involvement. There was, however, an emphasis on learning to play co-operatively and peer-to-peer play was encouraged. Occasionally, children would invite a teacher to engage in an activity with them, although such activity was always child-led during these phases. For this reason, the two *Free Play* phases (FP1 & FP2) were coded independently using an adaptation of the Social Code (Fawcett, 2009, p. 88, derived from Sylva 1980, pp.237-239) to measure the social interaction and solitary play in which C6 chose to engage across NG sessions.

The Social Code includes measures of parallel play and teacher presence without interaction, and was adapted to further include teacher and peer interactions that were observed in the NG, therefore providing deeper understanding of where social interactions

were taking place and how they developed. Figure 13 displays the results for C6 social interaction during Free Play 1 (FP1) and Free Play 2 (FP2) phases. Coding of interaction types is provided in Table 11.

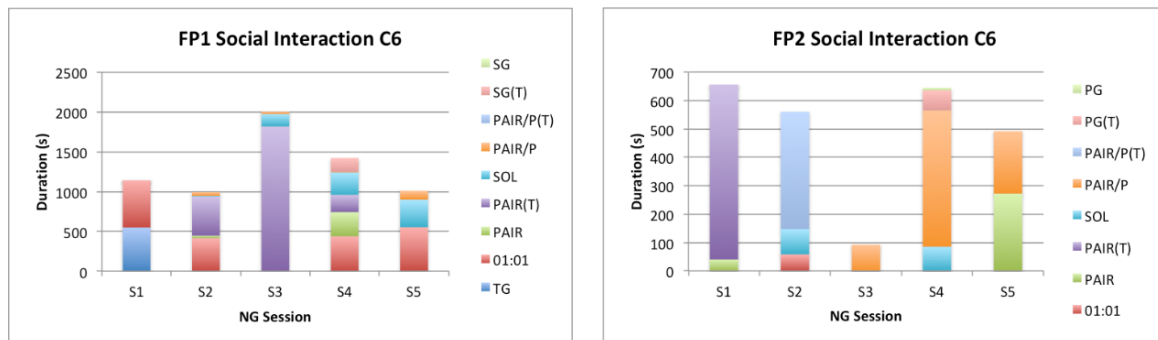


Figure 13. Interaction time by social interaction type during Free Play (Child 6)

Variation was found in the type of social interaction in which C6 engaged across FP1 and FP2 phases and across NG sessions (Fig.13). In Session 1, C6 spent almost equal time engaged in teacher group (TG) and one-to-one child-teacher (1:1) interaction during FP1, however FP2 was almost entirely made up of interaction with another child with a teacher present (PAIR (T)), and also includes a short period of less than a minute of peer-to-peer interaction without a teacher (PAIR).

In Session 2, over 40% of the FP1 phase remained dedicated to child/teacher activity, however peer-to-peer play also features prominently in this session. There was a period of peer-to-peer play where a teacher was present but not involved (PAIR (T)) of over 8 minutes duration, and short periods of peer-to-peer play with no teacher present (PAIR) and parallel play alongside a peer (PAIR/P), each lasting less than one minute. In FP2, this session largely involved parallel play alongside another child with a teacher also present (PAIR/P (T)). There were also short episodes of solitary play (SOL) and one-to-one child/teacher interaction (1:1).

In Session 3, peer-to-peer play increased in FP1, with the phase largely taken up with peer to peer play with a teacher present (PAIR (T)), with episodes of parallel play beside a peer (PAIR/P) and small peer group interaction (PG) of less than one minute each and a short time of solitary activity (SOL) of less than 3 minutes also observed. The FP2 phase in Session 3 was very short (less than 2 mins duration) and involved parallel play alongside a peer (PAIR/P).

In Session 4, FP1 saw the introduction of more solitary activity (SOL) of almost 5 minutes duration and a short period of peer-to-peer interaction with a teacher present (PAIR (T)). One-to-one teacher-child interaction was again a feature, however the greatest change was the introduction of over 5 minutes of peer-to-peer interaction without a teacher. This session also saw the introduction of a short period of almost 3 minutes of small group peer interaction with a teacher present (PG(T)). In FP2, this session displayed a large increase in peer parallel play activity (PAIR/P), alongside peer group interaction with a teacher present (PG(T)), a fleeting peer group (PG) interaction of less than 10 seconds with no teacher present and short periods of solitary play (SOL).

In Session 5, an increase in one-to-one interaction between child and teacher (1:1) and solitary play (SOL) were observed, with a short period of less than 2 minutes duration of parallel play alongside another child (PAIR/P). FP2 was spent in peer-to-peer interactions, with and without teacher presence. This session displayed the greatest amount of peer-to-peer interaction, without a teacher, of the five sessions.

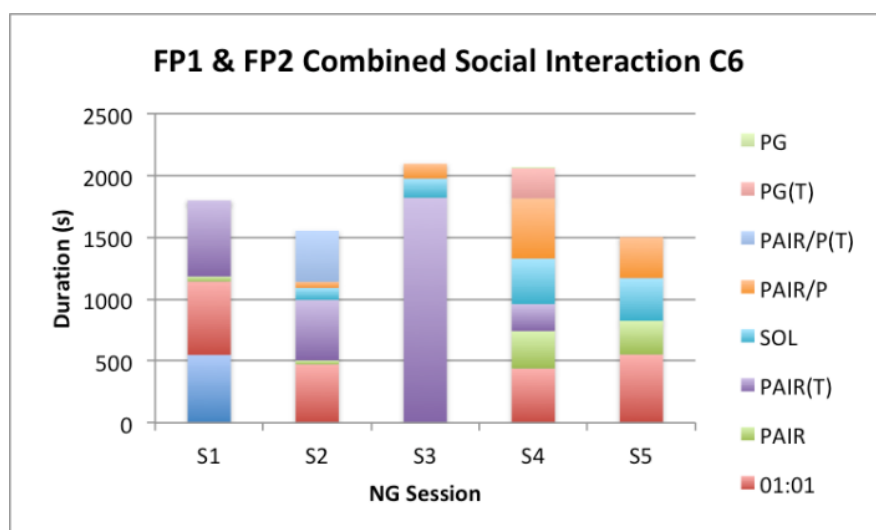


Figure 14. Interaction time by social interaction types during combined Free Play phases (Child 6)

Taken collectively, the Free Play phases showed the greatest increase across NG sessions in the amount of time C6 was engaged in solitary play (SOL) and peer interaction, with a corresponding decrease in teacher group interaction (TG) and teacher presence in peer interaction (Fig.14). Across the sessions, an increase in peer-to-peer play with a teacher present (PAIR (T)) was observed between Session 1 and Session 3, followed by a marked decrease in Session 4 and none in Session 5. This decrease in teacher involvement in peer-to-peer play after Session 3 corresponded with an increase in peer-to-peer play with no teacher present (PAIR).

4.4.3.2 Quality of social interaction engagements within Nurture Group phases and activities

The quality of social interaction engagement within NG phases was observed and recorded during periods of Teacher Group (TG), Child/teacher one-to-one (1:1), Peer-to-Peer (P:P) and Solitary (S) activity periods using the Leuven Wellbeing and Involvement scale (Appendix G). The highest levels of Wellbeing and Involvement found within each NG phase were matched to the social interaction type (Table 10) during which they were observed

and are reported in Tables 18-23. The Wellbeing and Involvement levels shown are the highest observed during each NG phase and were not necessarily found during the same interaction.

Table 18. Highest level of Wellbeing and Involvement and interaction type during Welcome Time (Child 6)

Welcome Time phase				
NG Session	Highest Wellbeing	Interaction type	Highest Involvement	Interaction type
1	4	TG	4	TG
2	5	TG	3	1:1
3	4	TG	3	TG
4	4	TG	3	TG
5	4	TG	4	1:1

Table 19. Highest level of Wellbeing and Involvement and interaction type during Challenge Time (Child 6)

Challenge Time phase				
NG Session	Highest Wellbeing	Interaction type	Highest Involvement	Interaction type
1	4	TG	2	TG
2	3	TG	3	TG
3	4	TG	4	S
4	5	TG	4	TG
5	5	TG	4	TG

Table 20. Highest level of Wellbeing and Involvement and interaction type during Free Play 1 (Child 6)

Free Play 1 phase				
NG Session	Highest Wellbeing	Interaction type	Highest Involvement	Interaction type
1	4	TG, 1:1	4	TG, 1:1
2	4	TG, 1:1	4	TG, 1:1
3	3	TG, 1:1, P:P	3	1:1, P:P
4	5	1:1	5	1:1
5	5	TG	4	1:1

Table 21. Highest level of Wellbeing and Involvement and interaction type during Snack Time (Child 6)

Snack Time phase				
NG Session	Highest Wellbeing	Interaction type	Highest Involvement	Interaction type
1	3	TG	4	TG
2	Not observed	Not observed	Not observed	Not observed
3	4	TG	4	TG
4	4	TG	4	TG
5	3	TG	3	TG

Table 22. Highest level of Wellbeing and Involvement and interaction type during Challenge Books (Child 6)

Challenge Book phase				
NG Session	Highest Wellbeing	Interaction type	Highest Involvement	Interaction type
1	3	TG	3	TG
2	Not observed	Not observed	Not observed	Not observed
3	4	TG	4	TG
4	4	TG	4	TG
5	4	TG	4	TG

Table 23. Highest levels of Wellbeing and Involvement and interaction type during Free Play 2 (Child 6)

Free Play 2 phase				
NG Session	Highest Wellbeing	Interaction type	Highest Involvement	Interaction type
1	3	TG	4	TG
2	3	TG, 1:1	3	TG, 1:1, S
3	3	TG, 1:1, S	3	TG, 1:1, S
4	4	TG, P:P, S	3	TG, P:P, S
5	4	TG, P:P	3	TG, P:P

Across the five observed NG sessions, the maximum Wellbeing score (score=5) was recorded for C6 on five occasions and the maximum Involvement score (score=5) on one occasion. The highest levels of Wellbeing were found during Welcome Time, Challenge Time and Free Play 1 phases in child/teacher one-to-one and child/teacher group interactions. There was a greater occurrence of maximum Wellbeing observed in Sessions 4 and 5 than in earlier NG sessions. Across all NG sessions and phases, Wellbeing levels ranged from 3 - 5

and Involvement levels from 2 - 5. High levels of Wellbeing and Involvement were found most frequently during social interaction engagements that involved both child and teacher and least frequently during solitary play.

Further investigation was conducted to identify the activities where maximum levels of Wellbeing and Involvement were observed (Table 24). A combined maximum Wellbeing and Involvement score for C6 (score=5 for both) was found during an episode of board game play between the two NG teachers and all child participants (n=4) in the Challenge Time phase of NG Session 4. Additionally, on six occasions, the combined Wellbeing and Involvement scores for C6 were recorded as 4 or 5, highlighting high points in the quality of engagement. These engagements were spread across the five observed NG sessions, where one or two featured in each session, however, the maximum scores of 5 were found in the later sessions (NG Sessions 4 & 5). Table 23 displays the NG sessions, activities and participants where the highest combined levels of Wellbeing and Involvement were observed.

Table 24. Occurrences of highest combined levels of Wellbeing and Involvement across NG sessions (Child 6)

NG Session	Wellbeing level	Involvement level	Interaction type	Activity	Participants	NG phase
1	4	4	TG	Dominoes game	T1, C5, C6	FP1
2	4	4	TG	Board game	T1, T2, C6, C7	CT
2	4	4	1:1	Laying the snack table	T1, C6	FP1
3	4	4	TG	Board game	T1, T2, C5, C6, C7, C8	CT
4	5	5	1:1	Board game	T5, C6	FP1
5	5	4	TG	Board game	T2, C6, C7	CT
5	5	4	1:1	Card game	T2, C6	FP1

The highest combined Wellbeing and Involvement levels were observed on seven occasions during the NG phases of Challenge Time and Free Play 1. The activities during which they were observed involved structured game play in six out of the seven occurrences. The other occurrence involved C6 and one of the NG teachers setting the snack table together. All of

the highest combined scores were found to involve teacher participation and included both one-to-one and group activity (1:1, n=3; TG, n=4).

4.4.3.3 Discussion of findings from Stage 3 of the case study

Social interactions within the NG were found to involve a combination of child-led and teacher-led activity. During the child-led Free Play phases, C6 engaged in increasingly more solitary and peer-to-peer interaction over time. Earlier sessions displayed teacher involvement in teacher/child one-to-one activity and teacher-led group activity. Over time a greater amount of parallel play was observed where a teacher was present yet not actively involved, leading to episodes of peer-to-peer and solitary play in later sessions. This suggests that the NG teachers were actively withdrawing from the child's social interactions as he became more competent at regulating his own engagement during solitary activities and joint play with peers. There was a greater amount of peer-to-peer social interaction during Free Play 2 than Free Play 1 and it is thought that C6 had gained some of the confidence and skills required to engage with his peers in the later phase through building confidence during the earlier part of the NG session. The child may therefore be extending interactions with his peers that had begun earlier in the session with teacher support. The Free Play phases are unique in allowing peer interactions to develop in a way that is not possible during the other, more controlled NG phases.

The importance of teacher involvement for achieving maximum levels of sustained engagement was evidenced in the child's Wellbeing and Involvement scores. The highest levels of Wellbeing and Involvement for C6 were found during teacher group (TG) and one-to-one child/teacher activity (1:1) within the NG phases of Challenge Time and Free Play 1. It is during activity where high levels of Wellbeing and Involvement occur together that the deepest level of learning can take place (Laevers, 2000).

The highest levels of Wellbeing and Involvement for C6 were found during particular activities and involved social interaction with trusted partners within the NG. The shared social activities in which high Wellbeing and Involvement were found are the type of activities where children are able to explore their abilities alongside their teachers and peers. Playing, for example, board games that involve the participation of all players towards achieving a shared goal, i.e. winning the game, allow the participants to become fully immersed in the experience through the building intensity of turn-taking and the growing excitement of evolving play.

Such sensory experiences that involve movement, rhythm, patterning and the sharing of affect between partners, provide prime conditions that lead to total immersion and foster deep engagement with the objects and people involved in the activity together. Csikszentmihayli (1999) describes this type of experience as a state of 'flow' that involves thorough engagement, leading to a state of joy, creativity and total involvement. This 'flow' state is thought to promote wellbeing and it is suggested that activities in the NG, where C6 is completely immersed in shared, goal-directed activity with others, may foster such a state of flow.

The findings in this section contribute to answering Research Questions 1 & 2 by identifying NG activities and social interaction experiences that support the development of social and emotional competence. Social engagements are identified where the actions and emotions of partners are regulated, leading to high levels of wellbeing and involvement for the case study child. These positive relational experiences are thought to foster deep-level learning.

4.4.4 Stage 4: Narrative analysis of social interaction engagements during Nurture Group activity phases

The fourth stage of enquiry contributes to addressing Research Questions 1 2 & 3 by investigating relational experience and patterns of engagement in social interaction activity.

4.4.4.1 *Narrative patterns of engagement within Nurture Group phases*

Periods of shared social interaction between C6 and one or more partners were identified from video observation of the NG activity phases across five NG sessions. Each of the identified social interaction periods was coded for C6 by the observable phases of narrative engagement with other(s) in a shared activity. For each period of social interaction, the phases of *Initiation*, *Build*, *Climax* and *Resolution* were identified and recorded by commencement and conclusion where the phase was present within the interaction. The number of social interactions that progressed beyond an *Introduction* to display the phase of *Build*, identifying a shared narrative engagement between partners, and where present the phases of *Climax* and *Resolution*, were plotted for each of the NG activity phases across five NG sessions. (Fig. 15).

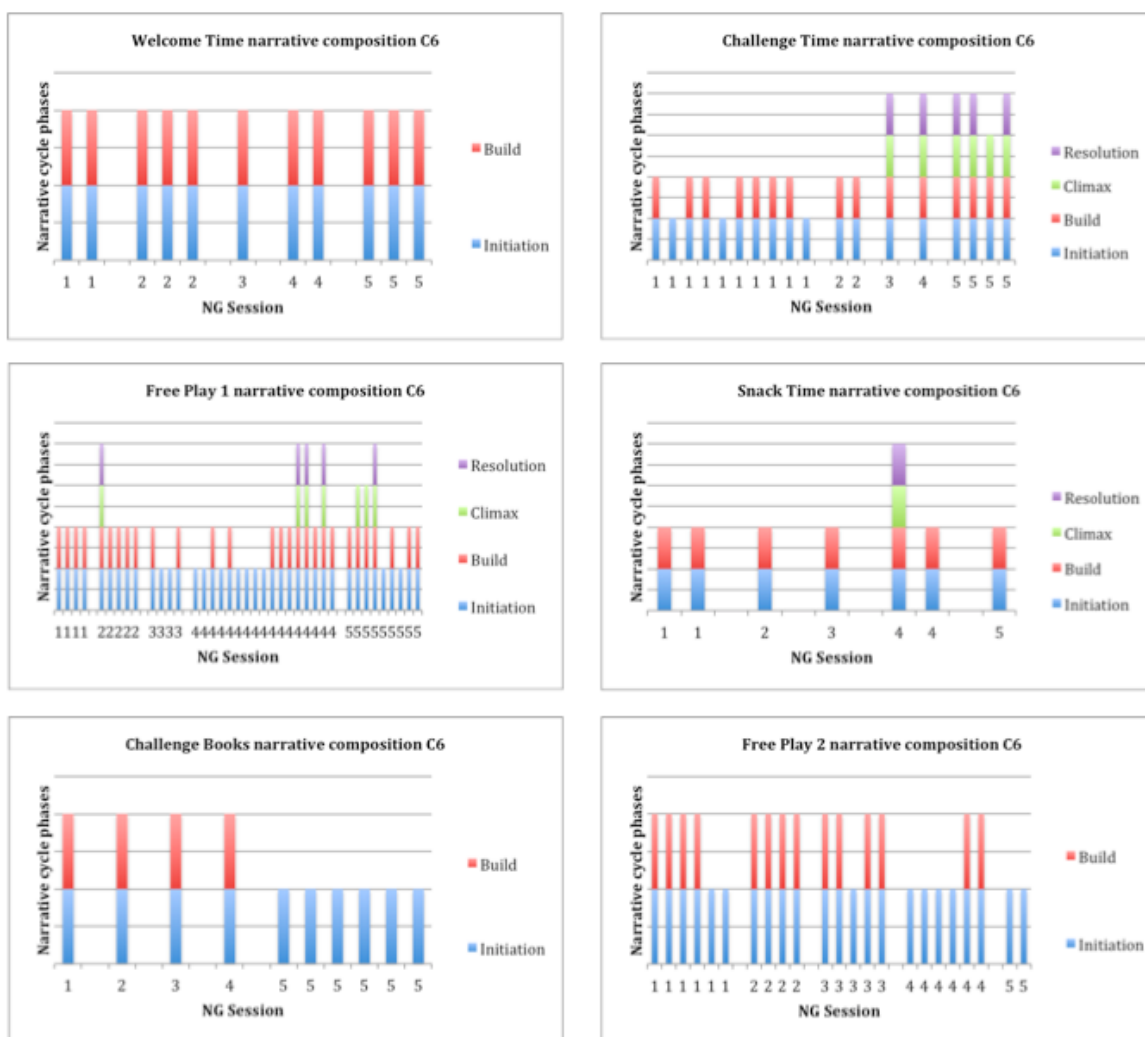


Figure 15. Narrative phases of social interaction engagement during NG activity phases (Child 6)

4.4.4.1.1 Complete narrative cycles of social interaction activity

Within NG Sessions 2, 3, 4 and 5, narrative cycles of social interaction that included each of the phases of *Introduction*, *Build*, *Climax* and *Resolution* (complete narrative cycles) were observed (Fig.15). These complete narrative cycles of social interaction activity were found during the NG activity phases of Challenge Time, Free Play 1 and Snack Time.

Completed narrative cycles of interaction were found to increase in number over the course of the observed NG sessions. There were no completed narrative cycles observed in Session

1, one in Sessions 2 and 3, five in Session 4 and four in Session 5. In Session 5 there were an additional three narrative cycles that reached a *Climax* without a display of *Resolution*. With the exception of one completed narrative cycle that was observed during the Snack Time phase of NG session 4, all of the completed narrative cycles were found to take place during Challenge Time and Free Play 1 phases.

4.4.4.1.2 Incomplete narrative cycles of social interaction activity

Incomplete narrative cycles of social interaction activity include interactions where the narrative phase of *Introduction* is observed, but all four phases of narrative interaction (*Introduction, Build, Climax, Resolution*) are not present within the interaction.

In NG sessions 1 & 2, incomplete narrative cycles that displayed an *Introduction* to a social interaction engagement, but did not progress beyond this stage, were observed during the NG phases of Challenge Time, Free Play 1, Challenge Books and Free Play 2, with the greatest number found in the two Free Play phases. Where an *Introduction* does not proceed to the stage of *Build*, this indicates that there was an initial invitation to engage between C6 and another participant (the invitation may come from either participant), however there was no positive response to the invitation that lead towards a building interaction engagement between the partners.

Further incomplete narrative cycles that progressed to the stage of *Build*, but did not reach the stage of *Climax*, were observed in all of the observed NG phases.

4.4.4.1.3 Highest levels of narrative engagement across NG phases and sessions

The highest level of narrative social interaction engagement, recognised by the narrative cycle containing the greatest number of narrative phases, was identified within each NG

phase and mapped across the five observed NG sessions. This provided an overview of the NG sessions and phases where the highest level of attuned social interaction took place. (Fig.16).

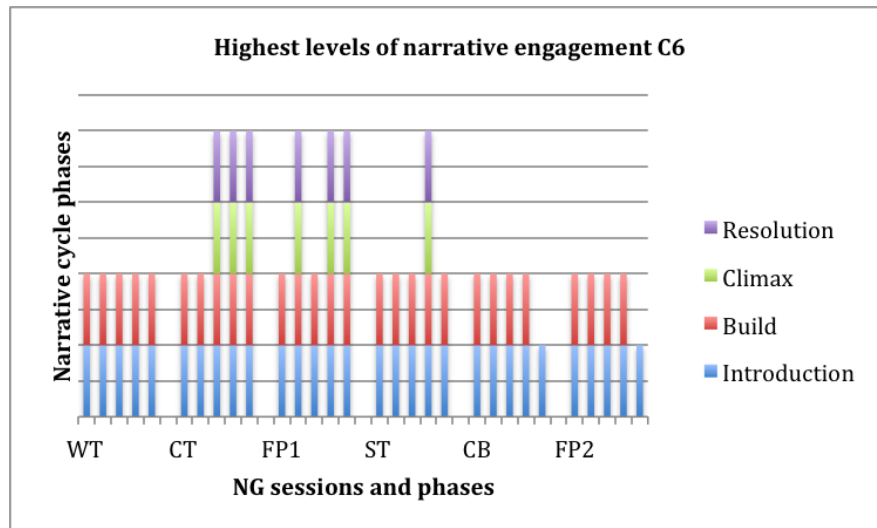


Figure 16. Narrative phases of social interaction engagement during NG phases across five NG sessions (Child 6)

Description: NG phases are recorded in the order that they take place in the NG session: Welcome Time (WT), Challenge Time (CT), Free Play 1 (FP1), Snack Time (ST), Challenge Books (CB), Free Play 2 (FP2). For each NG phase, the phases within narrative cycles are displayed for NG sessions 1-5 from left to right.

Narrative social interaction that included the stages of *Introduction* and *Build* was found to take place in all of the NG phases for NG sessions 1-4 and in four out of six NG phases for NG Session 5. Out of 30 observed NG phases (6 NG phases for each of 5 NG sessions), there were only two phases where narrative social interaction that reached the phase of *Build* was not observed. In these two NG phases, an *Introduction* to a narrative was observed, but the narrative interaction did not progress beyond this stage.

Completed narrative cycles, comprising all four stages of *Introduction*, *Build*, *Climax* and *Resolution* were found to cluster within the NG phases of Challenge Time, Free Play 1 and

Snack Time and were more frequently found during later NG sessions (sessions 3-5). No completed narrative cycles were found in NG sessions 1&2.

4.4.4.1.4 Context in which completed narrative cycles of social interaction were observed

To further understand the contexts in which narratives develop, periods of social interaction engagement during which at least one completed narrative cycle was observed, (n=7, Fig.16), were mapped to the NG session, NG phase and type of activity in which the narrative developed, and the participants to the interaction were identified (Table 25).

Table 25. Completed narrative cycles of interaction during periods of social engagement (Child 6)

Social interaction engagement	NG Session	NG Phase	Activity type	Participants
1	2	Free Play 1	Board Game (Snakes & Ladders)	T1, T2, C6, C7
2	3	Challenge Time	Board Game (The Golden Apple)	T1, T2, C5, C6, C7, C8
3	4	Challenge Time	Story-book	T2, T5, C6, C7, C19
4	4	Free Play 1	Board Game (Connect 4)	T5, C6
5	4	Snack Time	Happy Birthday song	T2, T5, C6, C7, C19
6	5	Challenge Time	Board Game (Snails Pace Race)	T2, C6, C7
7	5	Free Play 1	Card Game (Match and Count)	T2, C6

Five of the seven social interaction engagement periods that include completed narrative cycles were observed during game play sessions (board games and card games), while one was observed during story-book reading and another during singing of the 'Happy Birthday' song (Table 25). Social interaction engagement periods that include a completed narrative were found in NG Sessions 2, 3, 4 & 5, with the greatest number in Session 4. Each of these engagements involved the participation of a NG teacher, however the number of additional participants to the interaction was variable and included between 0-3 child participants and 0-1 NG teacher.

One period of 1:1 social interaction engagement between C6 and T5 (Period 4) was selected for detailed analysis to explore the elements that contributed to the completed narrative interaction. This interaction was selected for detailed analysis as it contained the following features:

- Game play activity between child and teacher where multiple completed narrative cycles of social interaction were observed (Fig.15, Free Play 1, NG Session 4), allowing the contextualisation of individual narrative cycles within a greater overarching narrative cycle of activity to be examined.
- Optimal levels of Wellbeing and Involvement observed for the focus child (Wellbeing & Involvement levels = 5, Table 24), indicating the quality of the engagement.

4.4.4.2 Analysis of a completed narrative cycle of social interaction engagement within a NG game play episode

The narrative social interaction episode selected for analysis took place during NG Session 4, Free Play 1 phase, and was the only social interaction engagement where the highest levels of Wellbeing and Involvement (Level=5) were recorded for C6 across the observed NG sessions (Table 24). The interaction involved a one-to-one game play session of almost five minutes duration between C6 and T5 where they played the board game 'Connect 4' together. The child chose the game and invited the teacher to play.

The game play involved the participants (C6, T5) taking turns to place one of their game-pieces (small coloured counters, one colour for each participant) into the columns of the game board, which is held vertically upright, with the objective of obtaining four of their own coloured counters in a row. The first player to achieve a row of four counters of their own colour is the winner of the game. An extract from the researcher observation describes the phases of game play (Appendix L).

4.4.4.2.1 Narrative phases of social interaction within the complete game play session

Analysis of the complete five-minute game-play session from video observation identified narrative phases of social interaction between child and teacher. Phases of *Introduction*, *Build*, *Climax* and *Resolution* created an overarching narrative structure to the game play that consisted of:

- *an introduction* when T5 invited C6 to play and they made their way to the table where they set up the game together. T5 took the lead, assembling the game board and C6 assisted. T5 then invited C6 to start the game play by taking the first turn. There was a joint assumption at this point that both participants understand the rules of play.
- *a development* of the interaction between C6 and T5 as their play fell into a rhythm, with each taking turns to place their counters in the game board. At points of the game, C6 became distracted from the rhythm, resulting in placing his counters in the board ahead of, or behind his turn, before falling back into the rhythmic turn-taking as T5 drew his attention back to the game.
- *a climax* to the interaction which was reached at the end of the final round of the game where C6 and T5 shared a moment of joy in completing the task, expressed as a whoop of joy from C6 as he threw his hands in the air and an inhaled gasp of breath from T5.
- *a resolution* to the task when C6 began to lose attention to the game and the game play drew to a close. C6 and T5 tidied away the game together, ready to move on to something new.

The complete game play session displays narrative patterning on multiple levels. The complete session of almost 5 minutes duration is a narrative of its own that flows from the introduction, through playing the game together, to the conclusion of the game session. The complete session is broken down into five rounds of game play of varying duration, from around 30 to 70 seconds, each with its own narrative structure. Each round of the game that unfolds between C6 and T5 is found to be organised along a narrative template of joint

activity, interspersed by periods of transition, to altogether form its own narrative structure that is actively co-created by both C6 and T5. Within each round of the game-play, smaller units of play, by way of individual turns, lasting around three seconds are found that contribute to the shared project.

4.4.4.2.2 Rounds of game play

Within the overall five-minute game play session, C6 and T5 participated in five rounds of game play. Each round of play shared the same goal, for each player to try to achieve a row of four counters of their own colour. Reaching this goal signalled the end of the round of game play. Following the end of each round, a period of transition punctuated the overall game play during which the counters were released from the game board, sorted between the players and the game board was re-set for the next round of play.

The rounds and transition periods were found to vary in duration and the number of turns taken by each player during the round of play, however each round was played in the same way and had the same objective and the same conclusion, i.e. one partner winning the round by completing a row of four counters. Figure 17 illustrates the course of the game play, showing the organisation of the rounds of the game within the overarching complete game play session.

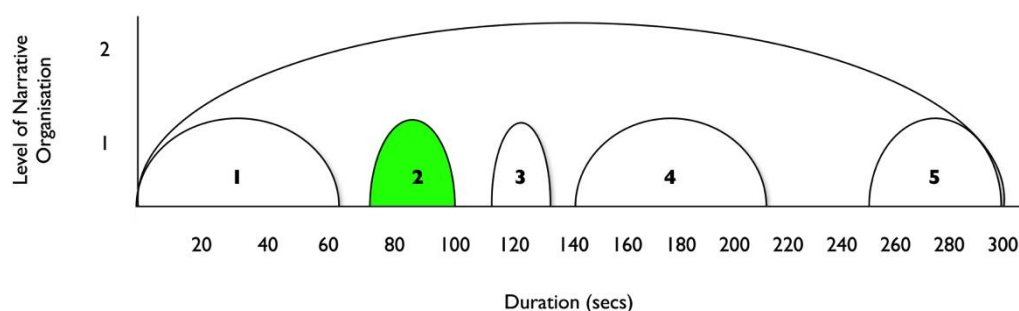


Figure 17. Schematic of complete game play session between Child 6 and Teacher 5

Description: Individual rounds of game play (arcs numbered 1-5) are plotted by time stamp (start and end time points within the 5-minute game play session). The gaps between the arcs represent periods of transition between rounds of game play. Levels of narrative organisation are displayed at the level of round of game play (Level 1) and complete game play session (Level 2).

The game play session is illustrated by the duration of rounds of the game (arcs 1-5) and periods of transition (spaces between arcs), set within the complete game play session (Fig.17). The overarching structure displays a completed project of shared interaction between the child and teacher of almost 5 minutes duration that is comprised of five observable sub-units (arcs), of varying duration, interspersed by transition points when the game pieces are sorted between rounds. Each sub-unit represents a small, complete, shared project of interaction (a round of the game), embedded within the larger, complete, shared project of interaction (the complete game session).

The sub-units were found to each display their own narrative structure, sitting within the overarching narrative structure of the complete game, where each narrative cycle of interaction was found to include two or more narrative phases of *Introduction*, *Build*, *Climax* and *Resolution*.

4.4.4.2.3 Narrative analysis of one round of game play

One sub-unit where a completed narrative cycle of interaction was observed was selected for detailed analysis (Fig. 17, arc 2). This analysis sought to determine the elements of social interaction that contributed to the completed narrative cycle of interaction. The interaction was observed during Round 2 of the shared game-play session between C6 and T5 and the findings are detailed below (Fig. 18).

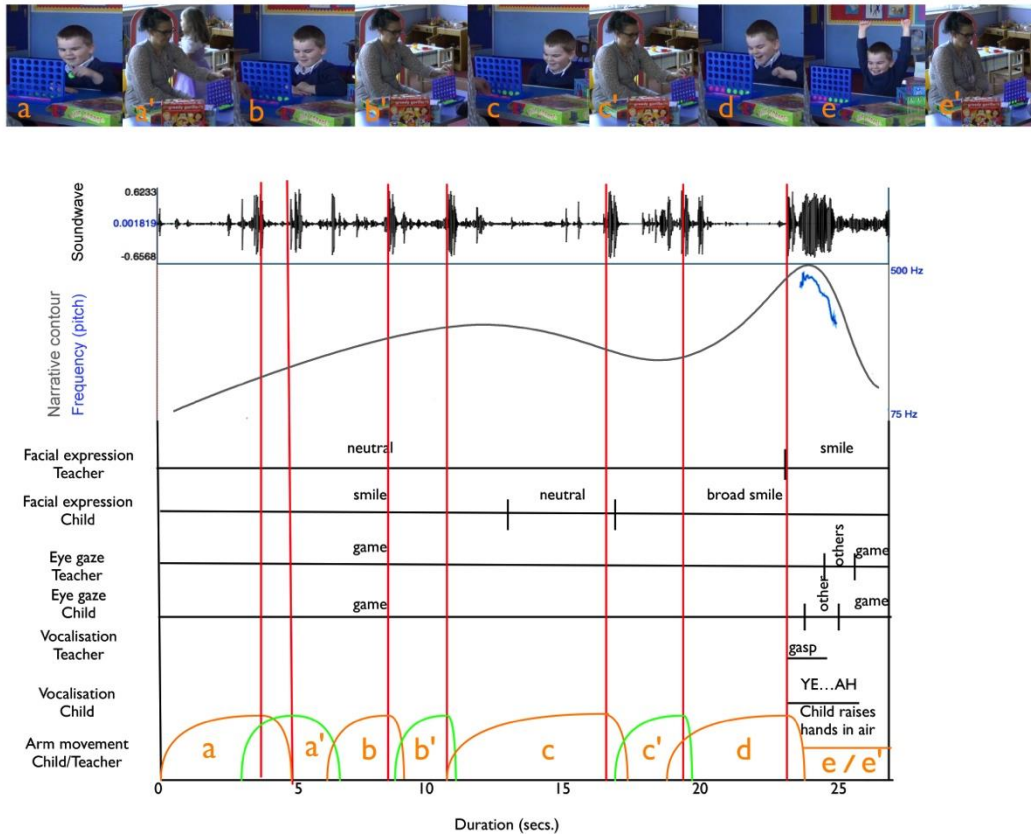


Figure 18. Analysis of a completed narrative social interaction episode between Child 6 and Teacher 5³⁸

Description: The child's turns in the game are identified by the action curves a, b, c, d, and the teacher's corresponding turns are identified a', b' and c' and correspond to the images above. Each diagrammatic action curve displays a complete child or teacher arm movement, encompassing the 'reach', 'grasp' (of the game counter), arm 'raise', 'place' (counter at the top of the game board), 'release and drop' (of the counter into the board) and 'return'. The soundwave indicates the fall of the tokens into the game, together with background classroom noise. The 'release and drop' of each counter is illustrated with a vertical line at the accompanying intensity marking and displays the rhythmicity of play.

Narrative social interaction engagement was found to develop through cycles of turn-taking between C6 and T5. The turns of play between C6 and T5 show a rhythmic quality, with the child's turn "c", during which difficulty with the stability of the game board was encountered, lasting the duration of two turns. The timing of arm movements are organised

³⁸ Permission was obtained for the publication of images and is detailed in Chapter 2 of this thesis

in sequences that display purposeful and expressive action from both partners. During play, the child and teacher remained attentive to the game without distraction, with their eye gaze patterns identifying the game board as a common focus of attention. Over the course of play, as C6 became familiar and comfortable with the pattern of play, he was able to anticipate his next move - displayed by an earlier commencement of his arm movement (d).

Throughout the session, C6 and T5 display awareness of the effects of the other's actions. They each adjust their own actions to compensate for the other's actions by placing their counters in specific columns as they aim to achieve their desired goal (four in a row). They each display their own motives, intentions and feelings through their actions, responses and emotions, as they join together in the intersubjective co-creation of meaning.

As the child reaches his final turn (d) he displays a broad smile at the realisation that he is about to win the game, and the teacher reciprocates with a smile. Following the completion of his turn, a climax to the interaction is reached as C6 immediately raises his arms in the air and lets out a joyous exclamation "*Yeah!*" which is identified at the top of Middle C, with a downward pitch glide from 24 sec duration mark (e), drawing to a close this game-play narrative. At the same time the teacher takes a sharp inhalation of breath (e'), sharing recognition that the child has won the game. The child appears to recognise the social aspect of the game and turns his attention to the other teacher in the room who is sitting to his right, inviting her to share in his joy and recognising this dyadic interaction as part of the wider NG social interactive experience, and T5 follows his gaze, with the moment of joy being shared by all three.

The narrative contour of intensity (Fig.18) illustrates the combination of vocal pitch, facial expressions, eye gaze, arm movement and vocalisations of teacher and child, that build in intensity throughout the interaction and reach a peak when the winning counter is played. At this point there is coordination of the individual elements of embodied social interaction, where the following elements combine to produce a peak of shared social engagement:

1. Movement – C6 throws his arms in the air
2. Vocalisation – Teacher gasps (sharp in take of breath), C6 exclaims “Yeah”
3. Eye gaze – C6 & T5 & share eye gaze with T2
4. Facial expression – C6 broad smile, T5 smile
5. Vocal pitch – frequency peaks
6. Soundwave – concentrated peak activity

The example provided here (Round 2) displays a typical narrative pattern of dyadic interaction that is replicated across the other rounds of the game. The child and teacher share in the turn-taking game play together, communicating through a shared repertoire of interest, attention, actions and emotions in order to achieve a pre-determined and mutually shared goal, i.e. winning the game. Although not evident in this example, the winner of the overall game could be the participant who wins the greatest number of individual rounds of the game.

This short episode of game play was found to encompass a period of rich embodied social interaction between child and teacher, where multiple opportunities for the sharing of affective engagement were evident. To further understand the composition and development of embodied narrative engagement episodes, and the elements that lead to successfully completed narratives, an incomplete narrative cycle of child/teacher interaction was identified for analysis.

4.4.4.3 *Analysis of an incomplete narrative cycle of social interaction engagement within the NG Challenge Book phase*

Across NG Sessions 1-5, incomplete narrative cycles of social interaction that include the narrative phases of *Introduction* and *Build*, but do not progress to reach *Climax*, were observed for C6 during Teacher Group (TG), Child/Teacher (1:1) and Peer to Peer (P:P) interactions. The incomplete narrative episode detailed here was observed during the Welcome Time (WT) phase of NG Session 1.

WT is a teacher-led group interaction phase and the opportunities for social interaction reflect this, with the phase routinely comprising Teacher Group (TG) interaction that provides occasional opportunities for short periods of one-to-one child/teacher interaction (1:1). Towards the end of the WT phase, individual 'challenge books' are routinely handed out to the children – an action that they come to know and expect. Challenge books are small, individually named jotters within which the pages are headed with the date and the child's Challenge Time (CT) activity for that day. With the help of a teacher, each child is asked to find the correct page for the day and to read what their CT activity will be that day.

In this session, when C6 was given his book he looked through it, turning the pages and leaning back on his cushion, seemingly engrossed in his own thoughts. He looked up from the book and towards T1, who was giving instructions to the children to look for today's date in their books, before returning his attention to his book. Moments later a brief 1:1 interaction commenced between C6 and T2, who had moved to sit beside him. Detailed analysis of this short interaction was conducted to determine the elements that contribute to its structure (Fig. 19).

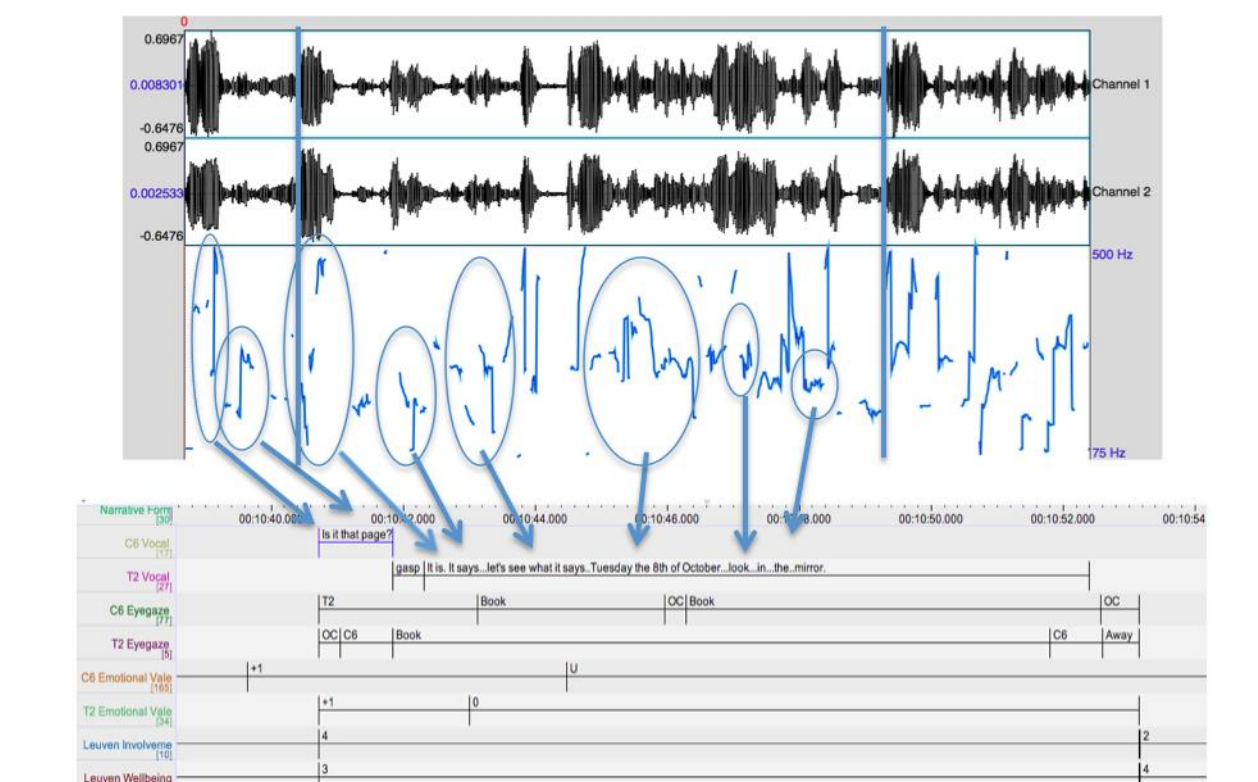


Figure 19. Analysis of an incomplete narrative social interaction episode between Child 6 and Teacher 2

Description: Incomplete narrative episode of just over 12 secs duration during social interaction activity between C6 & T2. At the top, the diagram displays the waveform from the video soundtrack, with the corresponding pitch analysis displayed below. The pitch range is displayed between 75 & 500 Hz. Vocal pitch (circled) is matched (with arrows) to annotation of the vocalisations. At the base of the diagram, the tiers display eye gaze and emotional valence for C6 & T2, and Wellbeing & Involvement scores for C6.

This incomplete narrative episode of around 12 seconds duration between C6 and T2 (Fig.19) displays the eye-gaze, emotional valence, vocalisations and narrative form of the interaction. The pitch of vocalisations (circled) are mapped to C6 and T2 vocalisations (arrows), with building intensity of T2 vocal pitch observed from 00:10:42.000 as the teacher accepts the child's invitation to engage. The child's Wellbeing and Involvement levels were recorded throughout the interaction and the narrative interaction is described here.

The interaction commenced with an *introduction* initiated by C6 when he thought he had found the correct page in his challenge book. At this point a smile spread across his face and

he sat upright from a reclining position, holding his opened book in the air. C6 looked up at T2 and asked her if he had the correct page, verbalising “*Is it that page?*” The pitch of his voice was high with excitement, starting at the top of the measured frequency range around 500 Hz before falling to around Middle C (256 Hz)³⁹. The child’s eye gaze was directed towards T2 and she turned her attention from another child towards C6, acknowledging her pleasure that he had found the correct page and her willingness to engage by taking an audible sharp intake of breath.

This ‘*gasp*’ signalled the beginning of the development of the interaction between them. As T2 began to answer, verbally confirming to the child that he had found the correct page, she simultaneously moved her body towards him and sat down on the floor beside him. C6 and T2 both smiled, displaying willingness and happiness to engage in this shared interaction. As T2 confirmed that the child had found the correct page, saying “*It is..*” the pitch of her voice rose on the second word “*is*”, by almost four octaves, further confirming her pleasure to engage.

As they settled into the interaction the teacher directed her gaze to the book, talking to C6 while they studied the book together and pointing to the words on the page as she read them aloud. The teacher’s attention was briefly interrupted when she looked over to one of the other children, however C6 continued to gaze at the book throughout. The teacher’s voice levelled out around Middle C and she read aloud the day’s entry in the book, which was the child’s Challenge Time activity. T2 pointed to the words as she said them, “*Look.....in.....the..mirror*” and her voice quietened and quickened as she articulated the last two words, “*the..mirror.*” On the final word, “*mirror*”, T2 moved her gaze from the book to look at C6, however the child was still looking at the book and did not meet her gaze. Thereafter, both C6 and T2 simultaneously turned their attention away, drawing a close to their interaction.

³⁹ Vocal pitch is displayed to demonstrate rising and falling intonation of speech. The pitch was not linguistically analysed in this study.

This short interaction lasted just over 12 seconds, yet encompassed the beginning of a recognisable narrative cycle of social interaction engagement. Within this relatively short period of time, many opportunities were found for the child to engage with the teacher in experiences of meaning and learning that they created together. Throughout the interaction, the child's Wellbeing and Involvement levels were consistent, displaying a high level of Involvement (score=4) and a moderate level of Wellbeing (score=3). The high level of involvement only decreased once the interaction had concluded, at which time the score decreased from 4 to 2. Following the interaction, the child's Wellbeing level increased from a moderate level (score=3) to a high level (score=4). The increased level 4 score suggests that the child experienced satisfaction from the interaction, displayed at conclusion, and it is likely that this satisfaction and improved sense of wellbeing would remain with him into the next activity.

The incomplete narrative that is described here is an example of an engagement where, although the narrative cycle did not progress beyond the phase of *Build* to reach a *Climax* of intensity, the interaction displayed aspects of affective attunement between child and teacher, and was imbued with meaning. As such, this engagement formed the early stages of an affectively-attuned social interaction narrative cycle of engagement.

4.4.4.4 Narrative social interaction displayed across NG phases

The examples provided above illustrate the complexity of short social interactions between C6 and the NG teachers and identify ways in which embodied, affective narrative engagements develop. The NG was found to offer many opportunities for C6 to engage in social interactions with others that provided the foundation for narrative meaning-making. The narrative form of social interaction episodes across NG activity sessions displayed opportunities to build embodied social narratives within each NG phase, however the development of narratives was not mirrored in the same way across different NG phases.

Activity Phase 1, Welcome Time was characterised by the presence of incomplete narrative cycles of interaction that displayed *Introduction* and *Build* phases only. Welcome Time followed the same pattern each week, where the children would sit on cushions and beanbags in the Welcome Corner and the two NG teachers would sit on a small sofa facing them. When they were all assembled, one of the teachers would draw the group together and begin the session by asking the children if they knew what day it was. This NG phase was teacher-led and the same activities were carried out each week.

Following discussion of the day and date, the teachers asked the children in turn to place their name (a small laminated card with their name on it) on one of the facial expression pictures on the wall to describe how they feel today. Importance was placed on turn-taking and listening to each child as they took their turn. This was a group activity that served to explore, understand and express emotion, with equal opportunity for engagement afforded to each child. Additionally, children learned to listen, wait patiently and take turns.

The child's interactions with others in this phase were constrained by opportunity arising for only short episodes of social interaction at specific moments, and this was illustrated in the multiple early-stage incomplete narrative cycles for C6 (Fig.15). Towards the end of this NG phase, an opportunity frequently arose for a child/teacher (1:1) interaction, when the child was assisted to read his challenge for the day. This interaction was usually brief, consisting of finding the correct page and reading one sentence, and again was unlikely to offer opportunity for extensive narrative development (see 3.4.4.3 for example).

Activity Phase 2, Challenge Time offered the first opportunity during the NG session for the development of extended narratives. Again, this NG phase was teacher-led and generally comprised a group interaction activity, although on certain occasions the children were invited to choose their own activity. The group activity would either involve both teachers and all children or there would be two groups with one teacher and two or more pupils in each group. Common activities in this NG phase were board games or card games where the

children learned to take turns, wait patiently, understand and follow rules, work towards a goal, experience success or frustration (as a winner or loser), and share joy with others. This NG phase displayed one of the greatest levels of narrative interaction for C6, with completed narrative interaction cycles observed in NG sessions 3, 4 & 5. The activities in these sessions were board games in sessions 3 & 5 and listening to a story-book in session 4. Extracts from researcher observations describe the ways in which the teachers structured these interaction periods and maintained the children's attention, and the engagement displayed by participants (Appendix K).

Activity Phase 3, Free Play 1, provided the opportunity for the NG children to choose any activity from a range of solitary and group play opportunities. In Session 1, C6 chose to play a game of dominoes with T1 and C5, during which an early-stage narrative interaction cycle was observed. Despite the narrative not progressing to reach the level of Climax, C6 displayed high levels of Wellbeing and Involvement (score=4 for both) throughout the interaction. The actions of the NG teacher structured and maintained the interaction as described in the following extract (Table 26).

Table 26. Extract from researcher observation of Child 6 (NG Session 1, Free Play 1)

Child: 6	Session: 1	Duration: 1020.14
NG Phase: Free Play 1		
C6, C5 and T1 play a game of Dominoes. The teacher describes the rules for the game, which involves counting and turn-taking. The teacher structures the game, directing each child when it is their turn to play and assisting them to understand the rules. C6 has played the game before and is able to take his turns with little assistance. He is attentive to the game and when his attention strays to what the other children in the room are doing, he is quickly drawn back to the Dominoes game with direction from the teacher. At one point, he continues with the game, taking his turn although the teacher's attention has been drawn away by another child. When her attention is back with the game, she immediately praises C6, saying "that was well done." C6 appears enthusiastic, enjoying the game play, showing appropriate emotion and responding appropriately to the others who are playing. When the game is finished, C6 volunteers to put it away and continues to do so even when the other child moves away to a new activity. The teacher chats to C6 as they put the dominoes back in the box and he responds, at first by nodding his head and smiling and then by sharing conversation.		

In NG Session 1, FP1, C6 displayed shyness when interacting with others, particularly in conversation, and during interaction there were times when his attention strayed from the task in hand. The early-stage narratives that were found in this session may be explained by

a lack of confidence and poor attention span. However, the extract above (Table 26) displays the ways in which the teachers attuned to the child, structuring activity and continually encouraging engagement in the interaction by seeking to repair broken engagements.

Completed narrative cycles of interaction were found during FP1 in NG sessions 2, 4 & 5, with more frequent incidence in the later sessions. In each of these NG sessions, the completed FP narratives were found during board game and card game play. It is clear that, despite the wide range of activity in which C6 engaged during FP, phases, the activities that contained completed cycles of narrative interaction were the same activities that were chosen by the teachers for Challenge Time group social interactions.

Activity Phase 4, Snack Time, is a dominant feature of the classic Boxall NG and brings the NG teachers and pupils together to share toast and juice in a homely and nurturing activity. Sharing food together forms the foundation of human need, derived from Maslow's Hierarchy of Needs, where food and shelter form the basis for all other human needs. During this NG phase there were many opportunities to interact with others and the pupils were encouraged to use their communication skills, however the social interactions could be brief and fast-moving and there was limited opportunity to develop prolonged or intensive engagement. Throughout the observed sessions for C6, one completed narrative cycle was observed during a group singing of the *Happy Birthday* song for one of the children. The following extract describes how the interaction developed (Table 27).

Table 27. Extract from researcher observation of Child 6 (NG Session 4, Snack Time)

Child: 6	Session: 4	Duration: 769.32
NG Phase: Snack Time		
<p>T2 engages the whole group as she prepares to light a candle on a small cup cake, asking the children what they all need to do when the candle is lit. T2 and C6 share a smile as C6 says “Sing happy birthday” and T2 repeats this to the group. As T2 lights the candle, C6 lets out a gasp of excitement, smiling broadly and moving his gaze from the candle to T2. T2 is looking away while she blows out the match and C6 quickly returns his gaze to the candle. T2 starts a joint interaction as she says “Is everybody ready to sing?” C9 starts the singing and everyone, with the exception of C5, quickly joins in. C5 is watching and smiling but does not sing. C6 has his attention directed to the cake, briefly switching to look at T2 as she stands up to take a photograph. He is singing loudly with a wide-open mouth and displaying a broad smile. T2 meets C6’s gaze and they share a smile as she walks past him to take the photograph. As the last line of the happy birthday song finishes, C6 immediately comes in with “hip hip hooray” which he says loudly while looking at his cup and putting it to his lips to take a drink. T7 and T2 shout “hooray” and T2 draws everyone’s attention by saying “clap for [C7], well done”. C6, C9 and T2 clap and C6 looks towards C9 who is sitting opposite and clapping, although she does not return his gaze. C6 is smiling broadly, clearly enjoying the moment. The children and teachers all return to their toast and juice.</p>		

The above description of a completed narrative cycle of interaction highlights the opportunities that exist within the NG for positively attuned social interaction, however such an interaction was not found to be a common feature of the Snack Time phase, which served a specific purpose within the NG sessions.

Activity Phases 5 & 6, Challenge Books and Free Play 2 did not display any completed narrative interaction cycles for C6 across the observed sessions. The Challenge Book phase is a group phase where the pupils are asked to draw a picture in their challenge books. Although taking place within a group setting, the pupils completed their pictures individually, and usually very quickly, as they were eager to leave the table and begin the next Free Play phase. The second Free Play phase was of shorter duration than the first and the children chose their own activity to pursue for the remaining time in the NG session. The duration of this phase was dependent on the timings for the previous phases and this frequently resulted in a short duration for FP2. The children knew that it was nearly time to go back to their mainstream class and frequently there was not enough time to start an activity that would take longer than a few minutes. The NG teachers routinely delivered a count-down to tidy-up time and this sometimes began within a few minutes of the phase starting. C6 spent much of this phase in solitary play, although this included playing alongside another child or engaged in brief conversation with others.

4.4.4.5 Discussion of the findings from Stage 4 of the case study

Narrative cycles of social interaction were found to take place during all NG activity phases. However, certain NG phases and activities, where conditions promote the coming together of NG pupils and partners to work together on joint tasks, appear to be conducive to the development of completed narratives. For the case study child, these activity phases were Challenge Time and Free Play. Within these NG phases, there were frequent opportunities for the child to engage in structured, shared activities, such as board games and card games, that provide the conditions for the development of shared narrative social interaction with others.

Across the NG sessions, social projects of shared interaction between C6, NG teachers and peers were found to share the same narrative form and emotional importance as those that have been found by Trevarthen & Delafield-Butt (2013a) in face-to-face play between parents and infants. Trevarthen & Delafield-Butt (2013a) describe collaborative engagement between parent and infants where facial expressions, movement and vocalisations are organised in narrative cycles of affectively attuned interaction. These shared interaction episodes, traditionally observed in infant-parent play, and similarly found here in NG pupil-teacher engagement, are imbued with rhythm, affect and meaning-making, and provide opportunity for emotional and cognitive learning (Delafield-Butt & Adie, 2016). In the NGs observed in this study, narrative cycles of social interaction activity for the case study child, were found to develop over time and within particular NG phases, activities and companionable relationships with others in the NG. These findings contribute to answering Research Questions 1 & 2 by identifying intersubjective participatory exchanges that support socio-emotional development and engagement in joint tasks.

A further feature of child-teacher social interaction that was observed in the NG, and also resembles social interaction between parent and infant, was the vocalisations of the NG teacher. Vocalisations made by the NG teachers were observed to share features of *infant-directed speech*, sometimes referred to as *motherese*, or baby talk, characterised by

fluctuations in pitch and melodic nature (Trevvarthen 2003; see also 1.6.4.3 of this thesis). Boxall & Lucas (2010, p.43) describe the way in which NG teachers “talk very slowly and deliberately, in short simple sentences, because the children have difficulty in following complex language, and in sustaining attention beyond the first word or two.” This is similar to the way in which a parent will interact with an infant, or the way that an adult will read a story to a young child. In the same way as Boxall (2000) described NG teachers using their intuitive understanding to relate to children in the NG, the NG teachers in this study were observed to relate to the case study child using variation in the rate, pitch and prosody of speech, as a parent would with their infant. This type of speech helps to promote language development and is therefore a useful feature in NGs where children present with poorly developed speech, such as in this case.

Narrative cycles of social interaction activity in this NG were found to be co-constructed between the child and their teacher, or peer. All of the completed narrative cycles of interaction in the case study, where each of the phases of *Introduction*, *Build*, *Climax* and *Resolution* were observed, involved the participation of a teacher. By contrast, where the narrative cycles of interaction were observed between child and peer, with no teacher involvement, the narratives were incomplete. As the child-teacher narrative cycles were greater in number and took place earlier in the NG sessions, it is possible that they provided the case study child with a template that was used for the later development of child-peer narrative interaction.

Over the course of the NG sessions, the number of completed narrative cycles engaged in by the case study child, within each NG session, increased. This could suggest that the child became a more competent partner within episodes of social interaction activity, with improved ability to maintain shared and cooperative engagement with others. NG literature highlights the first two terms in the NG as the period when social and emotional learning takes place, with the third and fourth terms more likely to assist cognitive development (Cooper & Whitebread, 2007). The narrative findings in this study would align to this theory, whereby the child develops social and emotional competence through early-stage

incomplete cycles of narrative social interaction, progressing at a later stage to higher-level cognitive learning through engagement in completed narrative cycles of social interaction.

Although measures of teacher practice were not a focus of the research, the narrative examples of Connect 4 game play and reading the challenge book highlight the ways in which the NG teachers used their skills to support the development of affectively attuned social interaction with the case study child. During episodes of social interaction when C6 became distracted, the NG teacher(s) worked to re-engage C6 in the interaction, using facial expression, body movement, vocalisations and vocal pitch, in the same way that parents intuitively engage with their infant(s). Within the NG, the NG teachers placed importance on the child's successful engagement with and completion of tasks, rather than the precise timing of NG phases. On successful completion of a task, or activity, the teacher(s) displayed their pleasure through facial expression, body movement, and vocalisation, and shared in the child's joy. In this way, the NG was able to provide routine and structure for the child, alongside the experience of joy and pride in the accomplishment of tasks, without being constrained by the restrictive boundaries of time. These findings contribute to answering Research Questions 1 & 2 by identifying attuned relational behaviours, founded in expert teacher practice, that support positive relationship building between NG staff and pupils. Furthermore, the rhythmic patterns observed in shared episodes of narratively-attuned interaction, along with reliable and predictable responses of NG staff within these interactions, contributes to answering Research Question 3.

Commonality of occurrence was found in this study between completed narrative cycles of social interaction activity and high combined levels of Wellbeing and Involvement observed in the case study child. Cycles of narrative social interaction were found to operate on multiple levels and are thought to contribute to meaning-making for the case-study child, in the same way as narratives help us to organise and make sense of our experiences (Bruner, 1991; Kearney, 2002). The narrative cycles display embodiment, where child and teacher gestures, movements, expressions and (in some instances) vocalisations, contribute to the interaction. These components of successful social interaction were found to align together

in peak moments of affective attunement between the partners to the interaction, at the narrative phase of *Climax*. It is in these moments and experiences that the child's highest levels of Wellbeing and Involvement were observed, and where deep-level learning, described by Laevers (2000), is thought to take place.

When pupils are engaged in social interaction episodes with others, where affective attunement between partners is evident, they are primed to enter a state of *Flow* (Csikszentmihayli, 1999) that is conducive to cognitive development. These optimal learning experiences were found in this study during episodes of board game play and card game play between the case study child and teachers and peers. Notably, teacher participation was found in all cases of one-to-one and small group interaction where optimal learning experience was thought to take place. These findings contribute to answering Research Questions 1 & 3 by identifying the aspects of Nurture Group intervention that support optimal learning experiences through embodied social interaction, that takes place within attuned relationships.

4.5 Key findings from the case study

1. Narrative patterning was evident across NG sessions and regardless of inconsistencies in timing, the pattern and rhythm of the sessions remained consistent, providing structure, routine and predictability.
2. The greatest numbers of completed narrative cycles of social interaction were found during the NG phases of Challenge Time and Free Play and were co-constructed between child and NG teacher.
3. The highest levels of Wellbeing and Involvement were found during particular types of social interaction activity that displayed shared goals and the involvement of a NG teacher.
4. Commonality of occurrence was found between completed narrative cycles of social interaction activity and high combined levels of Wellbeing and Involvement.

5. The greatest improvements on the Developmental strands of the Boxall Profile were found in the areas where greatest need was identified at commencement of the study, bringing some of the areas where poorest social and emotional development was evident to a level of expected functioning for the child's age.

4.6 Limitations of the case study

This case study provided an opportunity to observe one child's NG journey over the course of a school year to establish where insights may be gained to better understand the processes that underpin NG efficacy. The findings, however, are limited to an individual child and a single NG and are therefore not generalisable to all other children or NGs. Although this may be considered a limitation of case study methods, this case study set out to identify NG processes, experiences and insights that were considered valuable for further study with a larger population. The findings of the case study are considered to provide valuable insights to NG processes, that both support and advance findings from other studies.

The data collection process for this study allowed the researcher to gather over five hours of video and audio recordings on each of three camera devices, producing over fifteen hours of data. The coding and analysis process involved watching the video recordings multiple times, pausing, rewinding, playing and annotating sections of data to micro-second precision. Throughout this process, observations of NG practice that were beyond the scope of this study were made, some of which were investigated further to enhance the study, while others were unable to be followed through. At times it was difficult to contain the scope and parameters of the case study and it was not possible to analyse the volume of data obtained for all observed aspects of NG practice and processes within the timescale of this project. It is therefore recognised that the findings of the case study provide insight to certain aspects of NG intervention that are overlooked in existing NG literature, but that other under-researched areas remain that are not addressed in this thesis.

The case study research was carried out over a specific period of time, that is one school year of NG attendance. For the case study child, attendance in the NG spanned a longer period, commencing in the child's pre-school year, and it is unknown whether this continued beyond the term of the study into the next school year. Therefore, the outcomes that are reported relate only to the period of time during which this research study was conducted and not to the child's complete NG experience. As the study was focused on NG processes and mechanisms of change, this is not considered to impact on the findings but should be noted within the wider learning from the research.

4.7 Conclusions from Phase 1 of the study

This case study provides insight to aspects of NG practice and experience that have not previously been investigated and informs the research areas and analysis measures for the second phase of the study. The case study investigated SEB development using established BP measures and introduced new narrative observational measures to aid understanding of key facilitators and processes of change within NGs that cannot be measured with the BP.

Over the course of the NG sessions, the NG teachers provided a friendly and welcoming environment where they worked with the child at his own stage of development by identifying, promoting and assisting tailored strategies to improve social, emotional and learning development. The weekly NG sessions provided a structure and routine that the child could quickly learn and he soon came to know what to expect when entering the NG each week. This was evidenced on occasions when the child anticipated what would come next and displayed this verbally or through his actions.

The emotional security that the friendly, welcoming and stable environment of the NG provided encouraged the child's curiosity, and the initial shyness and lack of confidence that was observed in early NG sessions, was replaced over time by the child's involvement and eagerness to engage in shared social activities with others. Through embodied social

interaction activity, carefully scaffolded by the NG teachers, the child learned how to concentrate his attention for short periods of time. These short attentive episodes allowed the child to successfully complete small units of action that, in turn, would combine together and help him to achieve larger goals. Each individual interaction, within an episode of shared social interaction activity, contributed to the shared task at hand, whether that was playing a board game, sharing a story-book, or singing a song. These shared activities took place together with companions in the NG, both NG teachers and peers, during prescribed and regular NG phases and activities.

Importantly, the NG teachers' attunement to the child's needs and level of development ensured that he discovered pleasure and joy through the successful completion of tasks. This provided a means for the child to learn to regulate his actions and emotions, interests and arousal, which in turn would help him to build friendships and engage with people and activities in the NG. Over time it appears that some of these skills were transferred to the mainstream classroom, where social and emotional development was observed by the mainstream class teacher across multiple BP Developmental strands. However although some behavioural improvements were observed, there was a large increase in behaviours on the BP Diagnostic strands reflecting attention-seeking and restlessness.

The creation of regular, structured projects of interaction that are described in the case study resemble a form of 'social song' that displays regular temporal patterns, rhythm and affordances for action. The 'song' is enabled through supportive, attuned relations with others – *companions* - in a safe and predictable setting, where reliable experiences are provided. As in a familiar song, it is thought that the rhythms and words of the NG become known and understood, meaning that children of any ability can participate, contribute and know what to do. In this way, the children and teachers come together, in companionable relationships, to build their own successful community of learners. C6 learned how to contribute positively within the NG, building confidence and a sense of pride in his own achievements. Together with others, he was supported to co-create coherent narrative structures of meaning-making that would assist him to learn in the NG.

The case study findings suggest that NGs assist engagement with school learning by facilitating progressive narratives of meaning-making for pupils within projects of shared learning with others. This NG was shown to support the security features of Attachment (Bowlby, 1969, 1982) through its structure, familiarity, reliability, predictability and the opportunity to build positive relationships. Additionally, this NG was found to support the emotional and cognitive processes of Intersubjectivity and Companionship through the development of affectively-attuned embodied social interaction engagements with others. It is this unique combination, in which the skills of the NG teacher are instrumental, that is thought to promote the regulation of actions and emotions that are required for the co-construction of knowledge.

The findings from the case study suggest that NGs provide the conditions for children to engage in co-constructed, embodied and affectively-attuned episodes of social interaction. These social interaction episodes are thought to facilitate meaning-making through the development of regular, narrative structures of interaction, and assist children's engagement with school learning. These findings inform the research data analysis for the second phase of the study.

5 PHASE 2: LONGITUDINAL STUDY: METHOD AND RESULTS

5.1 Abstract

This longitudinal study forms the second phase of a larger research project by building on the findings of an individual child case study (Phase 1) to investigate key findings across a wider population of children and Nurture Groups (NGs). This phase aims to identify narrative structures of interaction that take place within co-constructed, embodied and affectively-attuned episodes of social interaction for pupils in the Nurture Group. Over one school year, the narrative structure, patterning and quality of experience during episodes of social interaction activity was examined for 15 pupils attending 4 part-time NGs in 2 Primary Schools in Scotland. For each pupil, social, emotional and behavioural (SEB) development was measured at start and end of the study to identify SEB improvement and explore any relationship between the number and quality of social interaction engagements and SEB outcome. Within each NG, the ordering, timing and duration of NG phases was measured to establish the structure and routine within and across NGs. The findings were examined to determine the conditions in which attuned social interaction engagements develop and their relationship to social, emotional and behavioural development.

NGs were found to provide multiple opportunities for pupils to engage in affective, embodied social learning projects with NG teachers and peers, although the number and quality of these engagements was not consistent across NGs or pupils. Younger pupils engaged in a greater number of narrative social learning projects than older pupils. These narrative projects were found to take place where NGs displayed consistent structure, routine and teacher involvement. High levels of Wellbeing and Involvement, that facilitate a state of Flow that supports learning, were found where social projects contained complete cycles of narrative social interaction engagement. No relationship was established between the number or quality of social interaction engagements and pupil SEB outcome.

5.2 Introduction

Phase 2 of the study addresses the research questions by employing observational methods and narrative analysis to explore key findings from the individual case study. This phase of the study was carried out in four NGs across 2 Primary Schools (School A & School B, described in Section 2.2.5 of this thesis). In School A, three NGs were observed that support children referred from the Nursery (pre-school year) (NG3), Primary 1 (NG1) and Primary 2 (NG2) levels, where each NG provided one session per week for children from the same year group. In School B, one mixed-year NG (NG4) was observed that provided one session per week for children referred from Primary 1, Primary 2 and Primary 3 levels. Fifteen child participants and nine NG teachers were involved in the study; four pupils from each of NG2, NG3 and NG4, and three pupils from NG1. The pupils' ages ranged from three to eight years.

Over the course of the study, the child participants attended the NG for one session per week of 60-90 minutes duration. NG4 (School B) was staffed by the same two NG teachers each week (T3, T4). In NG1, NG2 and NG3 (School A), two NG teachers (T1, T2) provided core staffing of the NG, however on occasions when one of the teachers was absent, a different teacher from a small pool of trained staff attended the group (T5, T6, T7, T8, T9).

Drawing on the findings from Phase 1 of the research, key areas of enquiry were developed that would allow the research questions to be answered. In the case study, the NG (NG1) was found to offer consistent structure and routine, within which regular, structured projects of interaction with companions were able to develop. In this phase of the study, these findings are explored further for all four NGs to determine the structure, routine and predictability for each NG and establish where similarities or differences between NGs or schools are found.

Narrative cycles of social interaction activity for the case study child were found to be co-constructed between child and teacher, or child and peer, and to take place within certain

NG phases and activities. In this second phase, these and similar NG phases were examined for a larger population of pupils and NGs to determine the pattern and quality of social interaction engagements across pupils and NGs.

Following attendance in the NG, the case study child displayed SEB improvement on the Boxall Profile, with the greatest developmental improvement found in the areas where the greatest level of need had been identified at outset of the study. In this second phase of the study, the Boxall Profiles for the remaining fifteen child participants were examined to determine the areas where improvements were made following NG attendance. This process aimed to establish where developmental gain was found for individual child participants and identify any relationship to patterns of narrative social interaction engagement.

5.3 Methods

This phase of the study employs methods developed and tested in the Pilot Study (Ch.2) and Phase 1 Case Study (Ch.3) to investigate key findings from the case study across a wider spread of children and NGs. This allows similarities and differences in process and outcomes across NGs and participants to be identified and learning from Stage 1 of the research to be advanced.

5.3.1 Participants to the study

Two schools, four NGs, fifteen child participants and nine NG teachers participated in Phase 2 of the study. Selection methods for participants are described in Section 2.2.6 of this thesis.

Table 28. Nurture Group Teacher and Child participants⁴⁰

School	Nurture Group	NG Teachers		Child Participants	Child age at start of study (yrs)	Child gender (M/F)	Child duration of NG attendance at end of study
School A	NG1	T1 T2 T6 T8		C5	4	M	6
				C7	5	F	6
				C8	5	F	6
	NG2	T1 T2 T5		C1	6	M	8
				C2	6	M	8
				C3	5	M	8
				C4	6	M	8
	NG3	T1 T2 T5 T6	T7 T8 T9	C11	3	M	3
				C12	3	F	3
				C13	4	M	3
				C14	3	F	3
School B	NG4	T3 T4		C15	5	M	3
				C16	7	F	4
				C17	7	M	4
				C18	8	F	4

5.3.2 Research Methods

Aligning with the methods used in Phase 1 of the study, this second phase was also carried out using naturalistic target child observational methodology and informed by a social constructivist perspective (explored in Chapter 2 of this thesis).

The results of Phase 1 of the study provided insights to NG processes and experiences and highlighted key areas for further enquiry. The following areas were identified for investigation across a wider population to address the research questions:

⁴⁰ Gender was recorded as male (M) or female (F), however if any other gender applied this could be recorded on the Data Sheet. At the time of data collection the recording of M/F was in keeping with other NG studies and supported the identification of any difference in outcomes by sex (at the time of data collection the descriptions 'gender' and 'sex' were used interchangeably). In future studies, for such purposes the recording sheet would detail 'sex' rather than 'gender'.

- The duration and pattern of NG phases and sessions for each NG
- Patterns of narrative engagement in episodes of social interaction activity within NG activity phases for all child participants
- The quality of engagement in episodes of social interaction activity for all child participants
- Social, emotional and behavioural development for all child participants between start and end of the study

Each NG was considered to determine the NG phases that would be described as *activity phases*. In the case study, the activity phases were determined to be the NG phases that provided the greatest opportunity for pupils to engage in shared social interaction activity with others. In NG1 (case study), these were the NG phases of *Challenge Time* and *Free Play*. NG2 takes place within the same school as NG1 (School A) and follows the same model, with identical NG phases. NG4 (School B) provides a similar model and the NG phases of *Challenge Time* and *Free Play* are also provided and were also selected as the *activity phases* for this NG. NG3 takes place in the same school as NG1 and NG2 (School A), however this NG serves a younger age group and follows a slightly different structure. In this NG, *Challenge Time* is replaced with *Circle Time* and there is an additional *Story Time* phase. In this NG, *Circle Time*, *Free Play* and *Story Time* were selected as the activity phases for observation.

NG Teachers were asked to complete a Data Sheet (Appendix A) for each child participant at commencement of the study. The information gathered in the Data Sheet was used to select participants for the study and provide contextual information to assist the research. Boxall Profiles (BP) were requested for each child at start and end of the study. The BPs were routinely completed by mainstream class teachers at the start and end of each school year and this coincided with the start and end dates of the study. Completed BPs were obtained by the researcher for all child participants at the start of the study. At the end of the study, completed BPs were obtained for all child participants in NG1, NG2 and NG4. Circumstances

outwith the control of the researcher resulted in the inability to obtain completed BPs for child participants in NG3 at the end of the study (see Section 2.2.7.2).

The researcher was present during each of the NG sessions for all NGs for the duration of the study, amounting to twenty-three sessions in each of NG1 and NG2, eighteen sessions in NG3 and nineteen sessions in NG4, across one school year. Video and audio recordings were made during each NG session for each of the four NGs. The NGs ran weekly, however started later in the school year than mainstream classes and did not run at the beginning and end of terms, or when a whole-school event was taking place. Cameras were set up to record the whole NG area, and one child was the primary focus of the recordings during each NG session. The focus child was rotated weekly to ensure an equal number of recordings for each child at equally spaced intervals over the duration of the study. This resulted in each child participant being the subject of a minimum of four recordings, with an average gap of 2.5 months between recordings. A detailed description of the video recording and analysis methods is provided in Section 2.2.7 of this thesis. In addition to video recording, the researcher made field notes during the NG sessions to record any additional, relevant information from the session.

Fifteen pupils, and their interactions with others, were the focus of the research. The case study identified elements of NG teacher practice that were considered to assist the development of narrative cycles of attuned social interaction activity between NG pupils and companions in the NG. Children's experiences and NG processes, rather than individual NG teacher practice, provided the focus for this research and informed the measures of analysis.

5.3.3 Measures of analysis

ELAN computer software (see Section 2.2.8.1) was used to support the coding and annotation of video and audio recordings of the NG sessions. Five annotation tiers were developed to support coding and analysis of data as follows:

Tier 1: Nurture Group phase

The timing and duration of NG phases (Tables 29-31) were identified and recorded by their time stamp (the timing at which they commence and conclude within the NG session) and code, for each observed NG session for each child. The measures by which NG phases were identified are detailed in Appendix I. As each NG did not follow the same content and pattern of NG phases, coding was developed for each NG and the same codes were used where the same NG phases were found in different NGs.

Table 29. Nurture Group phase description and code (NG1, NG2)

Phase number	NG Phase description	Code	Phase number	NG Phase description	Code
Phase 1	Welcome Time	WT	Phase 7	Snack Time	ST
Phase 2	Transition 1	T1	Phase 8	Transition 4	T4
Phase 3	Challenge Time	CT	Phase 9	Challenge Books	CB
Phase 4	Transition 2	T2	Phase 10	Transition 5	T5
Phase 5	Free Play 1	FP1	Phase 11	Free Play 2	FP2
Phase 6	Transition 3	T3	Phase 12	Tidy up	TU

Table 30. Nurture Group phase description and code (NG3)

Phase number	NG Phase description	Code	Phase number	NG Phase description	Code
Phase 1	Free Play 1	FP1	Phase 5	Free Play 2	FP1
Phase 2	Transition 1	T1	Phase 6	Transition 3	T3
Phase 3	Circle Time	CT	Phase 7	Story Time	ST
Phase 4	Transition 2	T2			

Table 31. Nurture Group phase description and code (NG4)

Phase number	NG Phase description	Code	Phase number	NG Phase description	Code
Phase 1	Challenge Time	CT	Phase 4	Transition 2	T2
Phase 2	Transition 1	T1	Phase 5	Snack Time	ST
Phase 3	Free Play	FP	Phase 6	Tidy up	TU

Tier 2: Narrative patterns of engagement in social interaction activity

Narrative phases of social interaction activity between child and peer or child and teacher were identified for each child participant during the NG activity phases of Challenge Time (NG1, NG2 & NG4), Circle Time (NG3), Story Time (NG3) and Free Play (NG1, NG2, NG3 & NG4). Narrative phases of social interaction activity were recorded by time stamp (the timing at which they commence and conclude within the NG session) and code (Table 32).

Table 32. Description of narrative phases of social interaction

Narrative phase	Description
Introduction	An initial act by one child or teacher that involved the observed child and could have been or was treated as an invitation to engage in social interaction. The invitation was made by, or to, the observed child.
Build	A response to another participant's initiation is displayed and engagement in social interaction between the observed child and partner builds in intensity.
Climax	A high point resulting from a period of building intensity of social interaction between the observed child and partner that involves one of the following: <ul style="list-style-type: none">• a shared, joyous and intersubjective moment, which was co-created and simultaneously experienced by partners to the interaction• an unshared, but co-created increase of intensity, expressed in (and/or):<ul style="list-style-type: none">○ an increasing energy of exchange○ the faster exchange of reciprocal turn-taking
Resolution	A decrease of energy and intensity following a Climax with the ensuing calm shared by the partners to the interaction. This often following a climax immediately, but sometimes appears in the next engagement after another initiation and/or build.

For each narrative cycle of social interaction activity recorded at Tier 2, the following information was identified and recorded (Tiers 3-5):

Tier 3: Participants to the interaction

The participants involved in each narrative cycle of social interaction activity were recorded by child and teacher code (Tables 33-34).

Table 33. Child participants

NG1		NG2		NG3		NG4	
Child	Code	Child	Code	Child	Code	Child	Code
Child 5	C5	Child 1	C1	Child 11	C11	Child 15	C15
Child 7	C7	Child 2	C2	Child 12	C12	Child 16	C16
Child 8	C8	Child 3	C3	Child 13	C13	Child 17	C17
		Child 4	C4	Child 14	C14	Child 18	C18

Table 34. Nurture Group Teachers

NG1		NG2		NG3		NG4	
NG Teacher	Code	NG Teacher	Code	NG Teacher	Code	NG Teacher	Code
Teacher 1	T1	Teacher 1	T1	Teacher 1	T1	Teacher 3	T3
Teacher 2	T2	Teacher 2	T2	Teacher 2	T2	Teacher 4	T4
Teacher 6	T6	Teacher 5	T5	Teacher 5	T5		
Teacher 8	T8			Teacher 6	T6		
				Teacher 7	T7		
				Teacher 8	T8		
				Teacher 9	T9		

Tiers 4 & 5: Levels of Wellbeing and Involvement

For each child participant, levels of Wellbeing and Involvement during each narrative cycle of social interaction activity was observed throughout the interaction using the Leuven Scales for Wellbeing and Involvement (Appendix G). For each narrative cycle, the child's highest level of Wellbeing and highest level of Involvement were recorded.

5.4 Results

5.4.1 Structure, routine and patterning of Nurture Group sessions and phases

5.4.1.1 Ordering, duration and timing within and across Nurture Group sessions and phases

For each of the four NGs, phases of activity and transition in NG sessions were identified at four time points across the duration of the study, with an average interval of 2.5 months. The NG phases were annotated in Elan by NG phase, start time and end time. The duration

of each phase was calculated for each NG session, along the mean duration of phases across the four sessions. The data was plotted in stacked line diagrams to display visual representation of the narrative patterning of the sessions (Figs.20-23)⁴¹. Consistency and variation in the duration of NG phases was determined by the calculation of standard deviation in each NG phase across sessions (Fig.24).

5.4.1.1.1 Ordering and duration of NG phases

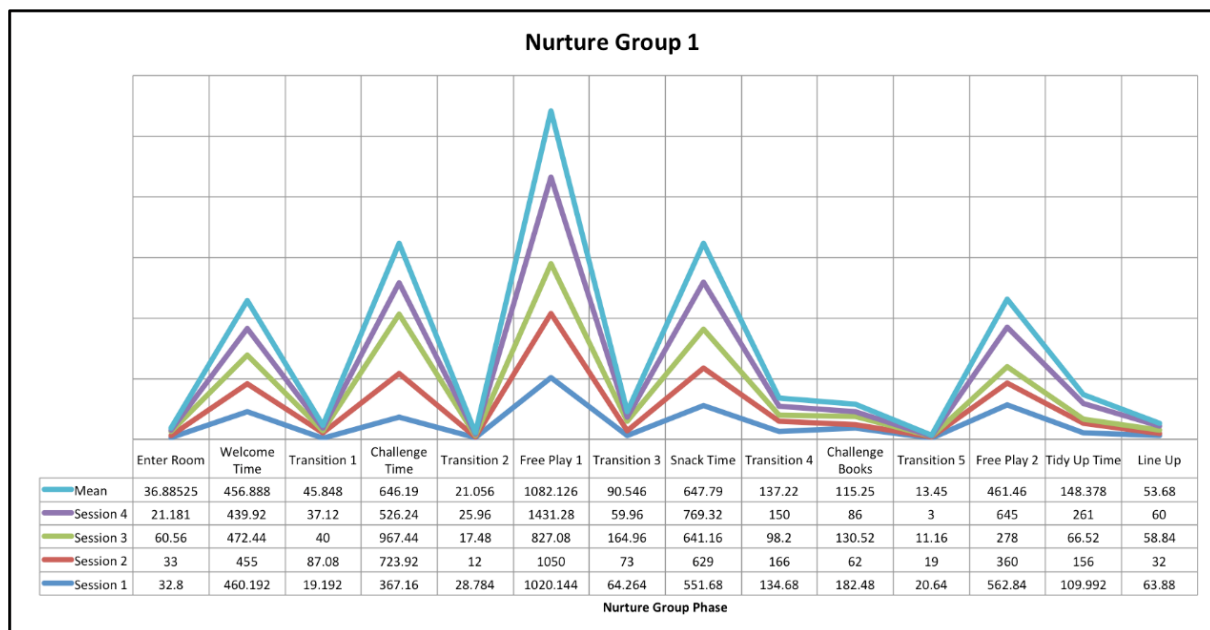


Figure 20. Ordering and duration of NG phases (NG1)

⁴¹ Stacked line diagrams were used to provide visual representation of the patterning of NG phases across the NG session. They are used to display the flow and narrativity of phases, rather than to provide an observable focus on the duration of phases, although the durations are detailed below the charts for context.

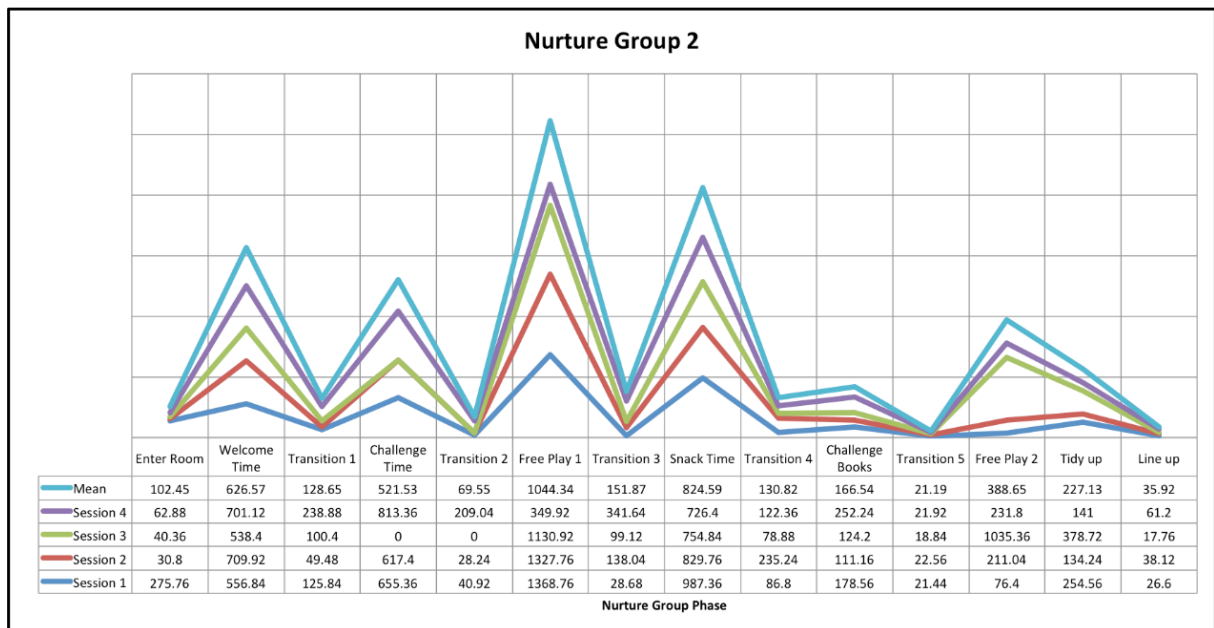


Figure 21. Ordering and duration of NG phases (NG2)

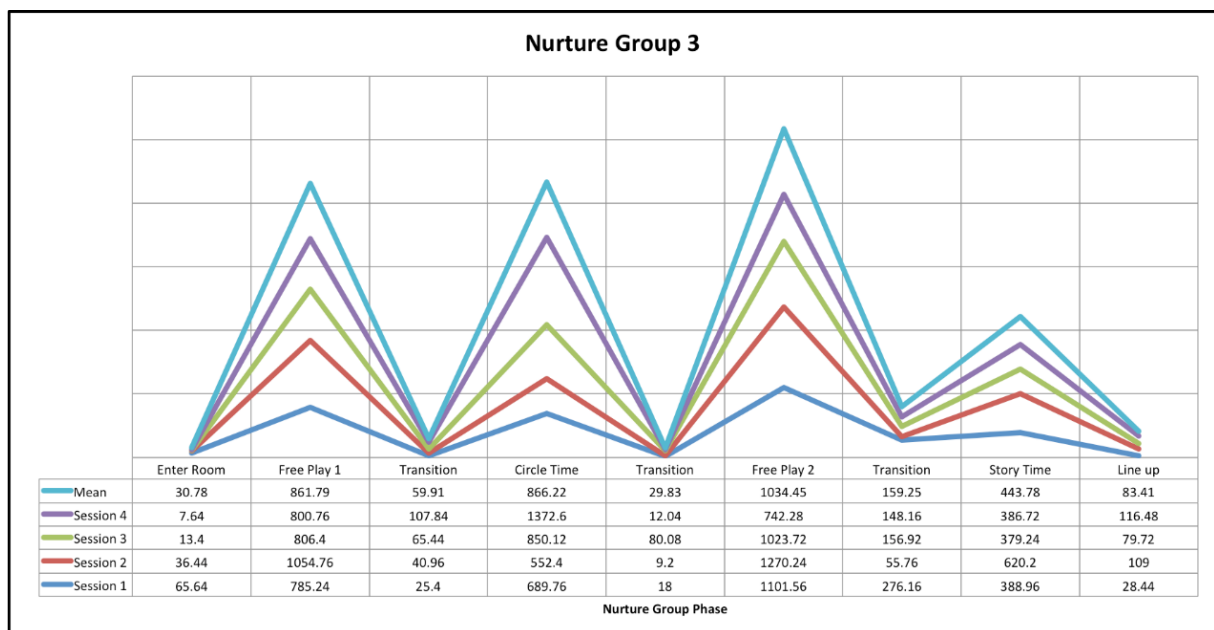


Figure 22. Ordering and duration of NG phases (NG3)

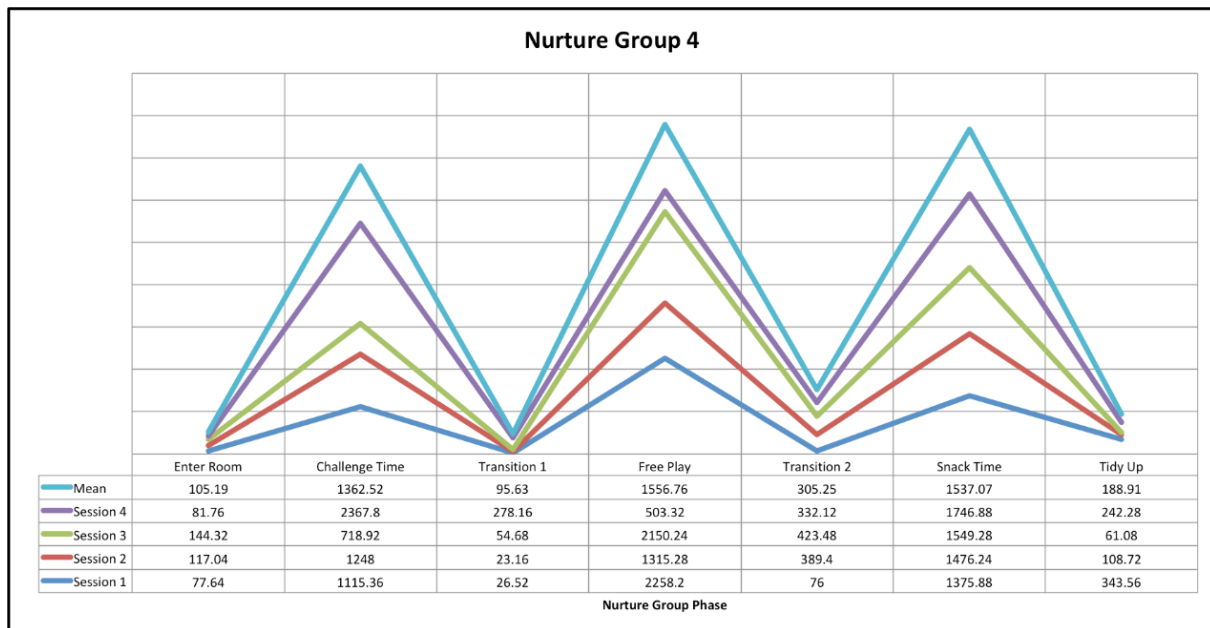


Figure 23. Ordering and duration of NG phases (NG4)

All of the NGs were found to provide a number of regular phases of activity and transition, set within the boundaries of the pupils entering the room at the beginning and lining up to leave the room at the end of the session. NG1 and NG2 display the greatest number of phases (n=12), with the NG session made up of seven phases of activity and five phases of transition. NG3 displays a lesser number of phases (n=7), made up of four phases of activity and three phases of transition, while the lowest number of phases is found in NG4 (n=5), where three phases of activity and two phases of transition are observed within the session boundaries.

Across the four NGs, internal consistency in the ordering of NG activity and transition phases across sessions displays regular pattern and rhythm. Although variations were found in the duration of the phases, a consistent pattern was evident within each NG that is displayed in the stacked line diagrams (Figs.20-23). These diagrams display regular patterning across the NG sessions, with peaks and troughs in the duration of NG phases, where the peaks represent phases of activity and the troughs represent periods of transition between the activity phases.

NG1 and NG2 follow the same structure and routine, with the type, order and pattern of activity and transition phases replicated across both groups. In NG3, some of the activity phases are different to those in NG1 and NG2 and are of longer duration, however within this NG there remains consistency in the ordering of the phases and transitions across the observed sessions (Fig.22). In NG4, the activity phases are of longer duration and lesser number than any of the other NGs (Fig.23), however, similar to the other NGs, there is consistency of patterning across the NG sessions.

5.4.1.1.2 Consistency of duration of NG sessions and phases

Across the four NGs, the activity phases with the longest duration displayed the greatest variation, and the most consistency of duration across NG phases was found in NG1 (Fig.24).

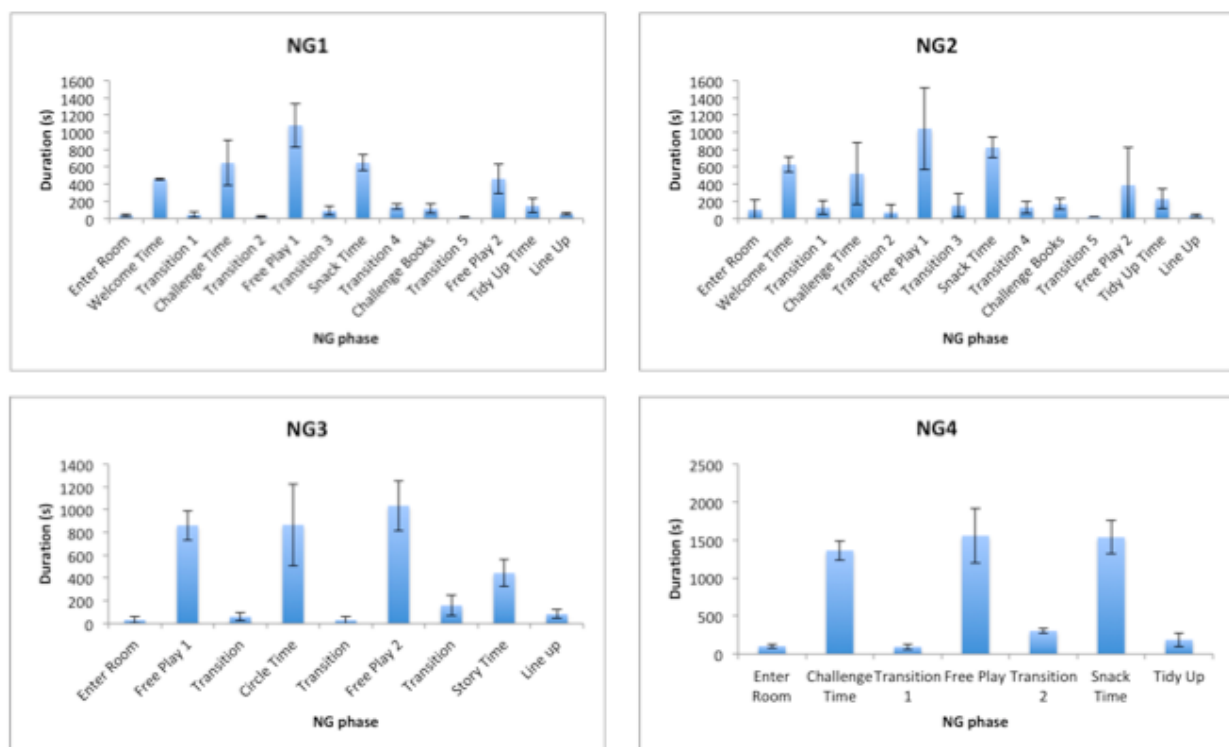


Figure 24. Standard deviation for NG phases (all NGs)

The greatest deviations in duration were found during Free Play phases in all NGs and additionally during the Challenge Time phase in NG1 and NG2 and Circle Time phase in NG3.

Within the NGs, Free Play phases were often shortened or lengthened by the NG teachers to compensate for the longer or shorter duration of other phases. This allowed the teachers to ensure, for example, that Challenge Time or Circle Time activities were completed and were not constrained by time-bound phases.

5.4.1.2 Narrative patterns within and across Nurture Group activity phases

5.4.1.2.1 Narrative patterns of activity

Patterns of activity within each NG were established by plotting the mean duration of NG activity phases across observed NG sessions (Fig.25).



Figure 25. Mean duration of NG phases (all NGs)

Description: The mean duration of NG activity phases, measured in seconds, across four time points over the duration of the study.

Across the four NGs, patterning of activity phases across the NG sessions (Fig.25) resembles the pattern displayed in an intensity contour of narrative interaction (Fig.4, Ch.2).

NG1 and NG2 display similar patterns, consistent with two over-arching narrative cycles of activity, peaking at Free Play 1 and Free Play 2 phases. NG3 also displays two narrative cycles of activity, although the pattern is different to NG1 and NG2. NG4 displays one narrative cycle. The cycles of narrative are described below:

NG1, Narrative 1: The narrative cycle begins when the child participants enter the nurture room and builds in increasing activity duration through the phases of Welcome Time and Challenge Time before coming to a peak during Free Play 1. There is then a sharp decrease in activity duration through Snack Time that ends with a low point during the Challenge Book phase, displaying the end of the first narrative.

NG1, Narrative 2: The second narrative is of lesser duration and intensity, commencing from the Challenge Book phase and building to reach a peak in Free Play 2, before decreasing towards the end of the NG session at a more gradual pace than the first narrative.

NG2, Narratives 1 & 2: The narrative activity pattern in NG2 varies from NG1 only during the first narrative, where there is a small decrease in intensity during the Challenge Time phase, showing a dip in the narrative build before it again intensifies to reach a peak in Free Play 1.

NG3, Narrative 1: The narrative cycle commences when the child participants enter the nurture room and builds in intensity through Free Play 1 to reach the first peak. Here the narrative levels off through Circle Time before intensifying through a second build of intensity that reaches the second and greater peak duration during Free Play 2. The duration then decreases sharply through Story Time, tapering off to reach a resolution when the pupils line up ready to leave the nurture room. Despite two observable peaks to this

narrative pattern, there was variation when compared to NG1 and NG2. The second narrative followed on directly from the first with no observable decrease in duration or resolution from the first narrative and the resolution did not come until after the second narrative.

NG4, Narrative 1: From entering the room, a narrative build increases sharply towards Challenge Time, before continuing more gradually to reach peak duration during Free Play. Then follows a very gradual decrease to Snack Time before a steep decrease towards a conclusion at Tidy Up time. The over-arching narrative pattern is less defined within this NG than the other NGs, although it displays some similarities to the pattern in NG3.

5.4.1.2.2 Consistency of narrative patterns

The duration of activity phases for each NG session and the mean duration across sessions were plotted for each NG to display patterns of narrative across and within sessions (Fig.26).

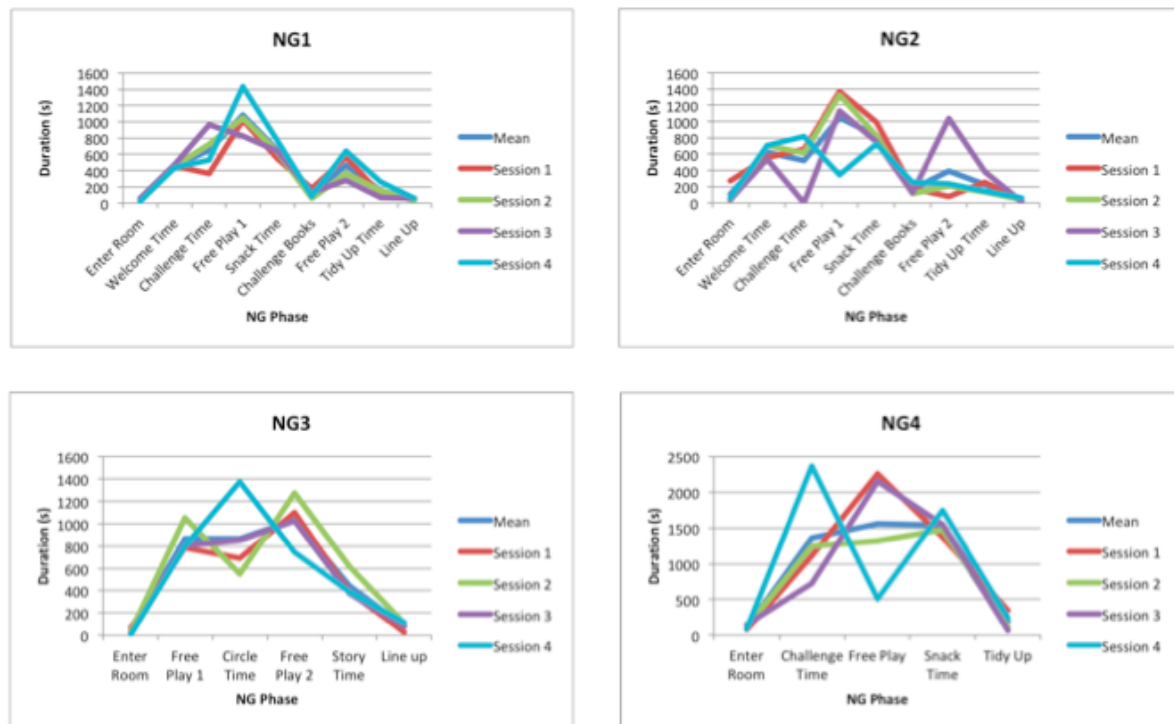


Figure 26. Duration of NG activity phases for four NG sessions (all NGs)

Description: Duration of activity phases, measured in seconds, for four NG sessions across the duration of the study.

Narrative patterning is evident within and across all NGs (Fig.26), however variations are found in the level, distribution and consistency of narrative cycle(s).

Within NGs, the greatest consistency of narrative patterning across sessions is displayed in NG1 and NG2. NG1 also displayed the most consistency of duration of NG phases across sessions (Fig.24). In NG3 and NG4 the patterns of narrative are less well defined and patterns are less consistent across sessions. These NGs also feature a smaller number of activity phases and more frequently display one narrative across the NG session, rather than the two narrative cycles that are found in NG1 and NG2. The greatest variation across sessions is observed in NG4, where the smallest number of activity phases is found.

5.4.1.3 *Discussion of findings from investigation of structure, routine and patterning of NG sessions*

Boxall (2002) proposes that routines and clear boundaries are crucial features of the NG environment to promote the feelings of safety, security and belonging in pupils that are required for social, emotional and cognitive development. The NG sessions observed in this study provide boundaries within which each session is contained. These boundaries are consistent regarding the day of the week, time of day and duration of time for each NG session. Each of the observed NGs provides one weekly session for a consistent group of pupils and is situated at the same time point within the school week. The pupils are therefore able to quickly learn to anticipate the session each week. These findings contribute to answering Research Question 3 by identifying the reliable and predictable structure of the NG in terms of the timing, duration and participants of the NG sessions.

Within these boundaries of time, the NG sessions consist of regular patterns of activity and rest, marked by NG Activity and Transition phases. This provides a consistent pattern to the sessions, marked by peaks and troughs of activity. These peaks and troughs provide rhythm – representative of the melodic nature of musical composition, poetry, dance and story-telling. Although the order, duration and nature of activities may differ, shared rhythm is observed in the consistent patterning of sessions within and across NGs. These findings further contribute to answering Research Question 3 by identifying the regular pattern and rhythm of NG sessions.

NG phases are, however, not bound by the limitations of time, but by the needs of the pupils. The same patterning and rhythmicity is achieved across NG sessions where the NG phases are of longer or shorter duration. Across NG sessions, narrative patterns are observed that resemble both Labov's *narrative model* (Labov 1997) and Trevarthen & Delafield-Butt's *narrative intensity contour* (Trevarthen & Delafield-Butt, 2013a). Within each of these models, a four-phase pattern of narrative is described that contains actions and emotions within a consistent and rhythmic pattern.

Episodes of narrative are thought to act as a tool for meaning-making by assisting the ordering and orientation of emotions through personal connectedness (Egan & Ling, 2002). Narrative patterning is evident within and across all NGs in this study, although variations are found in the level, distribution and consistency of narrative cycle(s) of activity within and across NGs. This appears to be dependent on the number of activity phases, with NGs that provide a smaller number of activity phases displaying greater variation of consistency in narrative patterning. These findings contribute to answering Research Questions 2 and 3 by identifying narrative structures within the NGs that have the potential to support the regulation of actions and emotions within reliable patterns of experience.

Boxall & Lucas (2010) propose that NGs provide opportunities for children to engage in normal learning experiences of early childhood that are thought to have been missed or disrupted in infancy, thereby allowing them to progress through the normal stages of development. To achieve this, NG practitioners are encouraged to focus on the environment, experiences and relationships that support children's social, emotional and cognitive learning (Boxall & Lucas, 2010). The safety features of person and environment are crucial for infants to be able to engage with others in reciprocal, affective, social engagement behaviour (Bowlby 1969/1982) and NGs that provide regular and predictable structure and routine are well placed to engender feelings of safety.

NG classrooms are said to provide a safe base (Bennathan & Boxall, 2000), and this has also been extended to adults in the NG, who have been described as acting as a safe base that allows children to build secure attachment (Hughes & Schlosser, 2014). Children identified with SEBN are routinely characterised by poor organisation, inattentiveness and high anxiety, and the NG is said to offer a structured experience of attachment and support that in turn assists them to learn (Bailey, 2007). Children find safety in routine and feel most secure when their lives are predictable. Vulnerable children, such as those referred to NGs, often have chaotic and unpredictable home lives and resulting difficulty with negotiating changes to their routine. A positive school environment can help children to build resilience and ameliorate the effects of stress in their lives (Southwick et al., 1997) and NGs with

regular and predictable routines and environments are well placed to support vulnerable children (Cooper, 2004).

The provision of ordinary experiences within a containing and safe environment is thought to have both therapeutic and educational value (Doyle, 2003). Within the observed NGs, much emphasis is placed on pupils attending the NG on the same days and times every week, engendering feelings of security by experiencing familiar events happening in the same order, in the same setting, with the same adults and pupils, in a predictable manner. Young children do not fully understand the concept of time and therefore understand the order of their lives not by hours and minutes but by events that happen. A structured routine assists children with a concept and awareness of time, allows them to forward plan and to predict what comes next, building their confidence and self-esteem (Medoff, 2013) and building skills to enable them to function in the world around them (Sussemen, 2011).

By including preparation for transitions into their routine, children are helped to predict and prepare for future events. The NG sessions are comprised of many short, ordered activities which the pupils encounter each session. As it nears time to progress from one activity to another, the NG teachers count down a warning that this activity will be ending and tell the children what activity will come next, thus preparing them for what is to follow. In this way, the pupils learn to deal with and negotiate change, behavioural expectations are understood, and there is less room for argument, which reduces stress in both the children and the adults.

Children feel secure when their lives are predictable and the familiarity and safety of a setting where adults are trusted and provide a secure base allows the child to relax and explore the opportunities available to them. Routine provides a sense of security, helps children to develop self-help skills, cope with daily tasks and persevere with difficulties, thus reducing anxiety and stress and promoting willingness, readiness and responsibility for their own learning. Routines may support children's readiness for school learning, providing

continuity between the home environment and the roles and rituals of school (Flores, 2004) and the development of self-regulation and social competence that provide the foundations for successful learning (Cooper, Arnold & Boyd, 2001) and allow children to engage appropriately and work productively in the school classroom (Izard et al., 2001).

5.4.2 Social, emotional and behavioural development for Nurture Group participants

5.4.2.1 *Individual and group measures of social, emotional and behavioural improvement*

Boxall Profile scores for each child participant in NG1, NG2 and NG4 were obtained at start and end of the study. The profiles were completed by each child's mainstream class teacher and provide a measure of SEB functioning in the mainstream classroom.

5.4.2.1.1 [Boxall Profile class overview](#)

A class overview was developed for each NG displaying:

- BP scores for each child
- the number of Developmental and Diagnostic strands on which each child's score falls outwith the range of the Average Functioning Child (AFC)
- the number of child participants scoring below the AFC range in each NG.

This allowed high levels of SEB need to be identified for individual child participants, as well as common areas of developmental need and behavioural concern within and across NGs (Tables 35 & 36). Comparison of the class overviews at start of the study (Table 35) and end of the study (Table 36), identified areas of progress for individual children and NGs over the duration of the study.

Table 35. Class overview of Boxall Profile scores at start of study (NG1, NG2, NG4)

Nurture Group 1																							
Child	Gender	A	B	C	D	E	F	G	H	I	J	Q	R	S	T	U	V	W	X	Y	Z	Dev.	Diag.
5	M	17	8	3	10	4	10	11	13	5	6	4	0	1	2	0	2	4	0	0	3	8	5
7	F	16	8	7	15	8	11	13	18	6	8	3	0	5	3	4	0	3	1	1	3	4	7
8	F	12	4	4	6	4	8	12	16	6	6	7	9	2	6	5	9	5	11	6	4	8	10
		3	3	3	2	2	1	3	2	1	0	3	1	2	3	2	2	3	1	1	3		
Nurture Group 2																							
Child	Gender	A	B	C	D	E	F	G	H	I	J	Q	R	S	T	U	V	W	X	Y	Z	Dev.	Diag.
1	M	14	4	5	8	2	8	6	9	3	5	7	1	4	11	2	2	11	9	11	3	9	9
2	M	18	10	5	18	7	10	15	12	6	6	0	0	0	1	0	0	2	1	2	1	2	2
3	M	15	10	10	16	7	9	7	12	6	7	3	4	3	12	2	6	7	4	10	7	4	10
4	M	11	6	8	10	4	6	6	8	4	3	6	2	4	13	4	3	7	4	3	8	9	10
		3	2	2	2	2	3	3	4	2	1	3	2	3	3	3	3	4	3	4	3		
Nurture Group 4																							
Child	Gender	A	B	C	D	E	F	G	H	I	J	Q	R	S	T	U	V	W	X	Y	Z	Dev.	Diag.
15	M	9	4	3	10	2	7	7	6	2	4	10	9	10	13	6	11	9	15	15	7	10	10
16	F	20	8	6	14	7	11	10	20	7	6	4	10	9	3	8	3	9	5	1	6	3	9
17	M	11	5	9	12	4	7	7	8	1	5	11	3	4	14	0	7	5	6	8	5	9	9
18	F	14	8	9	11	5	8	6	8	2	2	4	5	9	13	2	10	13	14	16	7	9	10
		3	4	2	3	3	3	4	3	3	3	4	4	4	4	3	4	4	4	3	4		

Description: Each row displays the Boxall scores for one child on Developmental Strands A-J and Diagnostic Strands Q-Z. Green cells indicate that the child is scoring within the range of the Average Functioning Child (AFC) for that strand. Red cells indicate a score below the AFC range. The final two columns display the number of Developmental and Diagnostic strands on which the child's score is outwith the AFC range. Scores of 8 and above (blue cells) highlight children who display high levels of social, emotional and behavioural difficulties.

Levels of social, emotional and behavioural need at commencement of the study across Nurture Groups

High levels of need are recognised where the child's score is outwith the AFC range on eight or more strands of the Developmental or Diagnostic profile⁴². At commencement of the study, high levels of developmental need (Developmental profile) were recorded for two child participants in NG1 (C5, C8) and NG2 (C1, C4) and three child participants in NG4 (C15, C17, C18). High levels of behavioural need (Diagnostic profile) were recorded for one child participant in NG1 (C8), three in NG2 (C1, C3, C4) and all four child participants in NG4 (C15, C16, C17, C18). Across the NGs, combined high levels of social, emotional and behavioural need across both Developmental and Diagnostic profile strands were recorded for six children – C8 (NG1), C1 & C4 (NG2) and C15, C17 & C18 (NG4) (Table 35).

Similarities and differences were found within and across NGs. At commencement of the study (Table 35), there was one Diagnostic strand (Strand W) where all child participants scored outwith the AFC range. This is the *Insecure sense of self* strand, and high scores on this strand describe a child who is 'Variable in mood: sometimes seeks and responds to affectionate contact with the adult, at other times rejects or avoids; Contrary in behaviour: sometimes helpful, co-operative and compliant, at other times stubborn, obstinate and resistive, or unheeding; Attention-seeking in a bid for recognition and admiration; and/or Can't tolerate even a slight imperfection in their work and is upset or angry if they can't put it right'⁴³. On two Diagnostic strands and one Developmental strand, ten out of eleven child participants scored outwith the AFC range. These strands are *Inconsequential behaviour* (Strand T), *Disengaged* (Strand Q) and *Is biddable, accepts constraints* (Strand G). These strands describe: inappropriate patterns of behaviour, showing fleeting interest and inattentiveness, restless and erratic behaviour, inability to relate to people and events, repetitively pursuing activity which does not progress, lacking motivation, non-compliance

⁴² This description of high SEB need is drawn from Nurture UK literature and Boxall Profile implementation guidance.

⁴³ Diagnostic strand descriptors contained in The Boxall Profile assessment guidance. This and subsequent strand descriptors for Developmental and Diagnostic profiles are derived from this guidance.

with adult requests, inability to sit still when the teacher makes a request for attention and interfering or causing disturbance to other children.

There were no Developmental or Diagnostic strands where all children across the three NGs scored within the AFC range. Within individual NGs, only one NG displayed a strand where all child participants in the NG scored within the AFC range and this was Strand J on the Developmental profile (*Maintains internalised standards*) in NG1. This strand describes a child who abides by the rules of an organised group game in the playground or school hall, and accepts disappointments.

Levels of social, emotional and behavioural need at commencement of the study – Nurture Group 1

Within individual NGs, in NG1 there were eight profile strands where all child participants received a score that fell outwith the AFC range. Four of these were on the Developmental Profile (Strands A, B, C, & G) and four were on the Diagnostic Profile (Strands Q, T, W, Z). The areas where the children were collectively displaying most developmental need were: listening with interest, attending to tasks, being curious, making connections and communicating a train of thought, being organised, and complying with teacher requests. The scores reflect low levels of awareness of others and engagement with the world around them. However, the child participants in this NG collectively showed a level of emotional security where they could follow the rules of an organised group game, accept disappointments, and show concern and thoughtfulness for other people. Behaviourally, collective difficulty was found with motivation, patterns of inappropriate and attention-seeking behaviour, and taking turns.

Levels of social, emotional and behavioural need at commencement of the study – Nurture Group 2

In NG2, there were three strands where all child participants received a score that was outwith the AFC range. One of these was on the Developmental profile (Strand H) and two

were on the Diagnostic profile (Strands W, & Y). The areas where the children in this NG were collectively displaying most developmental need were: listening with interest, attending to teacher requests, taking part in teacher centred group activity and accommodating to other children in work or play. Collectively, the child participants were best able to abide by the rules of an organised group game and accept disappointments.

Levels of social, emotional and behavioural need at commencement of the study – Nurture Group 4

In NG4, there were ten strands where all child participants received a score that was outwith the AFC range. Two of these were on the Developmental Profile (Strands B & G) and eight were on the Diagnostic Profile (Strands Q, R, S, T, V, W, X, & Z). The areas where the children in this NG were collectively displaying most developmental need were: showing awareness, interest and curiosity in the world, showing genuine interest in other children's activity, complying with verbal prohibitions and working alongside another child or sitting still in a group without causing disturbance. Collectively, the child participants were best able to recall information of relevance and make constructive links, and communicate a simple train of thought with coherence.

The greatest SEB needs were found within NG4, where all child participants displayed high levels of behavioural need and all children, with the exception of C16, displayed high levels of developmental need. The class overviews at the start of the study (Table 35) were compared to the overviews at the end of the study (Table 36) to establish areas of progress for NGs and child participants.

Table 36. Class overview of Boxall Profile scores at end of study (NG1, NG2, NG4)

Nurture Group 1																							
Child	Gender	A	B	C	D	E	F	G	H	I	J	Q	R	S	T	U	V	W	X	Y	Z	Dev.	Diag.
5	M	11	3	3	10	5	9	10	14	4	6	6	1	1	5	0	4	3	0	0	3	9	5
7	F	19	8	9	16	7	11	14	16	7	8	4	1	0	1	2	1	1	0	0	3	2	3
8	F	14	6	4	16	5	9	11	17	5	6	10	4	2	7	3	3	7	5	1	1	8	8
		2	3	2	1	2	2	2	3	2	0	3	1	1	2	2	2	2	1	0	2		
Nurture Group 2																							
Child	Gender	A	B	C	D	E	F	G	H	I	J	Q	R	S	T	U	V	W	X	Y	Z	Dev.	Diag.
1	M	11	7	6	9	4	9	5	10	5	5	5	4	3	11	1	5	7	9	12	7	9	9
2	M	17	8	7	14	7	11	14	17	6	6	2	3	1	2	2	4	3	7	5	2	4	9
3	M	14	10	12	19	6	10	8	13	5	5	2	3	3	10	3	2	5	2	9	7	4	10
4	M	12	8	10	10	4	9	7	7	4	4	5	2	2	7	1	4	7	2	2	6	9	9
		4	3	2	2	2	2	3	4	3	1	4	4	3	4	2	4	4	4	4	4		
Nurture Group 4																							
Child	Gender	A	B	C	D	E	F	G	H	I	J	Q	R	S	T	U	V	W	X	Y	Z	Dev.	Diag.
15	M	13	6	5	12	5	8	8	8	4	3	9	7	8	9	5	7	10	12	14	5	10	10
16	F	17	9	6	18	8	9	13	20	7	8	2	5	4	5	8	2	6	5	3	4	6	10
17	M	15	8	9	12	5	6	7	11	4	5	5	4	4	11	1	8	9	5	11	5	9	9
18	F	16	9	9	16	6	10	8	7	5	4	6	8	5	9	2	10	13	10	8	4	8	10
		4	4	2	2	3	4	4	3	4	3	4	4	4	4	3	4	4	4	4	4		

Description: Each row displays the Boxall scores for one child on Developmental Strands A-J and Diagnostic Strands Q-Z. Green cells indicate that the child is scoring within the range of the Average Functioning Child (AFC) for that strand. Red cells indicate a score below the AFC range. The final two columns display the number of Developmental and Diagnostic strands on which the child's score is outwith the AFC range. Scores of 8 and above (blue cells) highlight children who display high levels of social, emotional and behavioural difficulties.

Levels of social, emotional and behavioural need at conclusion of the study across Nurture Groups

At the end of the study, high levels of SEB need remained the same at class level for NG1 and NG4, while for NG2 a high level of Diagnostic need was found for one more child participant (4 children at end of study, compared to 3 at start). Across the NGs, similar to at the start, there was one profile strand where all eleven of the child participants scored outwith the AFC range. However, this was the Diagnostic strand Q (*Disengaged*), and not *Insecure sense of self* (Strand W) as found at the start of the study. On Strand W, progress was made for C7 that took their score within the AFC range, whereas on Strand Q, negative change was found for C2 that took their score outwith the AFC range.

High levels of SEB need on the Developmental and Diagnostic profiles at the end of the study were consistent for all nine children who displayed high levels of need at the start of the study. Additionally, one child (C2) who did not display high levels of developmental or behavioural need at commencement of the study, was found to display a high level of behavioural need on the Diagnostic profile at the end of the study.

Levels of social, emotional and behavioural need at conclusion of the study within Nurture Groups

Within NGs, at the end of the study NG1 displayed a lower number of strands on both the Developmental and Diagnostic profiles where all child participants scored outwith the AFC range, reducing from four to two on Developmental strands and from four to one on Diagnostic strands. However, within this, NG pupils scores that fall within the AFC range increased from 10 to 11 on the Developmental profile, and from 9 to 14 on the Diagnostic profile, indicating improvements for individual children. Both NG2 and NG4 displayed a greater number of strands where all child participants scored outwith the AFC range on both the Developmental and Diagnostic profiles at conclusion of the study. The greatest negative change was found in NG2, where there was an increase of six Diagnostic strands across participants where the score was outwith the AFC range, increasing from 2 at the start of

the study to 6 at conclusion. The class overview results initially suggest that SEB needs have worsened for two of the NGs over the course of the study.

5.4.2.2 Individual and group developmental outcomes

To understand the levels of developmental functioning for each child participant relative to the AFC range, each child's Developmental profile scores were calculated as a percentage of the lowest AFC score in the range. The percentage point change over time, between start and end of study, was calculated to identify positive and negative change for pupils in each NG on Developmental strands (Tables 37-39).

Table 37. Developmental profile scores at start and end, and change in scores (NG1)

Nurture Group 1															
Strand	Purposeful attention			Constructive participation			Connects experiences			Insightful involvement			Cognitive engagement		
	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change
C5	94	61	33	80	30	50	37	37	0	71	71	0	67	83	16
C7	89	105	16	80	80	0	87	112	25	107	114	7	133	117	16
C8	67	78	11	40	60	20	50	50	0	43	114	71	67	83	16
Strand	Emotionally secure			Accepts constraints			Accommodates to others			Constructive responses			Maintains standards		
	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change
C5	100	90	10	79	71	8	72	78	6	83	67	16	120	120	0
C7	110	110	0	93	100	7	100	89	11	100	117	17	160	160	0
C8	80	90	10	86	79	7	89	94	5	100	83	17	120	120	0

Table 38. Developmental scores at start and end, and change in scores (NG2)

Nurture Group 2															
Strand	Purposeful attention			Constructive participation			Connects experiences			Insightful involvement			Cognitive engagement		
	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change
C1	78	61	17	40	70	30	62	75	13	57	64	7	33	67	34
C2	100	94	6	100	80	20	56	87	31	129	100	29	117	117	0
C3	83	78	5	100	100	0	125	150	25	114	136	22	117	100	17
C4	61	67	6	60	80	20	100	125	25	71	71	0	67	67	0
Strand	Emotionally secure			Accepts constraints			Accommodates to others			Constructive responses			Maintains standards		
	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change
C1	80	90	10	43	36	7	50	56	6	50	83	33	100	100	0
C2	100	110	10	107	100	7	67	94	27	100	100	0	120	120	0
C3	90	100	10	50	57	7	67	72	5	100	83	17	140	100	40
C4	60	90	30	43	50	7	44	39	5	67	67	0	60	80	20

Table 39. Developmental scores at start and end and change in scores (NG4)

Nurture Group 4															
Strand	Purposeful attention			Constructive participation			Connects experiences			Insightful involvement			Cognitive engagement		
	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change
C15	50	72	22	40	60	20	37	62	25	71	86	15	33	83	50
C16	89	94	5	80	90	10	75	75	0	100	128	28	117	150	33
C17	61	83	22	50	80	30	112	112	0	86	86	0	67	83	16
C18	78	89	11	80	90	10	112	112	0	78	114	36	83	100	17
Strand	Emotionally secure			Accepts constraints			Accommodates to others			Constructive responses			Maintains standards		
	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change
C15	70	80	10	50	57	7	33	44	11	33	67	34	80	60	20
C16	110	90	20	71	93	22	111	111	0	117	117	0	120	160	40
C17	70	60	10	50	50	0	44	61	17	17	67	50	100	100	0
C18	80	100	20	43	57	14	44	39	5	33	83	50	40	80	40

Description for tables 37-39: Scores at Start & End are shown as % of lowest score in average range of competently functioning children in the primary school age range. Change = % point change in score between start and end. Red = negative change, Blue = positive change, Green = score is within average range at start and end.

5.4.2.2.1 Developmental outcomes across Nurture Groups

Across NGs, the greatest number of Developmental profile strands where positive change was found was in NG4 (Table 39). In this NG, there were 28 instances of positive developmental change for participants, of which 96% (n=27) were found on strands where the initial pupil score was below the AFC range. In NG2 there were 21 strands where positive change was found, of which 81% of strands (n=17) were initially below the AFC range (Table 38). In NG1 there were 13 strands where positive change was found, of which 85% of strands (n=11) were initially below the AFC range (Table 36). This shows that, across NGs, in over 80% of instances where pupils made progress in a particular area (Developmental strand), a developmental need had been identified for that pupil at commencement of the study.

The positive developmental changes that are observed across different NGs should be considered against the identified needs of pupils at the start of the study. NG4, where the greatest number of positive changes was found on Developmental strands, also displayed the greatest developmental need of child participants at the start of the study (Table 35). Furthermore, despite NG4 displaying the greatest number of developmental strand improvements, the gains that were made did not bring the Developmental scores of more participants to within the AFC range than the other NGs (Table 35).

In NG1 and NG2 the Developmental profile results were more variable. In NG1, the developmental need of participants was lower than in the other NGs at commencement of the study and more children were supported over the course of the study to reach developmental functioning within the AFC range.

NG2 displayed the greatest number of Developmental strands for participants where the score fell within the AFC range at start and end of the study, however, along with NG1, a greater amount of negative change was found than in NG4.

Developmental outcomes within Nurture Groups

Positive and negative changes on Developmental Strands for all child participants (Tables 37-39) are displayed for each NG in Figures 27-29. This allows the percentage point change on strand scores for participants in each NG to be compared.

NG1

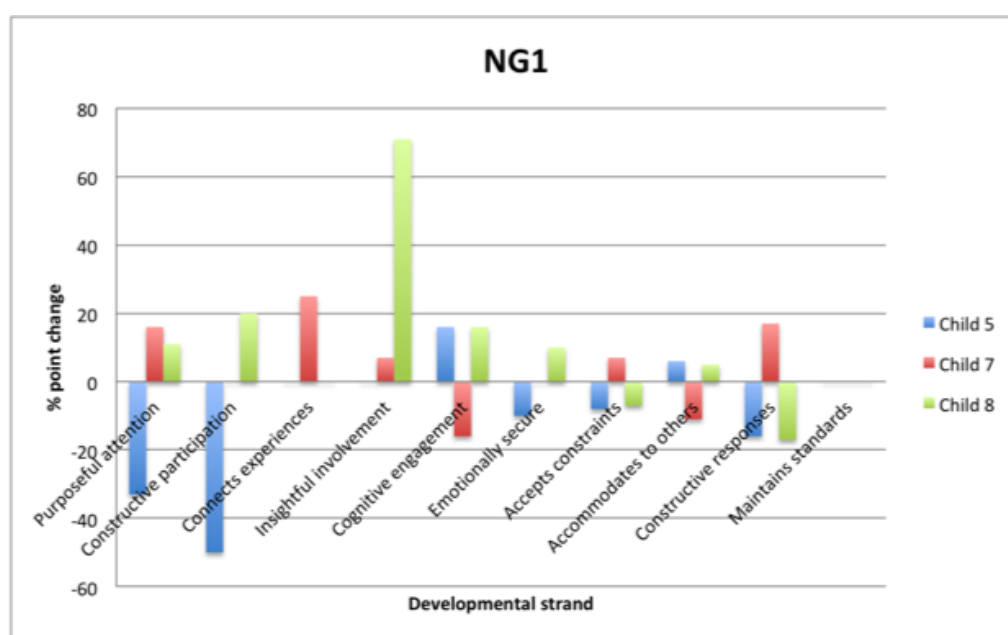


Figure 27. Change in Developmental profile scores between start and end of study (NG1)

In NG1, 13 instances of developmental gain are displayed across participants and 9 instances where the Developmental strand score has decreased (Fig.27). The number of strands and developmental areas where improvements were found varied across participants and there were no strands where all child participants displayed collective gain. C7 and C8 both display gains on 5 Developmental strands at conclusion of the study, while C5 displays gain on 2 strands. Where negative change is observed, the change takes place within the AFC range on only one strand and for one participant (C7, Cognitive engagement strand). All other negative change is takes place outwith the AFC range, with the greatest number of strands where negative gain is found, and largest negative gain on any strand,

observed for C5. This means that C5 displayed the lowest positive and largest negative gain in this NG.

The greatest AFC gain was found for C7 with two additional Developmental strand scores falling within the AFC range between start and end of the study. The greatest improvement on individual strand score was displayed by C8 on the *Insightful involvement* strand, with a gain of 71 percentage points. The strand descriptors suggest this means that a large gain has been made in the ability to make constructive and reciprocal friendships that provide companionship. Across NGs, this is the largest gain on any strand across all child participants in the study and corresponds with the area of greatest need for C8 at commencement of the study, and the second greatest area of developmental need across all participants in NG1.

NG2

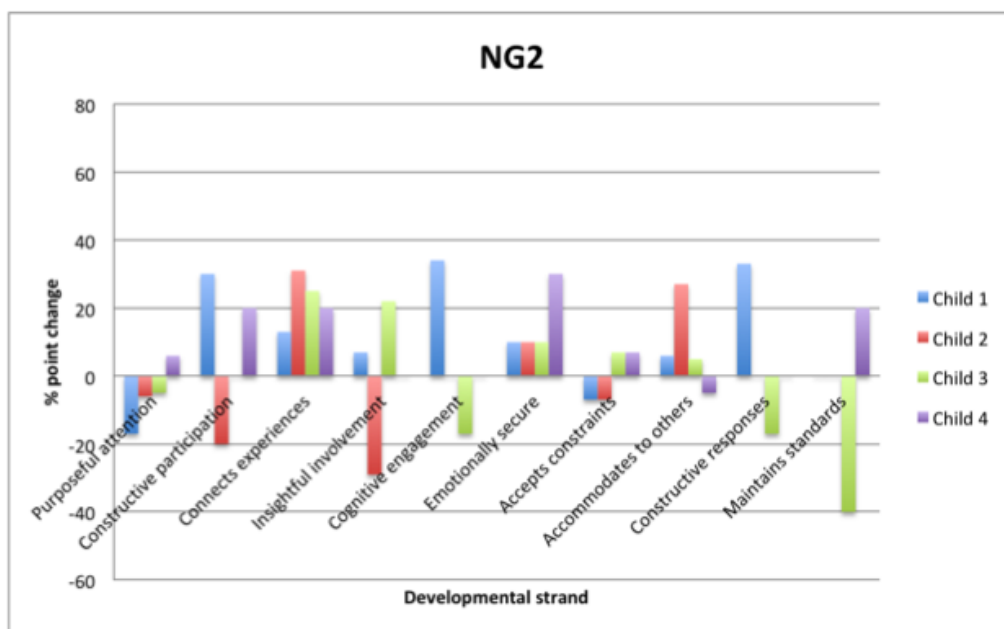


Figure 28. Change in Developmental profile scores between start and end of study (NG2)

In NG2, 21 instances of developmental gain are displayed across participants and 11 instances where the Developmental strand score has decreased (Fig.28). The number of strands and developmental areas where improvements were found varied across participants, however there were two strands where all child participants displayed positive gain. These strands were *Connects experiences* and *Emotionally secure*. The strand descriptors for the *Connects experiences* strand describe the ability to return to and complete a satisfying activity that has been interrupted, communicate a simple train of thought with coherence, and recall information of relevance and make constructive links. Improvements in the *Emotionally secure* strand imply investment of feeling in achievement and improved self-esteem, the ability to make eye contact and turn to a teacher for help or reassurance. Additionally, three out of four participants displayed improvement on the *Accommodates to others* strand. This strand is concerned with the child's ability to engage or work alongside other pupils and comply with teacher requests.

The pupils displaying the greatest number of strand improvements are C1 and C4, although improvements were found for all participants. The greatest improvement on individual strand score was displayed by C1 on the *Cognitive engagement* strand, with a gain of 34 percentage points. Improvements in this strand identify conversational engagement with another child and active contribution to cooperative and developing play with two or more other children.

Areas of negative change were also found in this NG, with a larger number of negative changes across strands for C2 and C3. However, within this, 50% of the strands where negative change was found for C2 and C3 were on strands where scores at start and end fell within the AFC range. There were only two strands across NG2 participants where the score at the end of the study reduced the pupil score on that strand from within to below the AFC range (C2 *Constructive participation*; C3 *Constructive responses*; Tables 36&37).

Although NG1 and NG2 displayed a greater level of negative change on Developmental strands than NG4 (Figs. 27-29), on closer inspection, on many of the strands where negative gain was reported, the score remained within the AFC range across the term of the study.

NG4

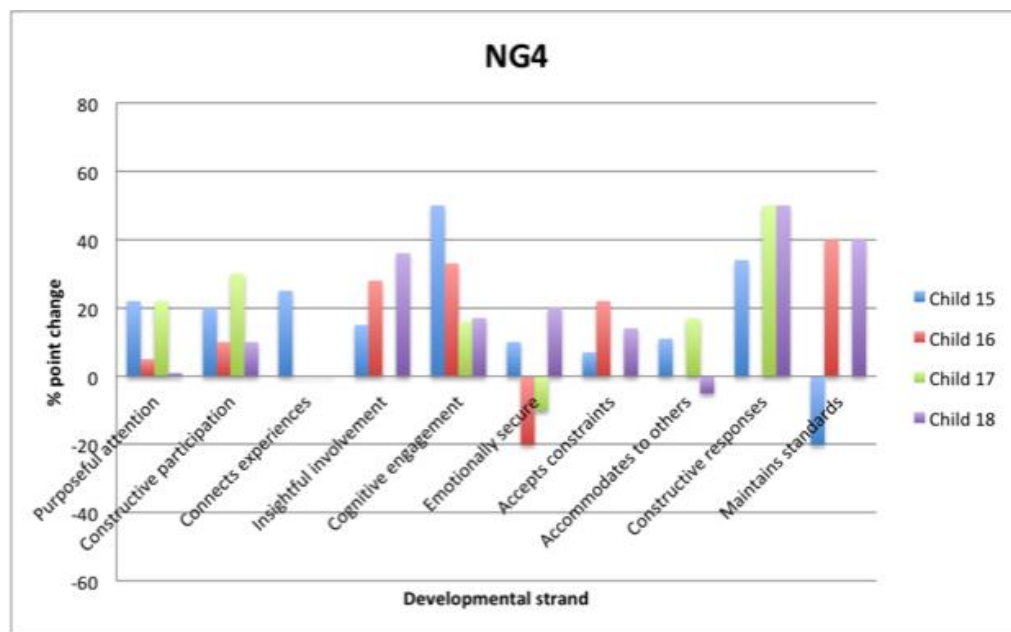


Figure 29. Change in Developmental profile scores between start and end of study (NG4)

In NG4, 28 instances of developmental gain are displayed across participants and 4 instances where the Developmental strand score has decreased (Fig.29). This NG displayed the greatest consistency of developmental gain across participants. There were 3 Developmental strands where all child participants in NG4 displayed improvement and a further 3 strands where three out of four participants displayed improvement. NG4 was the only NG where collective gain was observed for all child participants on multiple developmental strands.

Over time, all participants in NG4 made positive gains on the strands *Purposeful attention*, *Constructive participation* and *Cognitive engagement*. The combined results suggest that NG4 worked well to improve pupil development across all strand areas, and particularly helped pupils to improve skills that relate to listening and attending to the teacher, showing interest in others and in the world around them, contributing actively to co-operative play with others and becoming better organised.

The pupils displaying the greatest number of strand improvements are C15 and C8, although improvements were found for all participants. The greatest gain on individual strand score was found for three participants across two strands. A percentage point increase of 50 was displayed for C15 on the *Cognitive engagement* strand, and for C17 and C18 on the *Constructive response* strand. In keeping with the findings in the other NGs, the greatest gains were made where the greatest developmental needs were observed at commencement of the study.

In this NG, each child participant displayed negative change on one Developmental strand over the course of the study. All strands where negative change was found were within the second half of the Developmental Profile, which contains the *Internalisation of controls* cluster of strands. Across the four strands where negative change was displayed, the greatest levels of change were displayed on the strands with the highest scores at commencement of the study. Over the course of the study, the number of incidences where child participants in NG4 scored within the AFC range on developmental strands had reduced from 9 at commencement of the study to 7 at conclusion (Table 39).

5.4.2.3 Individual and group diagnostic outcomes

To understand the levels of behavioural functioning for each child participant relative to the AFC range, each child's Diagnostic profile scores were calculated as a percentage of the highest AFC score in the range. The percentage point change over time, between start and

end of study, was calculated to identify positive and negative change for pupils in each NG on Diagnostic strands (Tables 40-42).

Table 40. Diagnostic profile scores at start and end, and change (NG1)

Nurture Group 1															
Strand	Disengaged			Self-negating			Undifferentiated attachments			Inconsequential behaviour			Craves attachment		
	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change
C5	400	600	200	0	100	100	100	100	0	200	500	300	0	0	0
C7	300	400	100	0	100	100	500	0	500	300	100	200	400	200	200
C8	700	1000	300	900	400	500	200	200	0	600	700	100	500	300	200
Strand	Avoids/rejects attachment			Insecure sense of self			Negative towards self			Negative towards others			Wants, grabs, disregards others		
	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change
C5	200	400	200	400	300	100	0	0	0	0	0	0	300	300	0
C7	0	100	100	300	100	200	100	0	100	100	0	100	300	300	0
C8	900	300	600	500	700	200	1100	500	600	600	100	500	400	100	300

Table 41. Diagnostic profile scores at start and end, and change (NG2)

Nurture Group 2															
Strand	Disengaged			Self-negating			Undifferentiated attachments			Inconsequential behaviour			Craves attachment		
	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change
C1	700	500	200	100	400	300	400	300	100	1100	1100	0	200	100	100
C2	0	200	200	0	300	300	0	100	100	100	200	100	0	200	200
C3	300	200	100	400	300	100	300	300	0	1200	1000	200	200	300	100
C4	600	500	100	200	200	0	400	200	200	1300	700	600	400	100	300
Strand	Avoids/rejects attachment			Insecure sense of self			Negative towards self			Negative towards others			Wants, grabs, disregards others		
	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change
C1	200	500	300	1100	700	400	900	900	0	1100	1200	100	300	700	400
C2	0	400	400	200	300	100	100	700	600	200	500	300	100	200	100
C3	600	200	400	700	500	200	400	200	200	1000	900	100	700	700	0
C4	300	400	100	700	700	0	400	200	200	300	200	100	800	600	200

Table 42. Diagnostic profile scores at start and end, and change (NG4)

Nurture Group 4															
Strand	Disengaged			Self-negating			Undifferentiated attachments			Inconsequential behaviour			Craves attachment		
	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change
C15	1000	900	100	900	700	200	1000	800	200	1300	900	400	600	500	100
C16	400	200	200	1000	500	500	900	400	500	300	500	200	800	800	0
C17	1100	500	600	300	400	100	400	400	0	1400	1100	300	0	100	100
C18	400	600	200	500	800	300	900	500	400	1300	900	400	200	200	0
Strand	Avoids/rejects attachment			Insecure sense of self			Negative towards self			Negative towards others			Wants, grabs, disregards others		
	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change	Start	End	Change
C15	1100	700	400	900	1000	100	1500	1200	300	1500	1400	100	700	500	200
C16	300	200	100	900	600	300	500	500	0	100	300	200	600	400	200
C17	700	800	100	500	900	400	600	500	100	800	1100	300	500	500	0
C18	1000	1000	0	1300	1300	0	1400	1000	400	1600	800	800	700	400	300

Description for tables 40-42: Scores at Start & End are shown as % of highest score in average range of competently functioning children in the primary school age range. Change = % point change in score between start and end. Red = negative change, Blue = positive change, Green = score is within average range at start and end.

Diagnostic outcomes across Nurture Groups

Across NGs, the greatest number of Diagnostic profile strands where positive change was observed was found in NG4 (Table 42). In this NG, there were 23 instances of positive diagnostic change for participants, all of which (100%, n=23) were found on strands where the initial pupil score was outwith the AFC range. In NG2 there were 18 strands where positive change was found, of which 100% of strands (n=18) were initially outwith the AFC range (Table 41). In NG1 there were 11 strands where positive change was found, of which 82% (n=9) were initially below the AFC range (Table 40). This shows that, across NGs, in over 96% of instances where pupils made progress in a particular area (Diagnostic strand), a behavioural need had been identified for that pupil at commencement of the study.

When the scores at the end of the study are considered against identified behavioural needs at the start of the study, NG4, where the greatest behavioural needs were recorded at conclusion of the study, also displayed the greatest diagnostic need of child participants at commencement of the study (Table 35). Despite NG4 displaying the greatest number of diagnostic strand improvements, the gains did not bring the Diagnostic scores or more participants to within the AFC range than the other NGs (Table 36). These findings mirror the Developmental profile findings for NG4.

The lowest number of strands on which participant scores improved across the Diagnostic profile were found in NG1. However, this was the only NG where less Diagnostic strands fell outwith the AFC range at conclusion of the study than at commencement. Therefore, the gains that were made successfully brought more scores in this NG to within the AFC range than in the other NGs. In NG2, a greater amount of negative change was found across strands than in the other NGs.

The greatest gain across strands for all NGs was found for C18 (NG4) on the *Negative towards others* strand, one of the highest areas of behavioural need at commencement of the study. This finding demonstrates, along with the results across all participants, and in

keeping with the findings from the Developmental profile, that the greatest gains were made in the areas of greatest need. This result is significant as it confirms that the NGs are able to support children to make progress within areas of specific individual need, with improvements frequently proportionate to the level of need.

Diagnostic outcomes within Nurture Groups

Positive and negative changes on Diagnostic Strands for all child participants (Tables 40-42) are displayed for each NG in Figures 30-32. This allows the percentage point change on strand scores (calculated as % of highest score in average range of competently functioning children in the primary school age range) for participants in each NG to be compared.

NG1

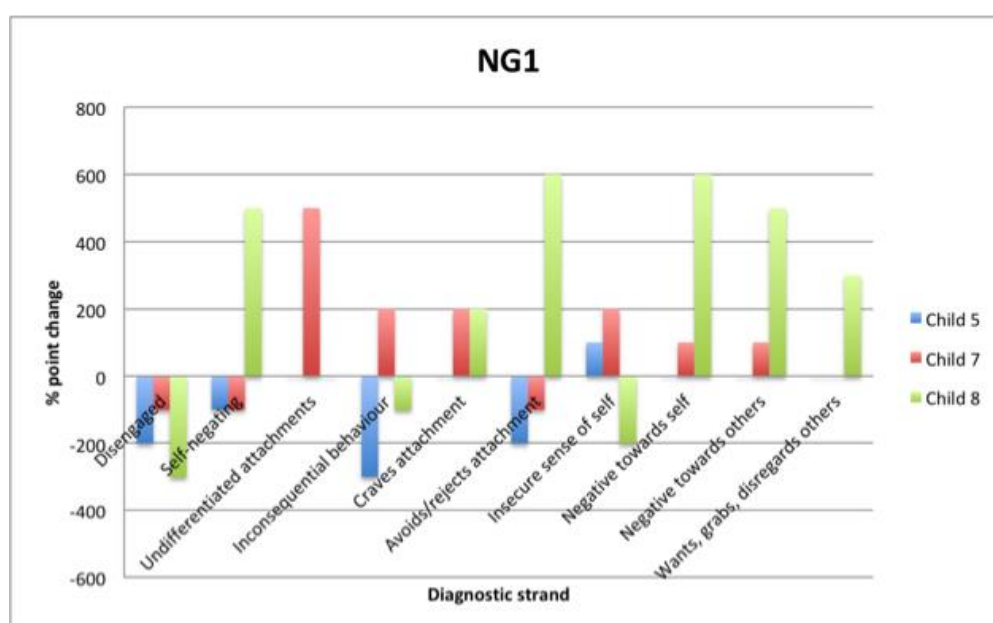


Figure 30. Change in Diagnostic profile scores between start and end of study (NG1)

In NG1 there were 13 instances of positive diagnostic change across participants and 10 instances where the Diagnostic strand score showed negative change. Positive change was found on 6 Diagnostic strands for both C7 and C8 and on one strand for C5. Results varied

across participants and there were no strands where improvement was found for all participants in NG1. The greatest improvement on strand score was on the strands Avoids/rejects attachment and Negative towards self for C8. These strands describe improvements in eye contact and gaze, trust, attitude, mood and physical behaviour.

When gains are compared to level of need at commencement of the study for this NG, C7 displayed the greatest reduction in behavioural need, while C8 also displayed a decreased level of behavioural need at the end of the study. For C7, Diagnostic scores falling outwith the AFC range decreased from 7 at commencement of the study to 3 at conclusion of the study, showing the most improvement for all NG participants (Table 36).

Areas of negative change were found for all participants in NG1, with the greatest negative change recorded for C5 on the *Inconsequential behaviour* strand and C8 on the *Disengaged* strand.

NG2

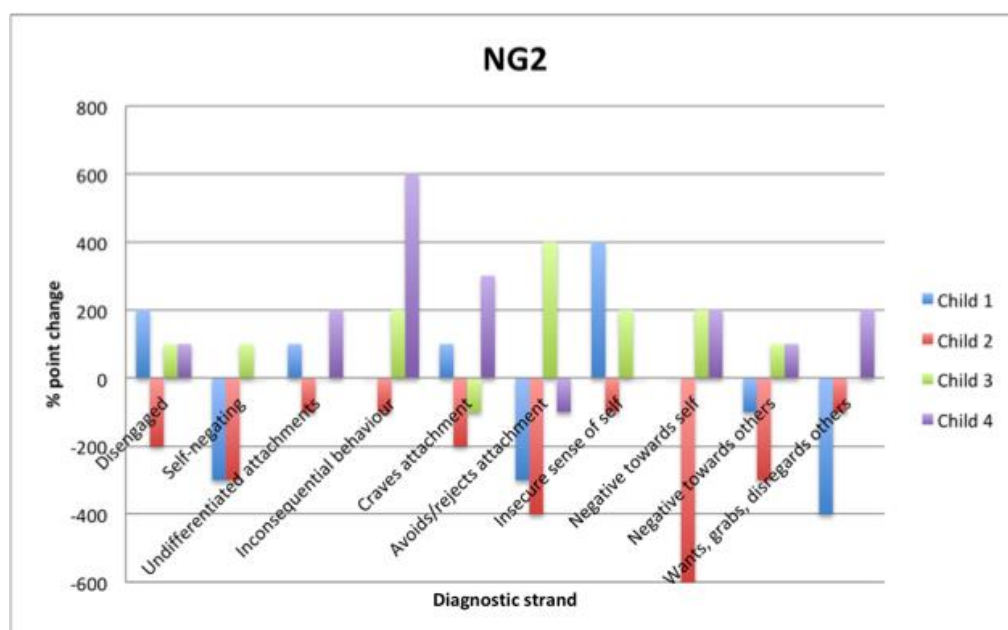


Figure 31. Change in Diagnostic profile scores between start and end of study (NG2)

In NG2, there were 18 instances of positive diagnostic change across participants and 16 instances where the Diagnostic strand score showed negative change. Positive change was found on 7 Diagnostic strands for both C3 and C4 and on 4 strands for C1. There was no recorded diagnostic improvement for C2. The greatest improvement was on the strand *Inconsequential behaviour* for C4. This strand describes inappropriate, boisterous or noisy behaviour and restlessness.

When gains are compared to level of need at commencement of the study for this NG, the areas of greatest improvement correspond with some of the levels of greatest need (Table 41). The strand where the greatest level of improvement is made (C4, *Inconsequential behaviour*) displayed the highest behavioural need (highest Diagnostic score) at the start of the study for this NG.

While most children displayed a range of positive and negative change, C2 (NG2) displayed negative change across all Diagnostic strands (Fig.34) and C5 (NG1) displayed positive change on only one strand (Fig.33). In this NG, the number of strands where negative change was found was almost equal to the number of strands where positive improvement was found. Negative change was recorded on one strand for C3 and C4, 4 strands for C1 and 10 strands for C2. This means that C2 displayed negative change on all Diagnostic strands over the course of the study. C2 was the only participant who displayed a high level of Diagnostic need at conclusion of the study that did not display a high level at commencement (Table 36).

NG4

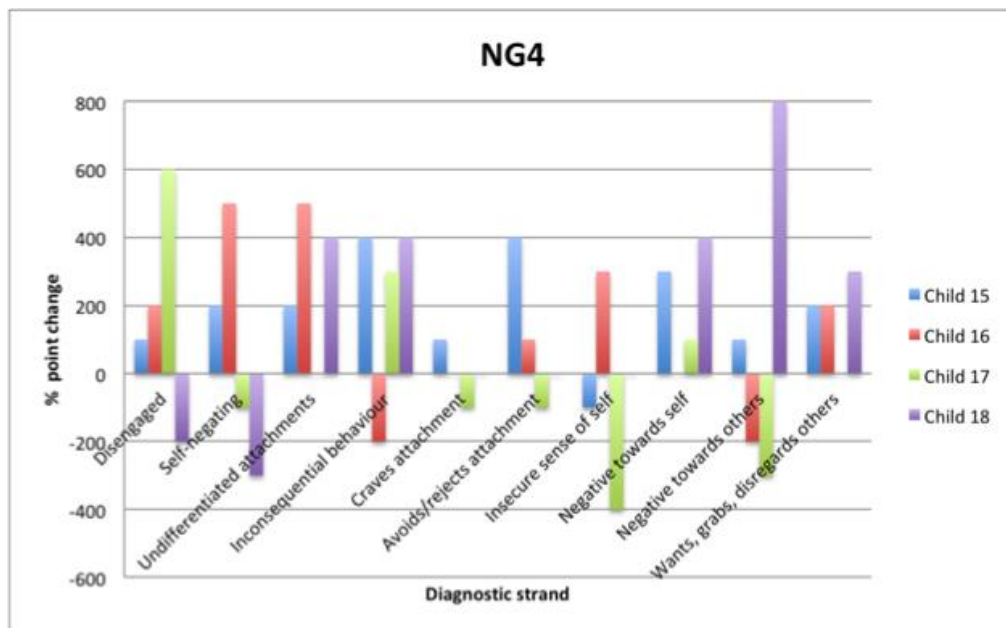


Figure 32. Change in Diagnostic profile scores between start and end of study (NG4)

In NG4, there were 23 instances of positive diagnostic change across participants and 10 instances where the Diagnostic strand score showed negative change. Positive change was found on 9 Diagnostic strands for C15, 6 strands for C16, 5 strands for C18 and 3 strands for C17. High levels of improvement are found for all children across different numbers and type of strand. The greatest gain across strands both within and across NGs was found for C18 (NG4) on the *Negative towards others* strand, one of the highest areas of need at commencement of the study (Fig.35). This strand describes defensive, bullying behaviour with eruptions of temper.

When gains are compared to level of need at commencement of the study for this NG, the areas of greatest improvement correspond with some of the levels of greatest need (Table 42). The strand where the greatest level of improvement is made (C18, *Negative towards others*) displayed the highest behavioural need (highest Diagnostic score) at the start of the study for this NG.

Negative change was displayed, at differing levels, for all children in this NG across Diagnostic strands, with the greatest level of negative change recorded for C17 across 5 strands. There was only one additional strand where the Diagnostic score at conclusion was outwith the AFC range for this NG, however all children in the NG displayed high levels of behavioural need on the Diagnostic profile at commencement of the study.

At conclusion of the study, the Diagnostic needs for child participants in NG3 and NG4 remained high, with all children in the NGs displaying high levels of behavioural need (Table 36).

5.4.2.4 Discussion of findings from investigation of social, emotional and behavioural development for NG participants

This stage set out to identify SEB improvement for child participants over the course of the study. At commencement and conclusion of the study, the BP was completed by the mainstream class teacher for all child participants in NG1, NG2 and NG4. The profiles were based on observations made by the class teacher within the mainstream classroom and are not necessarily representative of NG teacher observations in the NG. The purpose of the BP is to identify areas of SEB need, assist NG teachers to plan intervention, and monitor SEB change over time.

At commencement of the study, the profiles displayed high levels of combined developmental and behavioural need for 6 of the 11 children. The highest levels of SEB need were found in the mixed-age NG in School B (NG4), where all 4 child participants displayed high levels of behavioural need, with 3 of these pupils also displaying high levels of developmental need. One child participant in this NG joined the group at the start of the study, while the other 3 child participants had attended the NG for one term prior to commencement of the study, however this had taken place prior to the summer break. A 2-month gap had therefore been encountered prior to the completion of this BP. High levels of SEB need would therefore not be unexpected or unexplained in this NG.

Levels of need varied across pupils and NGs for each of the Developmental and Diagnostic strands on the Boxall Profile. However, on the Diagnostic profile, scores outwith the AFC range were recorded for child participants across all 4 NGs on the *Insecure sense of self* strand. On the Developmental profile, 10 out of 11 child participants recorded a score outwith the AFC range on the strands *Inconsequential behaviour*, *Disengaged* and *Is biddable, accepts constraints*. These findings describe collective need across pupils relating to variability of mood and behaviour, inappropriate patterns of behaviour, restlessness and the inability to sit still and comply with adult requests.

Areas where pupils were functioning well were also identified at the start of the study. In NG1 and NG2, BP scores showed that child participants displayed a level of emotional security where they could follow the rules of an organised group game, accept disappointments, and show concern and thoughtfulness for other people. Child participants in NG4 were able to recall information of relevance and make constructive links, and communicate a simple train of thought with coherence. Prior to commencement of the study, the pupils in NG1 and NG2 had attended the NG for 3 school terms and 5 school terms respectively. It is possible that during this time, they had learned the skills associated with emotional security from their interactions in the NG.

Over the course of the study, high levels of SEB need remained consistent for all 9 children who displayed high levels of need at the start of the study. In addition, one further child displayed a high level of behavioural need at the end of the study where this has not been recorded at the start. In both NG2 and NG4, areas of collective need for pupils within the NG increased over the course of the study.

The class overview that was used in this study to display the BP scores is adopted from Nurture UK guidance (Nurture UK, 2021). It proves useful as a tool to determine high levels of SEB need for individual pupils and common areas of pupil SEB need within a NG, however it provides a relatively crude measure of change that does not readily identify SEB change

for individual children, including how close, or far away from the AFC range the child is functioning, or where progress has been made towards the AFC range.

Despite SEB levels remaining high, positive gains were made across multiple developmental areas for child participants. A key finding from the examination of individual BP strand scores, when recorded by how close or far away they are to the AFC range of scores, is that in over 80% of instances where pupils made progress on a Developmental strand, the strand had been identified as a developmental need for that pupil at commencement of the study. In NGs where the greatest number of Developmental profile strands showed improvements, the child participants had displayed the greatest amount of developmental need at the start of the study.

However, improvement across the greatest number of BP strands did not bring the scores of more pupils to within the AFC range than in the other NGs. Across child participants, on BP strands where developmental needs were lower at commencement of the study, pupils were more likely to achieve scores within the AFC range at conclusion of the study. This finding highlights the ability of NGs to support SEB development appropriate to pupil need. This finding was consistent across participants and NGs.

Where negative change was reported on BP strands, changes were small and scores largely remained within the AFC range across the term of the study. Negative change was most frequently found on the Diagnostic profile. This profile measures behavioural need and is said to provide insight to the developmental needs of pupils by improving understanding of what lies behind the behaviour. Improvements to the scores on this profile are more difficult to achieve through school-based intervention as many of the difficulties that children encounter are thought to stem from early social and environmental experiences. NGs in primary schools have the benefit of providing a 'catch-all' intervention by supporting children at the first stage of compulsory educational attendance (Primary 1). However, by working solely within schools, they are routinely disadvantaged by remaining distant to the

people and environments in which the children live. Understanding of the long-term benefits of NG attendance is limited by a lack of longer-term studies that show whether gains are maintained over time.

The SEB results for this study contribute to addressing Research Question 1 by identifying areas of social, emotional and behavioural development for child participants over the course of the study. Improvements made were found to be relative to the child's level of development, or level of need, at commencement of the study. Not all of the child participants were new entrants to the NG at the start of the study, and where SEB improvements are displayed the potential for cumulative learning over time should be borne in mind.

5.4.3 Narrative patterns of engagement in social interaction activity

5.4.3.1 *Narrative cycles of social interaction activity within Nurture Group phases*

For each child participant, the NG activity phases of Challenge Time (NG1, NG2 & NG4), Circle Time (NG3), Story Time (NG3) and Free Play Time (NG1, NG2, NG3 & NG4) were studied to identify levels of narrative engagement in social interaction activity. Within each activity phase, the phases of narrative interaction⁴⁴ were identified from observation of video recordings and recorded in Elan by start and end time of the phase. Identified narrative phases were coded for *Introduction*, *Build*, *Climax* and *Resolution* (see Table 35 for coding).

Narrative cycles of social interaction activity were identified where more than one phase of narrative interaction was recorded. Where a narrative phase of *Introduction* was identified

⁴⁴ See Table 34 for description of narrative interaction phases

and this did not progress to a *Build* of interaction during the same activity phase, the narrative was not recorded as a narrative cycle.

Narrative cycles were recorded as:

- *Complete: the narrative includes the phases of Introduction, Build, Climax and Resolution*
- *Incomplete: the narrative includes the phases of Introduction and Build only*
- *Incomplete with Climax: the narrative includes the phases of Introduction, Build and Climax, with no observable Resolution*

This process allowed complete and incomplete narrative cycles of social interaction activity to be identified at the levels of child participant, NG, and NG activity phase.

5.4.3.1.1 Narrative cycles of social interaction activity for child participants

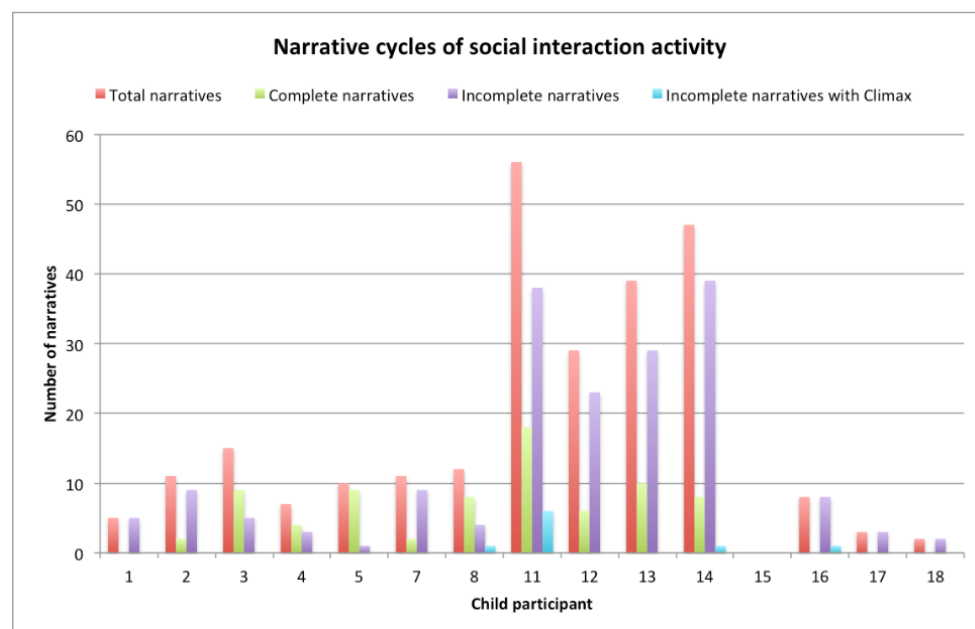


Figure 33. Total number of narrative cycles of social interaction for each child participant and number that are complete, incomplete and incomplete with climax

The total number of observed narrative cycles of social interaction activity for each child varied from a minimum of 0 (C15, NG4) to a maximum of 56 (C11, NG3) (Fig.33). The total number of both complete and incomplete cycles was consistently greater for all child participants in NG3 (C11, C12, C13 & C14) than for participants of the other NGs. Only one child (C15, NG4) did not engage in any narrative interaction.

For 5 children (C1 (NG1), C15, C16, C17, C18 (NG4)) there were no complete narrative cycles of social interaction observed, however, incomplete narrative cycles were observed for 4 of these participants (C1 (NG1), C16, C17, C18 (NG4)). Within NG4, only one participant (C16) engaged in narrative social interaction activity that reached the stage of Climax, although this cycle did not progress to reach an observable Resolution.

5.4.3.1.2 Narrative cycles of social interaction activity in NG phases

The total number of complete and incomplete narrative cycles of social interaction activity were recorded against the NG activity phases in which they were observed, to better understand the circumstances in which they occurred (Figs.34-38).

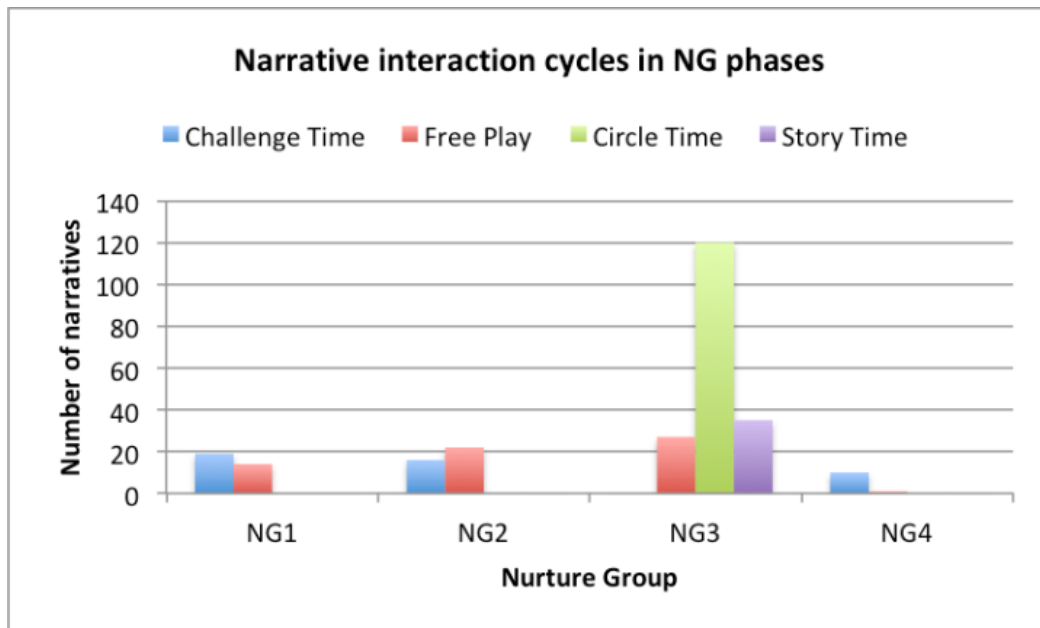


Figure 34. Total number of narrative cycles of social interaction for each Nurture Group during Challenge Time (NG1, NG2, NG4), Free Play (NG1, NG2, NG3, NG4), Circle Time (NG3) and Story Time (NG3)

In NG1 and NG2, narrative cycles of social interaction activity were observed during the NG phases of Challenge Time and Free Play. Narrative social interaction activity was also observed during Challenge Time in NG4, but was not evident in Free Play for this NG (Fig.34). In NG3, where there is no Challenge Time phase, narrative interaction was observed most frequently during Circle Time, and was also found in Story Time and Free Play phases. The number of cycles of narrative social interaction activity observed in NG3 Circle Time phase was four times greater than the highest number found in other phases within this NG.

5.4.3.1.3 Narrative cycles of social interaction activity in Challenge Time phase

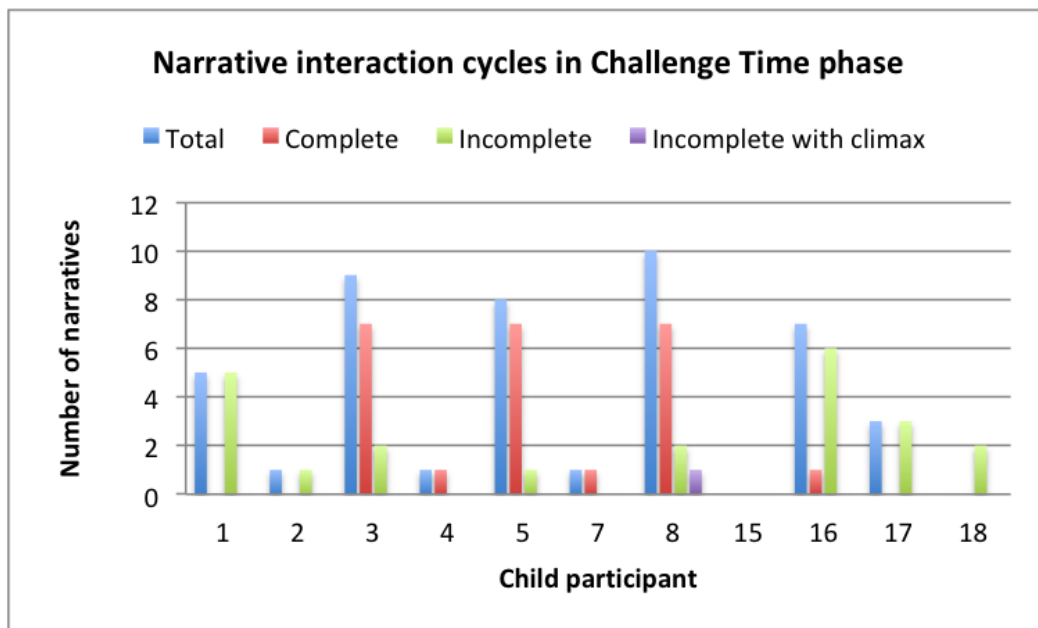


Figure 35. Total number of narrative cycles of social interaction activity for each child participant and number that are complete, incomplete and incomplete with climax, during Challenge Time (NG1, NG2, NG4)

Engagement in narrative cycles of social interaction activity was observed for all child participants in NG1, NG2 and NG4 within the Challenge Time phase, with the exception of C15 for whom no narratives were observed (Fig.35). The total number of narrative cycles for the other ten child participants during Challenge Time ranged from 1 to 10, with the highest numbers found for C8 & C5 (NG1), C3 (NG2) and C16 (NG4). The greatest number of complete narrative cycles was observed for C3 (NG2), C5 and C8 (NG1), while C16 (NG4) and C1 (NG2) displayed the greatest number of incomplete narratives.

5.4.3.1.4 Narrative social interaction activity in Free Play phase

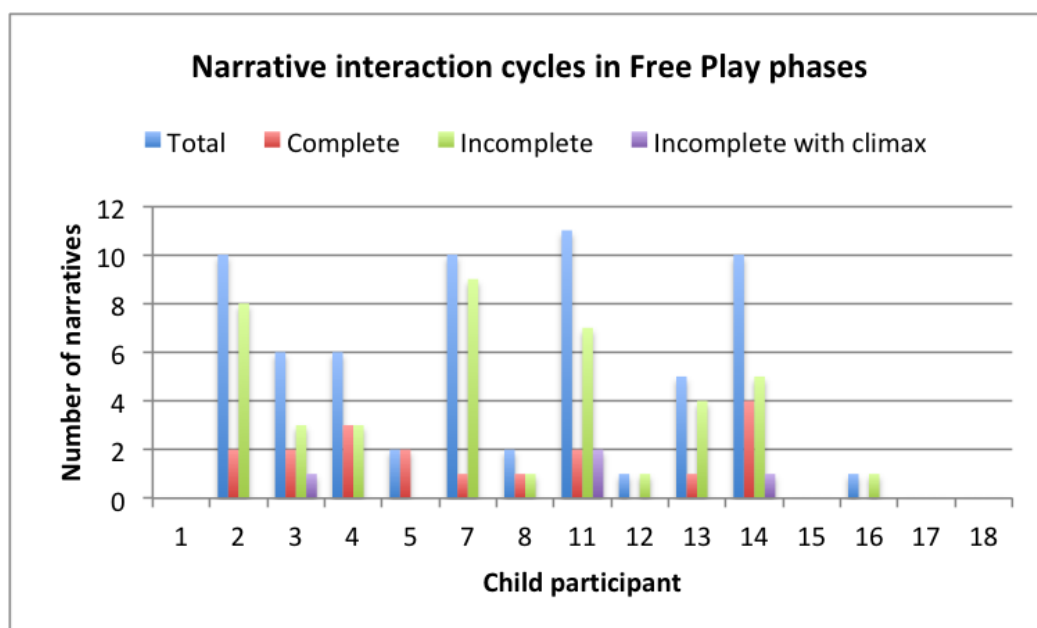


Figure 36. Total number of narrative cycles of social interaction activity for each child participant and number that are complete, incomplete and incomplete with climax, during Free Play (NG1, NG2, NG3, NG4)

Engagement in narrative social interaction activity was observed for 12 of the 15 child participants within Free Time phases (Fig.23). Narrative social interaction activity was not observed during this phase for C15, C17 or C18 (NG4). The total number of narrative cycles for the 12 children where narratives were observed ranged from 1 to 11, showing variation across children and NGs. The highest total number of complete and incomplete narrative cycles across pupils was found for C11 & C14 (NG3). Within the other NGs, the highest total number of narrative cycles was found for C7 (NG1) and C2 (NG1). C12 (NG3) and C16 (NG4) displayed the lowest number of narrative cycles during Free Play phases, with one narrative observed for each.

During Free Play phases, there were more incomplete than complete narrative cycles across all NGs. The greatest number of complete narrative cycles was found for C14 (NG3), while

the greatest number of incomplete narrative cycles was found for C7 (NG1), C2 (NG2) and C11 (NG3).

5.4.3.1.5 Narrative social interaction activity in Circle Time phase

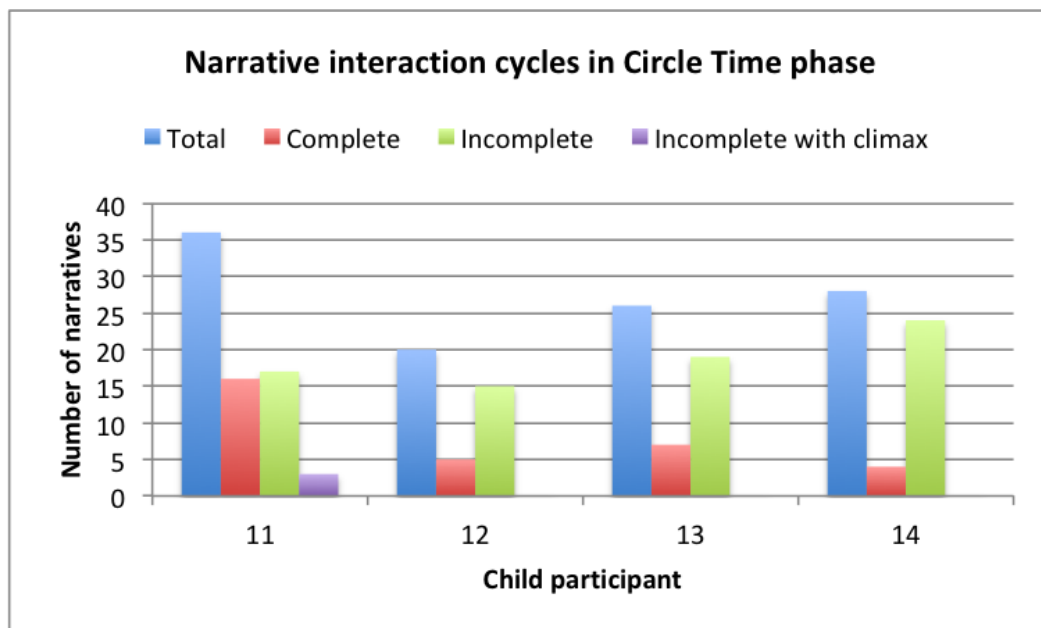


Figure 37. Total number of narrative cycles of social interaction activity for each child participants and nuber that are complete, incomplete and incomplete with climax, during Circle Time (NG3)

Circle Time phase is present only in NG3. Within this phase, narrative cycles of social interaction activity were observed for all child participants of NG3 (Fig.37). The number of cycles varied across participants and ranged from 20 to 36, with the greatest number observed for C11, who also displayed the greatest number of completed narratives.

5.4.3.1.6 Narrative social interaction activity in Story Time phase

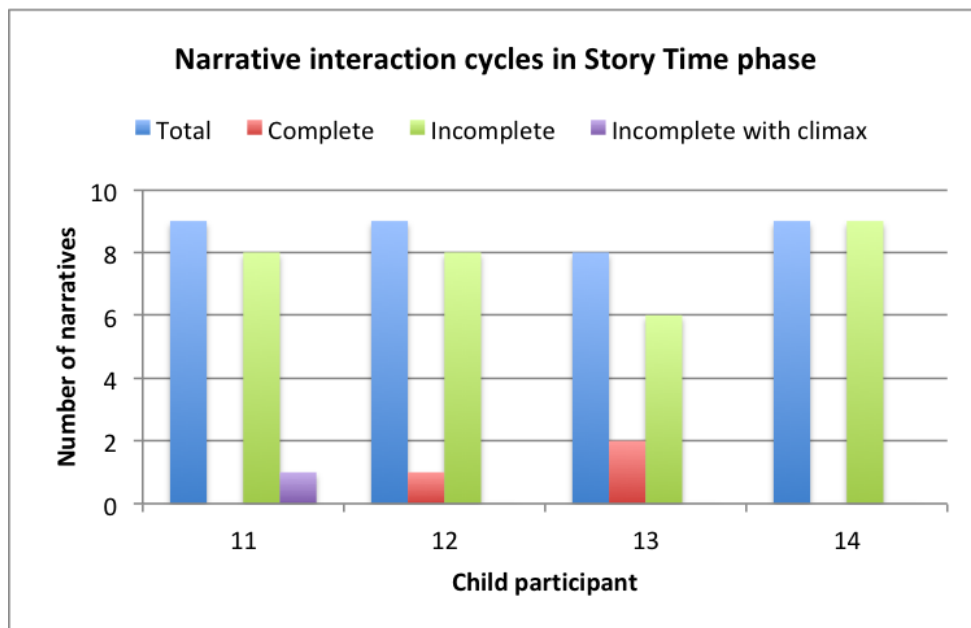


Figure 38. Total number of narrative cycles of social interaction activity for each child participant and number that are complete, incomplete and incomplete with climax, during Story Time (NG3)

Story Time is also a phase that is only found in NG3. Within this phase, cycles of narrative social interaction activity were observed for all child participants of NG3 (Fig.38). There was little variation in the total number of narrative cycles between participants, with 9 observed for C11, C12 & C14 and 8 observed for C13. The majority of the narrative cycles during Story Time were incomplete (n=31), however 3 completed narratives were observed (C13,n=2; C12,n=1). One incomplete narrative that reached Climax was found for C11.

As both complete and incomplete narrative social interaction activity was observed more frequently within certain NG phases and activities, these were examined more closely to establish the elements of NG phases and activities that may give rise to higher levels of narrative engagement. The findings are reported in Section 4.5.3.2 below.

5.4.3.2 Pupil engagement in narrative social interaction during group and one-to-one activity

Within the NG activity phases of Challenge Time, Free Play, Circle Time and Story Time, narrative cycles of social interaction for each child participant were identified by group or one-to-one activity according to the number of participants to the interaction. One-to-one activity included child-child and child-teacher interactions. Group activity was identified where 3 or more pupils or pupil(s)-teacher(s) were involved in the activity. Each activity session involved the observed child's participation in a period of prescribed or non-prescribed activity, where the activity session may contain an individual narrative cycle or multiple narrative cycles of interaction. The total number and number of group and one-to-one activity sessions where narratives were observed for each child are displayed in Figure 39.

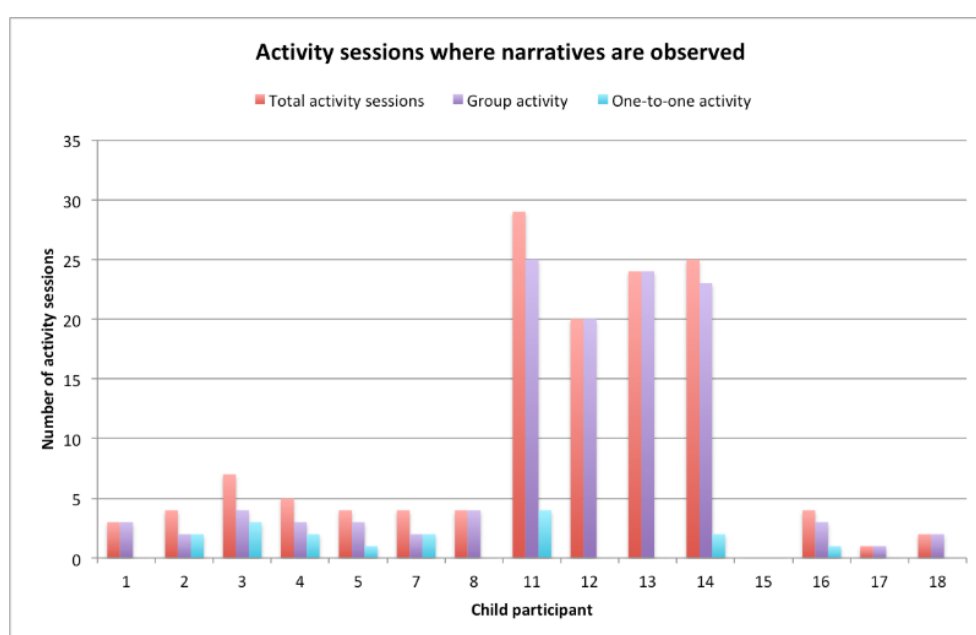


Figure 39. Total number of activity sessions and number of group and one-to-one activity sessions where narrative social interaction activity was observed for each child participant

Narrative cycles of social interaction during group activity sessions were observed for 14 of the 15 child participants (Fig.39). No narrative social interaction activity was observed for C15 (NG4). The greatest number of narrative cycles during group activity sessions was found for C11 (NG3), with all participants in NG3 displaying a higher number of narrative cycles of social interaction during group activity sessions than pupils in the other three NGs.

Narrative cycles of social interaction during one-to-one activity sessions, which included categories of child-teacher and child-child interactions, were observed for 9 out of 15 child participants, spanning all four NGs: C2, C3, C4 (NG2), C5, C7 (NG1), C11, C13 (NG3) and C14, C16 (NG4). There were no instances of one-to-one narrative social interaction activity observed for six child participants across NGs: C1 (NG2), C8 (NG1), C12 (NG3), C15, C17 & C18 (NG4). Across the four NGs, the lowest number of narrative cycles during one-to-one activity were found in NG4, where three out of four children did not engage in any, and C16 engaged in only one. The greatest number of one-to-one narrative cycles was observed for C14 (NG3).

A comparison of narrative cycles of social interaction activity during group and one-to-one activity sessions identified only 2 participants where a greater number of one-to-one than group activity narrative cycles were observed (C2 (NG2) & C7 (NG1)). Seven participants, C3, C4 (NG2), C5 (NG1), C11, C13, C14 (NG3) and C16 (NG4), engaged in a greater number of narrative cycles during group activity than one-to-one activity.

Across the four NGs, narrative social interaction activity was observed during a greater number of activity sessions for each of the child participants in NG3 (C11, C12, C13 & C14) than for the child participants in the other NGs. For participants C1-C8 (NG1 & NG2) and C15-C18 (NG4), the total number of activity sessions displaying narrative interaction varied between 0-7, while for participants C11-C14 (NG3) the number varied between 20-29. C15 was the only participant where there were no activity sessions found to contain narrative social interaction activity. Each of the other 14 child participants engaged in narrative social

interaction during group activity sessions, while eight of these children also engaged in one-to-one narrative interaction.

Where both group and one-to-one narrative interaction was observed, there was a greater frequency of group interaction than one-to-one. Two children, C2 (NG2) & C7 (NG1) engaged in equal numbers of group and one-to-one activity sessions where narrative social interaction activity was observed, while seven children, (C1 (NG2), C8 (NG1), C12 & C13 (NG3) and C15, C17 & C18 (NG4)) did not engage in any one-to-one narrative social interaction activity.

5.4.3.3 Teacher involvement in narrative social interaction activity

Where cycles of narrative social interaction activity were observed, teacher involvement⁴⁵ was identified to establish the frequency of child-child and child-teacher narrative interaction (Fig.40).

⁴⁵ Teacher involvement was determined by the active engagement of a NG teacher in the narrative interaction.

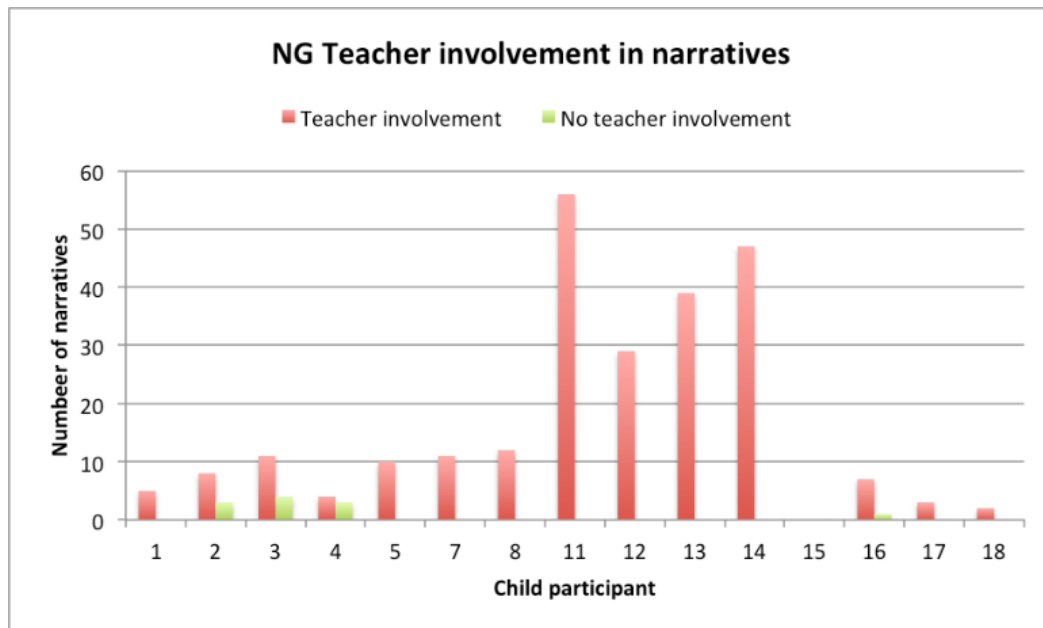


Figure 40. Comparison of number of narrative cycles of social interaction activity for each child participant that include, or do not include, teacher involvement

Teacher involvement in narrative cycles of social interaction activity was found for all child participants, with the exception of C15, for whom no narratives were observed (Fig.40). C11 (NG3) displayed the highest number of narrative cycles with teacher involvement, with higher levels also found for C12, C13 and C14 (NG3) than the other child participants. Of the 15 child participants where narratives were observed, a small number (11 in total) of narrative cycles with no teacher involvement were observed for 4 participants, C2, C3, C4 (NG2) and C16 (NG4). There were no narrative cycles that did not include teacher involvement for 11 of the 15 child participants.

The number of narrative cycles where teacher involvement was observed was greater than the number of narrative cycles without teacher involvement for all children where narratives were observed. C4 (NG2) displayed the least difference in the number of narrative cycles with and without teacher involvement, displaying 4 narratives with teacher involvement and 3 narratives without.

5.4.3.4 *Activities that promote pupil engagement in narrative social interaction*

Across the four NGs, the type of activity taking place within each activity session where narrative cycles of social interaction were observed was recorded for each child participant. From the individual activities (e.g. Snakes & Ladders or Ludo), seven activity types (e.g. Board Game) were derived to describe the nature of activity that was taking place.

Activity types

- Board game
- Story-book
- Card game
- Action song
- Pretend play
- Creative play
- Group active play or activity

5.4.3.4.1 Narrative activity sessions by activity type across Nurture Groups

The number of activity sessions where narrative social interaction was observed was recorded by activity type for each child and is displayed below for each NG (Fig.41).

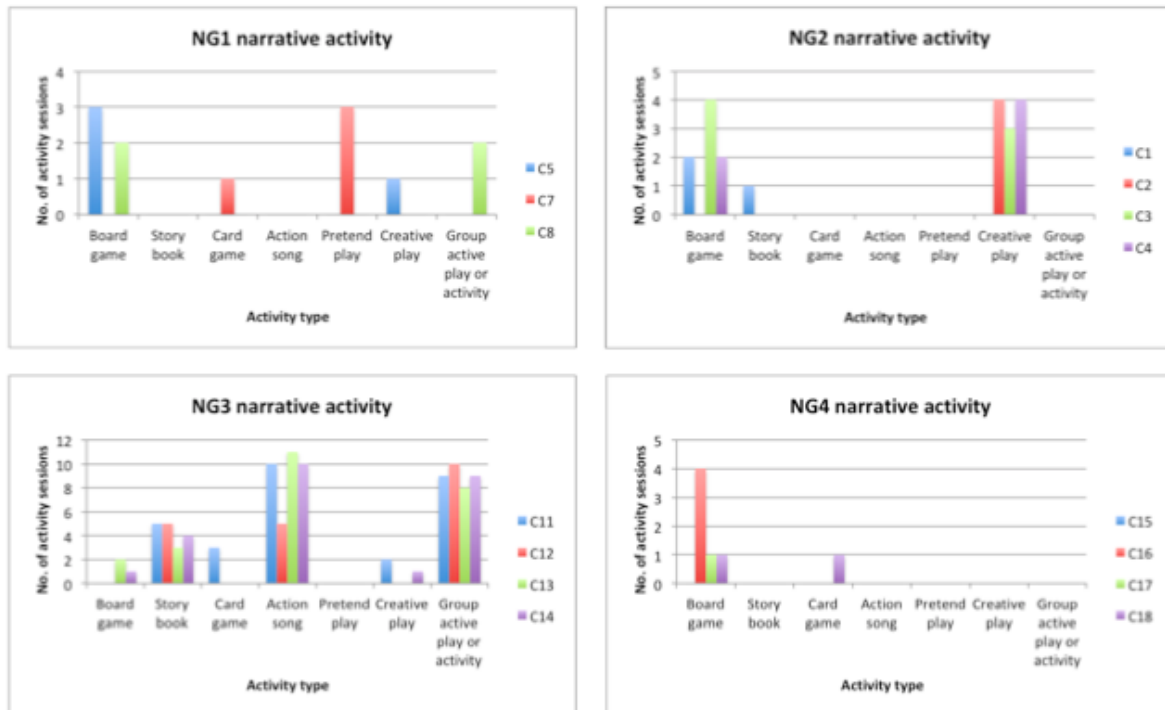


Figure 41. Number of activity sessions by NG where narrative cycles of social interaction activity is displayed for each activity type across Nurture Group sessions by NG

In NG1, NG2 and NG4, there were no activity types where narrative social interaction was observed for all child participants within the NG (Fig.41). However, in NG3 there were three activity types where narrative social interaction was observed for all of the child participants in the NG. These activity types were: *action songs*, *group active play* and *story-book reading*.

For each of the four NGs, the combined total number of narrative activity sessions for all child participants in the NG for each activity type was calculated as a percentage of the total number of narrative activity sessions for all child participants in the NG across the observed sessions (Fig.42).

5.4.3.4.2 Spread of activity types across Nurture Groups

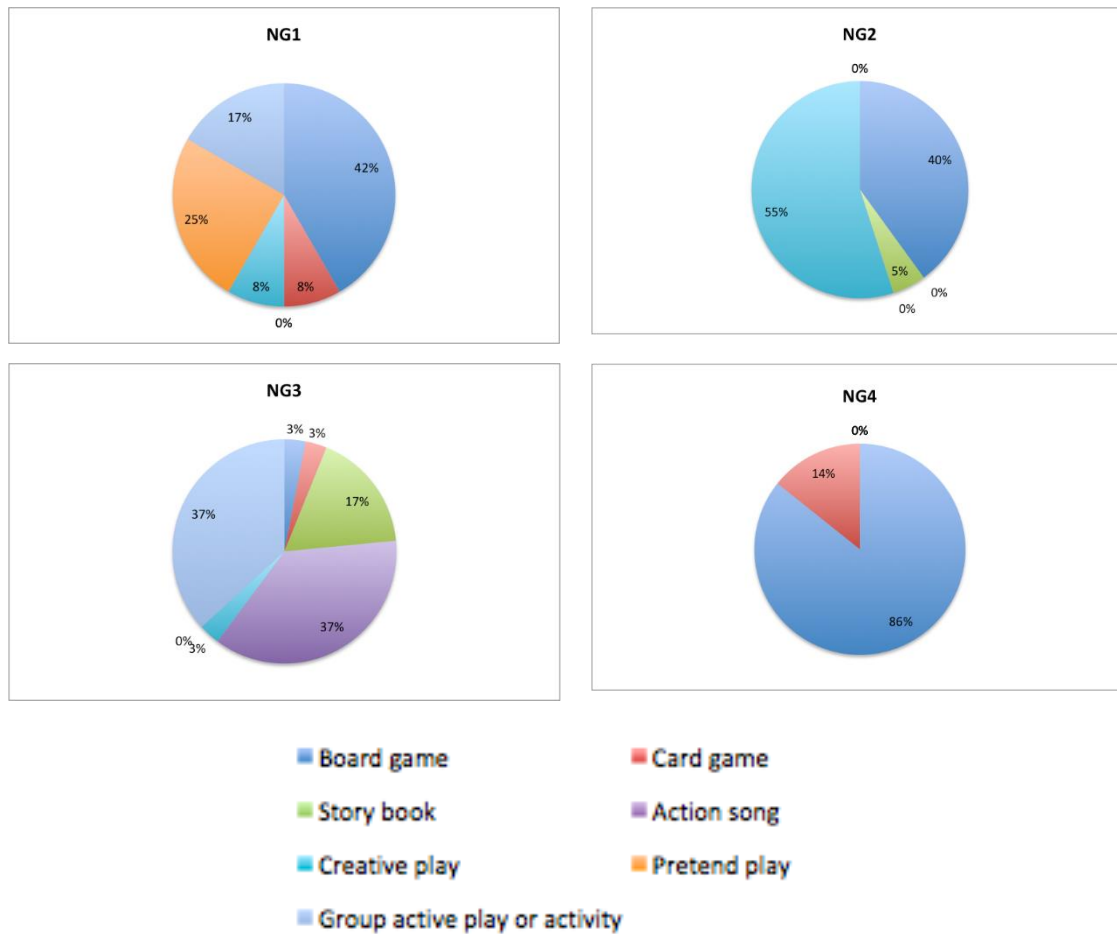


Figure 42. Percentage of total number of narrative activity sessions by activity type for all child participants across NGs

Figure 42 displays the spread of activity types where narrative social interaction activity was observed across the four NGs. In NG1 and NG4, the most frequently observed activity type where narrative social interaction was observed was *board game play*, accounting for 42% of the narrative activity in NG1 and 86% in NG4. Board game play was also a prominent feature in NG2, accounting for 40% of narrative social interaction activity, however within this NG creative play was more frequently observed and accounted for the highest amount of narrative activity (55%). In NG3, which is attended by the youngest children in the study, narrative social interaction was most frequently observed during *action songs* (37%) and *group active play/activity* (37%).

Narrative social interaction activity was observed within a greater number of activity types in the pre-school nursery group (NG3) than in the school-aged groups (NG1, NG2 & NG4). In NG3 there are 6 different activity types in which narrative interaction was found, whereas there are 5 in NG1, 3 in NG2 and 2 in NG4. This shows a decreasing number of activity types that corresponds to an increase in the child age range of the NGs, where the smallest number of activity types is found in the NG with the oldest pupils and the largest number of activity types is found in the NG with the youngest pupils.

The individual activities that were found within each of the seven activity types were studied for each NG to understand the nature of the activity and aspects of interaction between the participants. A written description of the activities for each NG can be found in Appendix M. The youngest children (NG3) engaged in narrative social interaction most frequently during Circle Time activities, such as action songs and group active play/activity. Examples of these activities are, *Derek the Duck*, *Learn 5 Skills* and *Treasure Box* (see Appendix M for description). These activities involved all of the children in the NG sitting in a circle where, to engage in the activity, they must listen to the teacher's instructions, pay attention to the actions of the NG teachers and other children, wait patiently for their turn and then share their action with the other participants when it is their turn.

Other activities where narrative social interaction was observed in NG3 included story-book reading, board games such as *Snails Pace Race* and *Shopping List*, creative play and card games (*Spotty Dog & Ladybirds*). There were two types of board game played, one where the participants played on a shared board and the other where each participant had their own game board. In both cases, the aim was to be the first person to reach the goal by taking turns in the game with the other participants. There were three occurrences of card game play observed in NG3, spanning two types of play. The first type involved matching and counting games, such as *Spotty Dog* and *Ladybirds*, while the second type involved play with hand-held cards in a traditional game of *Snap* between two players.

NG2 displayed the greatest amount of Creative Play during which narrative social interaction activity was observed, such as craft activities, play dough modelling, building construction toys, taking part in group science activities/experiments and doing jigsaws. The activities involved a combination of group and one-to-one activity. Some of the Creative Play took place between two or more children, with no teacher contribution, such as building a construction toy together or creating objects with play dough. During Challenge Time, science and craft activities took place in a group setting with both children and teachers present.

In NG1, children most frequently engaged in narrative social interaction during episodes of board game play, where participants took turns of play on a shared board with a common goal of winning the game. Other activities that were observed in NG1 were card games, group active play, pretend play and creative play. This was the only NG where narrative interaction was observed during pretend play. The pretend play involved multiple instances of narrative interaction between a child and teacher as they played with hand puppets during a Free Play session. The child and teacher each took control of their own puppets, creating their own dialogue and actions for the puppets to interact together. The play took the form of a conversation between the two puppets with the child and teacher taking turns to speak as they moved their puppets. In NG1, group active play is similar to NG3, with all of the NG participants involved in playing together in games such as *Pass the Parcel* and *Dooking for Apples*.

NG4 displayed the least variation in types of activity, with narrative social interaction taking place only in board game play and one instance of card game play, both of which take the same form as within the other NGs.

5.4.3.5 *Quality of pupil engagement in social interaction activity*

The quality of engagement in narrative social interaction activity for all child participants was measured using the Leuven Scales of Wellbeing and Involvement⁴⁶. For each child participant, levels of Wellbeing and Involvement during each narrative cycle of social interaction activity were identified from observation of video recordings, with the highest observed levels of Wellbeing and Involvement recorded for each complete and incomplete narrative cycle. The highest levels of Wellbeing and Involvement for each child participant within each narrative activity session⁴⁷ were recorded and the activity type during which they were observed (Appendix N).

5.4.3.5.1 Extremely High Wellbeing and Involvement levels in complete and incomplete narrative activity

Extremely High levels of Wellbeing and Involvement (score=5) were identified during narrative activity sessions where complete and/or incomplete narrative cycles of interactions were found and this was recorded by NG and activity type (Tables 43&44).

⁴⁶ See Appendix G for the Leuven measures of Wellbeing and Involvement used in this study.

⁴⁷ 'Narrative activity session' describes an episode of social interaction activity that comprises one, or multiple, narrative interaction cycles to create the whole interactive episode.

Table 43. Number and type of narrative activity sessions containing complete narrative cycles of interaction where Extremely High levels of Wellbeing and Involvement (score=5) are observed for focus child

Nurture Group	Extremely High Wellbeing (no. of occasions)	Extremely High Involvement (no. of occasions)	Type of activity displaying Extremely High level of Wellbeing or Involvement
NG1	3	2	Board game Pretend play Group active play/activity
NG2	0	1	Creative play
NG3	6	6	Card game Creative play Group active play/activity Story book Action song
NG4	0	0	None
Total (all NGs)	9	9	

Table 44. Number and type of narrative activity sessions containing incomplete (only) narrative cycles of interaction where Extremely High levels of Wellbeing and Involvement (score=5) are observed for focus child

Nurture Group	Extremely High Wellbeing (no. of occasions)	Extremely High Involvement (no. of occasions)	Type of activity displaying Extremely High level of Wellbeing or Involvement
NG1	1	1	Pretend play
NG2	3	5	Creative play Board game
NG3	1	1	Action song
NG4	0	0	None
Total (all NGs)	5	7	

Across NGs, there were a greater number of narrative activity sessions where Extremely High levels of Wellbeing and Involvement were observed during complete narrative cycles of activity than incomplete. Between NGs, variation was found in the incidence of Extremely High levels of both Wellbeing and Involvement within narrative activity sessions. In NG1 and NG3 there were higher rates of both Extremely High Wellbeing and Extremely High Involvement within complete narrative activity sessions compared to incomplete narrative activity sessions. However, in NG2, there were higher rates of Extremely High Wellbeing and

Extremely High Involvement within incomplete narrative activity sessions compared to complete narrative activity sessions. NG4 did not display any narrative activity sessions where Extremely High levels of Wellbeing or Involvement were observed.

The activity types where Extremely High levels of Wellbeing or Involvement were observed during incomplete narrative activity also displayed Extremely High levels of Wellbeing or Involvement during complete narrative activity. These activities were *Board game*, *Pretend play*, *Creative play* and *Action song*. However, further activity types of *Card game*, *Story book* and *Group active play/activity* were also found to display Extremely High levels of Wellbeing or Involvement during complete narrative activity.

5.4.3.5.2 Combined levels of Extremely High Wellbeing and Involvement

Incidences where combined levels of Extremely High Wellbeing and Extremely High Involvement (scores=5) were found within complete and incomplete narrative activity during narrative activity sessions were recorded by number, type of activity and focus child (Table 45).

Table 45. Number and type of narrative activity sessions containing complete or incomplete (only) narrative cycles of interaction where combined Extremely High levels of Wellbeing and Involvement (score=5) are observed for focus child

Nurture Group	Combined Extremely High Wellbeing & Involvement (no. of occasions)	Combined Extremely High Wellbeing & Involvement during activity sessions with complete narrative cycles	Combined Extremely High Wellbeing & Involvement during activity sessions with incomplete (only) narrative cycles	Type of activity where combined Extremely High Wellbeing & Involvement is observed	Focus Child Participant
NG1	4	3	1	Pretend play Group active play Board game	C7 C8
NG2	1	1	0	Creative play	C4
NG3	4	4	0	Board game Card game Group activity play/activity Creative play	C11 C13 C14
NG4	0	0	0	None	None
Total (all NGs)	9	8	1		

Across NGs, combined levels of Extremely High Wellbeing and Extremely High Involvement during narrative activity sessions were observed on 9 occasions. These Extremely High combined levels were found during *Board games*, *Card games*, *Pretend Play*, *Creative play* and *Group active play/activities* and were observed for 6 of the 15 child participants. There was a higher incidence during activity sessions where complete narrative cycles of interaction were observed, accounting for 8 out of 9 occasions (89% of observed instances) compared to activity sessions where incomplete (only) narrative cycles of interaction were observed.

Between NGs, the number of occasions where combined levels of Extremely High Wellbeing and Extremely High Involvement during narrative activity sessions was observed was greatest in NG1 and NG3. In both of these NGs, combined levels of Extremely High Wellbeing and Extremely High Involvement were observed on 4 occasions. In NG3, each of 4 instances involved complete narrative interaction activity, whereas in NG1, 3 instances

involved complete narrative interaction activity, while 1 instance involved incomplete (only) narrative interaction activity. NG2 displayed only 1 instance of combined Extremely High levels of Wellbeing and Involvement, which was found to take place during complete narrative interaction activity, while in NG4 there were none.

The greatest number of child participants to engage in activity sessions where combined Extremely High levels of Wellbeing and Involvement were observed was found in NG3, for 3 pupils. This compares to 2 pupils in NG1, 1 pupil in NG2 and no pupils in NG4.

5.4.3.5.3 High and Extremely High levels of Wellbeing and Involvement in complete narrative activity

Across NGs, High (score=4) and Extremely High (score=5) levels of Wellbeing and Involvement during narrative activity sessions containing complete narrative activity were recorded as a percentage of the total number of complete narrative activity sessions (Table 46).

Table 46. Percentage of narrative activity sessions containing complete narrative cycle(s) of interaction where High (score=4) and Extremely High (score=5) levels of Wellbeing and Involvement are observed for focus child

Nurture Group	% narrative activity sessions - Extremely High Wellbeing	% narrative activity sessions - High Wellbeing	% narrative activity sessions - High or Extremely High Wellbeing	% narrative activity session - Extremely High Involvement	% narrative activity sessions - High Involvement	% narrative activity sessions - High or Extremely High Involvement
NG1	30	70	100	20	80	100
NG2	27	73	100	45	55	100
NG3	18	82	100	18	82	100
NG4	0	0	0	0	0	0

On all occasions where activity sessions contained completed narrative cycles of interaction, High or Extremely High levels of Wellbeing and Involvement were observed (100% of narrative activity sessions). This finding was consistent across NGs 1-3. NG4 did not record any instances of completed narrative interaction activity. Also consistent across NGs 1-3, was the recording of a higher number of instances where narrative activity sessions were found to contain High levels of Wellbeing and Involvement for the focus child compared to Extremely High levels.

Variations were found between and within NGs in the incidence of High or Extremely High levels of Wellbeing and Involvement. In NG3, High or Extremely High levels were consistent across Wellbeing and Involvement scores, whereas in NG1 there was a greater amount of Extremely High Wellbeing compared to Involvement, and in NG2 there was a greater amount of Extremely High Involvement than Wellbeing.

5.4.3.5.4 High and Extremely High levels of Wellbeing and Involvement in complete narrative activity

Across NGs, High (score=4) and Extremely High (score=5) levels of Wellbeing and Involvement during narrative activity sessions containing incomplete narrative activity were recorded as a percentage of the total number of incomplete narrative activity sessions (Table 47).

Table 47. Percentage of narrative activity sessions containing incomplete (only) narrative cycle(s) of interaction where High (score=4) and Extremely High (score=5) levels of Wellbeing and Involvement are observed for focus child

Nurture Group	% narrative activity sessions - Extremely High Wellbeing	% narrative activity sessions - High Wellbeing	% narrative activity sessions - High or Extremely High Wellbeing	% narrative activity sessions - Extremely High Involvement	% activity sessions - High Involvement	% narrative activity sessions - High or Extremely High Involvement
NG1	50	50	100	50	50	100
NG2	0	67	67	11	44	55
NG3	1	65	66	1	48	49
NG4	0	57	57	0	29	29

Consistent with the findings for narrative activity sessions containing complete narrative cycles of interaction, High or Extremely High levels of Wellbeing and Involvement were observed for all narrative activity sessions in NG1 (100% of narrative activity sessions). However, in NGs 2-4, the findings were not consistent. Across NGs 2-4, High or Extremely High levels of Wellbeing were observed for between 57-67% of all narrative activity sessions, and High levels of Involvement were observed for between 29-55% of all narrative activity sessions.

In NGs 2-4 there was a much higher incidence of High, compared to Higher, Wellbeing and Involvement levels, whereas in NG1 the split between High and Higher Wellbeing and Involvement levels was equal. NG4 did not contain any incidences of Extremely High levels of either Wellbeing or Involvement, and where High levels were found the incidence was greater for Wellbeing (57%) than Involvement (29%). NG2 and NG3 also displayed greater instance of High Wellbeing levels than High Involvement levels during incomplete narrative activity.

Across NGs, it is clear that where narrative social interaction is observed in activity sessions, levels of pupil Wellbeing and Involvement are consistently high. Combined High or

Extremely High levels of Wellbeing and Involvement are more likely to be found during complete cycles of narrative interaction within activity sessions than incomplete narrative cycles.

5.4.3.6 Discussion of findings from investigation of narrative patterns of engagement in social interaction activity

The investigation of narrative patterns of engagement in social interaction activity aimed to contribute to addressing Research Questions 2 and 3 by identifying the opportunities and conditions in which attuned social interaction develops within NGs. Furthermore, this phase of the study aimed to contribute to addressing Research Question 1 by identifying the partners who contributed to building these social interactions together and the quality of the engagement.

Across four observed NGs, the greatest number of narrative cycles of social interaction activity was found in NG3 when compared to the other NGs at both group and pupil level. NG3 was attended by the youngest participants in the study, drawn from the pre-school nursery classes, with pupils in the age range 3-4 years. Across the remaining NGs, lower levels of narrative interaction at both group and pupils level was found. NG4 was the only group where narrative cycles of social interaction activity were not observed for all pupils in the group. This was the only mixed-aged NG in the study and narrative interaction was lower than in any of the other NGs. The youngest pupil in this group did not engage in any narrative social interaction. This NG also took place in a different school and with different NG staff to the other three NGs. NG1, NG2 and NG3 took place in the same room within the same primary school and were staffed by the same teachers.

Variation was found between child participants in the number of narrative interaction cycles in which they engaged. The children in NG3 (C11, C12, C13 & C14) engaged in a greater number of narrative interaction cycles across NG sessions than children in the other NGs. Only one child did not engage in any narrative interaction during the observed NG sessions

(C15, NG4). This child was the youngest participant within NG4, although not the youngest participant in the study, and displayed the greatest level of need on BP measures across all participants at commencement of the study. The BP scores for C15 recorded the highest possible levels of SEB need on both Developmental and Diagnostic profiles. C15 commenced NG attendance at the start of this study, joining a NG where the other child participants had previously attended the NG for one term in the preceding school year, and the high level of need and new entry to the NG may go some way towards explaining the lack of narrative engagement.

Some consistency was found in the number of narrative interaction cycles between participants in NG1 and NG2. Similarities between NG1 and NG2 could be explained by the NGs operating in the same school and with the same NG teachers. These NGs follow the same model of practice and have many similarities, such as the same number of pupils, and offer the same types of activity. In NG2, where the children are older than NG1, there were a slightly greater number of narrative interaction cycles. The children in NG1 and NG2 had also been attending the NGs for the longest duration of time, with all child participants in NG1 having attended for six terms by the end of the study and in NG2 for eight terms. No similarities or differences were apparent that related to child gender.

Across NGs, the greatest number of narrative interaction cycles were found to take place during Challenge Time (NG1, NG2, NG4) and Circle Time (NG3). These NG phases have similarities, whereby they involve a group of children and teacher(s) coming together in a prescribed group activity session that is a regular feature of the NG and takes place towards the beginning of each NG session (Figs. 36-39). This type of narrative interaction was observed for all child participants, with the exception of C15 for whom no narrative interaction was observed. The total number of narrative interaction cycles found during Challenge Time activity was greatest in NG2, with almost twice as many found in this group as in NG4. Variations in the number of Challenge Time and Circle Time narrative interaction cycles were found between NGs and child participants. However, during Circle Time, which could be viewed as the NG3 version of Challenge Time, all child participants in NG3 engaged

in at least twice as many narrative interaction cycles as any child participant in Challenge Time within NGs 1, 2 & 4.

Engagement in narrative cycles of social interaction activity was found for 12 of the 15 child participants within the Free Play phase across the observed sessions. No narrative interaction was found within this phase for C15, C17 or C18, all of whom attend NG4 and only one cycle of narrative interaction was observed for C16, the remaining child participant in this NG. This was thought to reflect the nature of the activities that were observed during NG Free Play phases within the different NGs. Three child participants (C7, C11, C14) were found to engage in around twice as many narrative interaction cycles during Free Play as any other child. Story Time phase was present only in NG3 and within this phase, engagement in narrative social interaction was observed for all child participants. Within Story Time, the number of narrative interaction cycles proved to be consistent across participants. These findings contribute to Research Question 2 by identifying differences in narrative interaction across NGs, participants and activities.

Narrative social interaction activity largely included the involvement of one or more NG teachers, and featured most predominantly during group board game play, action songs, story-book reading and group active play. However instances of child-child interaction were observed for four children. Three of these children attended NG2 and engaged in narrative social interaction with their peers during creative play, where pupils worked together to build construction toys or play-doh models. These children were all aged 8 years (Primary 2) and had been attending the NG for the greatest length of time, having commenced NG attendance during their pre-school year.

Across the four NGs, the children in NG3 participated in a considerably greater number of both complete and incomplete narrative cycles, and within these, higher levels of Wellbeing and Involvement were observed during complete narrative cycles than incomplete. In NG2 the levels of Wellbeing and Involvement were also greater during complete narrative cycles,

while in NG1 there was no variation, however this result may be impacted by there only being one incomplete narrative observed in this NG. NG4 is the only NG where Extremely High levels of Wellbeing and Involvement were not observed for any of the child participants. This NG displayed the lowest number of narrative cycles of social interaction activity and was the only NG where all of the observed narrative cycles were incomplete. These findings contribute to Research Questions 1 and 2 by identifying where and how high quality learning engagement takes place in the NG, through cooperative engagement in tasks, supported by child and teacher relational behaviours and experiences.

5.4.4 Conclusions from Phase 2 of the study

The NGs observed in this study provided opportunities for children to engage in co-constructed, embodied and affectively-attuned social interaction episodes that are thought to facilitate meaning-making through the development of regular narrative structures of interaction. These narrative social interactions were found in NGs that displayed consistent structure, routine and companions. The NGs displayed structure, routine and rhythmicity on multiple levels (Fig.43), that are recognised by their narrative structure and patterning.

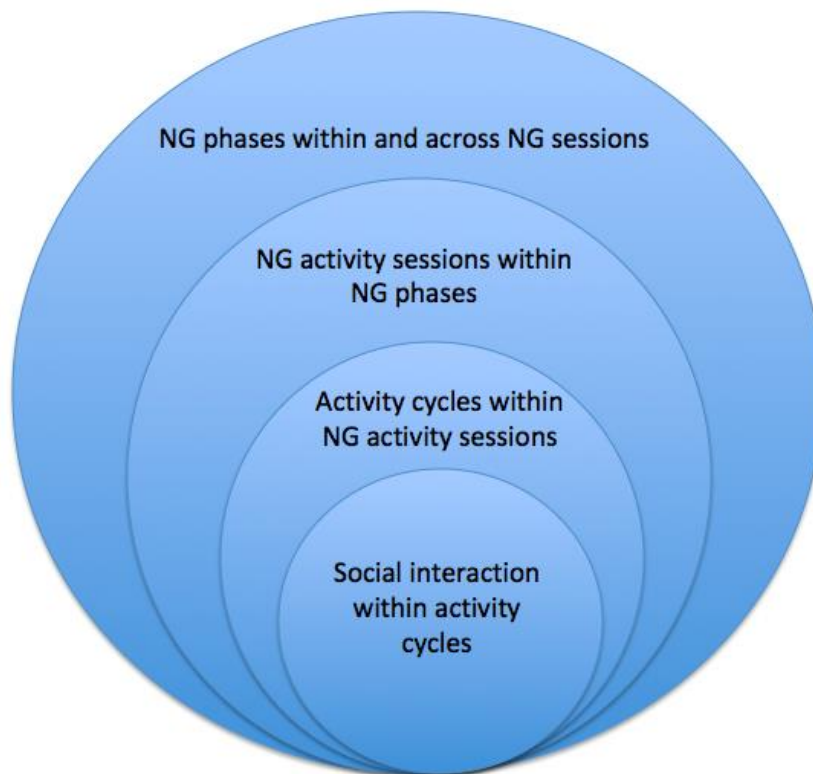


Figure 43. Levels of narrative across and within NGs

Stage 1 of the study identified properties of narrative social interaction within one-to-one and small group activity between the case study child, and teacher and child companions, in the NG. Individual and multiple narrative cycles of social interaction activity were observed within NG activity sessions, such as board game play and reading a book together. Properties of narrative social interaction, identified in Stage 1, provided a focus for observational study of 15 child participants across 4 NGs in Stage 2 of the study. With this focus in mind, phases of narrative were identified through observation of social interaction episodes. Narrative interaction between child participants and partners in the NG were found to take place within cycles of activity, such as a rounds of a game, that were contained within activity sessions, e.g. the complete game involving multiple activity cycles. In turn, these activity sessions took place within phases of NG activity, such as Challenge Time or Circle Time. At a wider level, the NG phases were contained within the overarching structure of the NG sessions, where narrative patterning was observed both within and across sessions.

The NGs were found to provide consistent structure, routine and predictability where children could quickly learn what to expect. Relationships could develop with NG teachers and peers within the safe and affective nature of the NG and the interactions therein. During narrative social interaction activity, the quality of interaction and experience provided opportunities for children to engage in deep-level learning where they can make meaning of their experiences and cognitive gains can be made. The processes described here and displayed in the observed NGs are thought to assist children's engagement with school learning.

The NGs were able to work with each child at their own stage of development and provide tailored intervention, informed by the teachers' intuitive or learned understanding of the intersubjective nature of infant development, where pupils and NG teachers mirror parent-infant engagement. In the observed NGs, pupils made the greatest improvements in the developmental areas of greatest need, however it is proposed that BP measures do not adequately capture the cognitive gains that are made, relying almost exclusively on behavioural measures of development.

These findings are discussed in the following chapter and contextualised within the existing NG literature. Each discussion section leads to the presentation of conclusions that the researcher has drawn from the findings.

6 DISCUSSION AND CONCLUSIONS

This chapter brings together the key findings from this study to address the research questions, discuss their relevance for NG research and practice, draw conclusions and present implications for research, policy and practice. The limitations of the study are reflected on and presented.

6.1 Research Questions 1 & 2

RQ1: What child and teacher relational behaviours and experiences are observed in the Nurture Group that assist socio-emotional development and learning engagement, and how might these inform understandings of the relationship between attachment-related and inter-subjectivity-related theoretical explanations of SEB improvement?

RQ2: How does the Nurture Group intervention support children's regulation of action and emotion in co-operative engagements with others in tasks, and how might this build affective, attuned and trusting relationships?

6.1.1 Building positive relationships with others in shared projects of social interactive learning activity

Successful NG outcomes have been largely attributed in the NG literature to the building of positive relationships between NG pupils, teachers and peers (Shaver & McClatchey, 2013; Billington, 2012; Cefai & Cooper, 2011; O'Connor & Colwell, 2002). The findings of this study support current understanding of NG teacher practice that contributes to the development of positive relationships (Cubeddu & MacKay, 2017; Bani, 2011) and extends this to develop understanding of children's contributions. In doing so, this thesis builds on findings from Cooper & Tiknaz (2005) that highlight interpersonal relationships as a key component of

active participatory engagement in NGs, where learning was co-constructed between teacher and pupil. Analysis in this thesis, from three episodes of child/teacher interaction in two NGs, identified commonalities in the ways in which projects of social interaction activity were co-created between child and teacher. Analysis of data for fifteen NG pupils in four NGs across two primary schools identified that the same type of social interaction projects were present within activity phases in each of the NGs. Within these projects, narrative patterns between NG pupils and their partner(s) were observed that resemble those found in affectively-attuned mother-infant interaction (Trevvarthen, 1983; Trevvarthen & Delafield-Butt, 2013a), with child and partner each contributing to the co-creation of a shared project of social interaction.

Children were able to build friendships and companionable relations with pupils and NG teachers through the many social interaction opportunities within the NG activity phases. The study identified many opportunities within the NG for pupils to engage in social interactive learning with others. In the observed NGs, these interactions were found to take place within specific NG activity phases, where opportunities existed for both solitary and social play and learning experiences. Certain NG phases were designed to promote small group and one-to-one interaction between pupils, teachers and peers. In the observed NGs these phases were described as *Welcome Time*, *Challenge Time*, *Circle Time*, *Snack Time* and *Free Play*. Within these activity phases, *Challenge Time*, *Circle Time* and *Free Play* provided the greatest opportunity for pupils to engage in short projects of social interaction where positive relationships can be developed that support pupil's engagement with learning.

In the individual case study (Chapter 3), detailed analysis of Boxall Profile measures showed that Child 6 made the greatest developmental gain on the *Insightful Involvement* strand, which had displayed one of the greatest areas of need at commencement of the study. An increased score on this strand describes an improved ability to manage emotions, display curiosity and interest, and develop reciprocal companionable friendships. These friendships were evident in researcher observations in the NG and in the development of peer-to-peer engagements.

Also evident was the building of positive relationships between pupils and NG teachers (Billington, 2012; Cooper & Tiknaz, 2007; Reynolds, 2009). This was more evident in the NGs in School A (NG1, NG2 & NG3) where the NG teachers engaged in a greater level of narrative social interaction activity with the child participants during one-to-one and small group interaction. The highest levels of teacher participation were found in NG3 which was attended by the youngest children. In this NG, Circle Time, Story Time and Free Play phases all provided multiple opportunities for children to engage in narrative social interaction activity with teachers and peers. The activities routinely included all of the children and both NG teachers in active play that consisted of many cycles of narrative social interaction. These short narrative cycles of interaction, such as singing an action song, or playing an active game, were short enough to hold the child's attention and scaffolded by the NG teachers to maintain the children's interest. There were frequent displays of attunement of action and emotion that give rise to positive and trusting relationships, such as is found in mother-infant relationships.

Within all of the NGs, the sessions displayed routine and predictability in their duration, structure and pupil and teacher presence. Micro-analysis of interactions revealed the reliability and rhythmicity of body movements and responses, along with rising and falling intonation of NG teacher voice that is typical of 'motherese'. Boxall describes relating to a pupil intuitively, as a mother would to her child (Boxall, cited in Cline, 2004) and this is recognised in the pupil-teacher engagements where complete narrative cycles of interaction are observed. By providing the safety features of a reliable and familiar environmental and reliable attuned relational practice, NGs provide safety that fosters connection to school, staff, peers and self, where children can explore with curiosity. By mirroring the intersubjective experience of infancy, children who have encountered a disrupted developmental trajectory can learn to re-shape their coping mechanisms that interfere with relational learning.

6.1.2 Development of narratively attuned intersubjective cycles of meaning-making

The NGs in this study provided an environment where intersubjective interaction could flourish. Each of the activities during which narrative social interaction was observed involved the active participation of the partners to the activity in doing something together. A key ingredient of narratively ordered and attuned interaction within the observed NGs is the affectivity of the child-teacher interaction, where both child and teacher work together, and with others, to co-regulate actions and emotions as they share motivation for accomplishment of a shared goal. The findings from this study support findings from Cubeddu & Mackay (2017) that NG teachers use 'attunement principles' more consistently and more frequently than teachers in mainstream classes. One of these principles, 'developing attuned interactions', was evidenced as a key component within NG teacher practice and NG pupil engagement in this study. Attuned social interactions in the NG were found to be co-created between NG pupils and teachers. Importantly, the NG pupils were not passive recipients, but active partners in the observed interactions, bringing their actions and emotions to join in a shared endeavour of partners working to achieve a shared goal.

Consistent with research findings from infant-parent dyads (Trevarthen, 2003), children's meaning-making within the NG was found to be co-created between the NG child and willing partner(s) in shared projects of activity where verbal communication was not a requirement of success. NG pupils and teachers communicated in narrative projects of co-operative engagement through a repertoire of body movements, eye gaze and facial expression. The findings in this study support and expand research carried out by Flewitt (2003) that illustrates the ways in which 3-year old children construct and express meanings through non-verbal communication during co-constructed child/adult and peer dyads and in small adult-led groups, concluding that shared meaning-making in young children is not dependent on verbal communication. Flewitt (2003) evidenced social, communicative and cognitive aspects of learning through non-verbal communicative exchanges in pre-school

children that correspond to those found in co-created narrative projects of social interaction activity in pre-school and primary school children in this study.

6.1.3 Experiencing pride and joy in achievement that promotes self-confidence through repeated social interaction activity

In the NGs, where actions lead to successful achievement of a goal, this was routinely marked with emotion and action, such as a 'whoop' of joy, a broad smile, throwing hands in the air, or a sharp intake of breath. Where projects of activity were successfully completed and goals were accomplished, a sense of joy was evident for the NG child that was shared with and reciprocated by the other NG participants. Such feelings of joy come with a sense of pride in a successfully completed task that can bring a desire for repetition, such as that observed in the playful activities of toddlers and nursery school children, who are often found to excitedly cry "*Again! Again!*" with enthusiastic eagerness to repeat a joyfully completed activity (Featherstone et al., 2008).

In the NG, the activities available to the pupils are limited so as not to overwhelm them with choice and this assists repetition, with pupils frequently returning to the same activities that they have successfully completed before. In this way, they become familiar with the rules and expectations and their confidence increases with each successful completion of a game. Conscious repetition of successfully accomplished actions is present from birth and was recognised by child psychologist Mark Baldwin as 'circular reaction', consciously generated in infancy to produce particular action patterns. As the child develops, the importance of circularity remains. Piaget introduced the concept of 'schemas' to explain regular patterns of activity in child development (Piaget, 1953; 1954). These schemas are evident as a concept of teacher education (Meade & Cubey, 2008; Nutbrown, 2008) and are of particular relevance in early years education practice. Children learn pleasure in the success of these 'schemas' and share them with others, thereby co-creating shared understanding (Trevarthen & Delafield-Butt, 2015).

The narrative patterns of social interaction in NGs evidenced in this study can be viewed as schemas of a kind. These 'processes' of regular and rhythmic co-operative action are repeated and with repetition comes learning. The NG narrative interactions are imbued with emotion, rhythm and action, that brings rich social value and affective and cognitive meaning. In the case of the child descending the stairs (see 2.4.1.1), it is probable that the child retained in memory the successfully completed activity and on a future occasion walked down the staircase on his own, counting the steps as he did so. Or the child who played the 'Connect 4' game (see 3.4.4.2), played on a later occasion with a different partner, maybe another child, remembering the rules and with confidence in his ability to successfully complete the game play. Through such repeated encounters, marked with success and pleasure, children learn to function in socially acceptable ways (Delafield-Butt & Adie, 2016).

NGs are founded on the principle that by re-enacting in the nurture room the early learning experiences that usually take place before the age of three years, children identified with SEBN can progress through stages of social and emotional learning that they have missed in infancy, and that this social and emotional development will provide the foundation that is required for them to learn in the mainstream classroom (Boxall & Lucas, 2010; Boxall, 2002). Within this, an important element that can be forgotten in school, when academic skill comes to the fore of teaching aims, is the role of young children's joy in embedding learning processes in memory (Delafield-Butt & Adie, 2016). NGs that successfully engage children in attuned narrative projects of social interaction appear to have embedded a form of 'schema' learning in their practice that positively impacts on pupil outcomes. The NGs observed in this study enable a variety of social projects where pupils learn how to interact in the culture of a co-operative society, creating between them a small 'community of learners', representative of the model described by Rogoff (1994). Such learning allows the child to engage with others and with the experience of learning, creating the desire and ability to draw on their newly acquired skills to achieve future goals.

Narrative projects of social interaction in the NG were found to develop primarily in teacher-led small group activity, such as playing a board game or sharing a story-book, where social engagement is organised in regularly patterned units of narrative meaning-making. The project elements resemble the intersubjective engagement processes that are found in mother-infant dyads (Trevarthen & Aitken, 2001; Trevarthen 2018); Trevarthen 1998), however in this instance the same processes are observed in a small group of peers and NG teacher(s). The skill of the NG teacher(s) is paramount to successfully maintaining the contribution and regulation of action of all partners to the interaction through affective and co-operative engagement.

Colwell & O'Connor (2003) established that positive verbal and non-verbal communication from NG teachers was associated with improved self-esteem in NG pupils. The narrative projects of social interaction that were observed in this study confirms this finding, with teacher attuned interaction that involves most frequently non-verbal communication, contributing to positive emotion in NG pupils that is shared with companions to the activity. Shared narrative engagements enable children identified with SEBN to experience success and joy through the achievement of shared goals with others (Delafield-Butt & Adie, 2016). Within the NGs, small group activity was equally as successful as one-to-one activity in supporting the development of narrative cycles of attuned engagement and this provides important learning for educational policy and practice. Indeed, within the observed NGs, such attuned engagement was observed between NG pupils, teacher(s) and peer(s) more frequently in small group activity than one-to-one interaction.

6.1.4 Children's engagement as active partners in their own learning within a familiar and supportive community of learners

Within the observed shared narrative interactions, the NG pupils were importantly found to be active partners in the process and not passive recipients. In this way, the child's development takes place through the process of 'transformation of participation', where learning comes about through the participants "transforming roles and understanding in the

activities in which they participate” (Rogoff, 1994). This understanding shifts concepts of school learning from thinking of children as receivers of the transmission of knowledge, to understanding the child’s active role in their own learning. Although the social interaction projects observed in the nurture room are largely teacher-led and structured, this does not mean that they are one-sided actions whereby an active teacher transmits knowledge to a passive learner. The projects are co-constructed by active participants, whether that is one child and one teacher, or a small group of children and teacher(s), together building trust in their relationship through repetitive and shared actions of movement and emotion, acting together independently and as one to make meaning of the interaction (see Chapter 5 for examples).

Learning requires a hierarchy of levels of organisation of action, arousal and interest, such as those found in child-teacher narrative interaction (Delafield-Butt & Adie, 2016). The requirements of attention, affect regulation, cognition, and energy to create were observed in both teachers and NG pupils, bringing new awareness of pupil role that was not evidenced in current NG literature. The rich social and affective dimension of NG interaction allows trusting relationships to develop, where pupils learn patterns of acceptable social interaction and engagement, thereby assisting their relationships and helping them to make friends.

Knowledge from this study of the ways in which learning in the NG is structured in units of meaning-making can assist teaching practice, providing understanding of ways to engage children through attunement of feeling and body movement, thereby generating companionship as the basis of learning in shared projects of discovery. Within this study the transfer of children’s knowledge and skills outwith the NGs was not studied. The Boxall Profile scores, completed by the mainstream class teacher at the end of the study, suggest that an element of transfer was achieved, however it is not possible to know if this resulted from NG attendance or whether it was maintained. Implications for practice are discussed later in this chapter.

Research finding 1

Nurture Groups assist the socio-emotional development and learning engagement of pupils by providing opportunities for affective, embodied engagement in social learning projects with companions, creating successful communities of learners.

6.1.5 Deep-level learning experiences within narrative cycles of affectively-attuned social interaction activity

This study identified an association between narrative cycles of interaction and pupil Wellbeing and Involvement, by which the quality of the interaction and children's learning may be measured. Social interactions between NG pupils and teachers that displayed completed narrative cycles of attuned engagement were found to display higher levels of Wellbeing and Involvement (as measure by the Leuven Wellbeing and Involvement scale) than interactions where narrative cycles were incomplete.

High levels of Wellbeing are representative of feelings of ease and displays of vitality, spontaneity and self-confidence (Laevers, 2000). High levels of Involvement are said by Laevers (2000) to be closely allied to a 'state of flow' (Csikszentmihayli, 1979, cited in Laevers, 2000) that features concentration as one of the predominant characteristics. This 'state of flow' or 'involvement' is usually achieved by children through play in which they are open to relevant stimuli to produce perceptive and cognitive awareness that cannot be achieved in other types of activity (Laevers, 2000).

In the NG, high levels of involvement are achieved where there is regulation of action and emotion and co-operative engagement in learning tasks. Such involvement produces a flow of energy within the body that manifests in feelings of satisfaction through fulfilled experience and understanding reality and can only occur when the activity undertaken matches the child's capability. The narrative projects of interaction that were observed in the NGs suggest that where completed cycles of narrative activity are evident, such as those

found in attuned teacher-pupil engagement during specific activities, children are in a state of flow where they are fully immersed in the experience. It is in these moments that deep-level learning is said to take place (Laevers, 2000).

The narrative engagements observed in this study took place within an environment created by the NG teachers that facilitated learning and development through their approach, resonating with NG environments described by Colwell & O'Connor (2003). The NG environments found in this study, where attuned narrative engagement in learning was found, were often, although not always, teacher-led (in that the NG teacher dictates and leads the activity, such as during Challenge Time), and were always teacher-scaffolded (where the NG teacher supports the child's learning through skilled practices), however the engagements were always co-created between teacher and child. The measures of Wellbeing and Involvement provided measure of the quality of the environment and learning experience and within the observed NGs this was found to be greatest during attuned narrative social interaction between the child and their companion(s).

Where pupils experienced success in their NG interactions, there were frequently observed exclamations, such as 'whoops' of joy, throwing hands in the air, sharp intakes of breath, and broad shared smiles with companions. These mark pupil's experiences of success and it is suggested that along with these exclamations come internal thoughts such as 'I did it'. 'I can do it', 'I achieved it' and 'I'm happy.' The externally proclaimed exclamations were shared with others in the NG and it is probable that some of the internal feelings, or stories were shared too through the state of affective engagement. With this comes a sense of pride in achievement that is thought to relate to the building of self-confidence and self-esteem. This matches suggestions by Colwell & O'Connor (2003) that self-esteem is developed by NG pupils in a climate where the child feels safe and valued.

This study did not set out to measure the SEB improvements of pupils, as the aim of the study was to investigate the process of change, rather than the effects of the intervention.

However, Boxall Profiles completed by classroom teachers were collected for all of the NG pupils to provide contextual information for the study. It was expected at the outset of the study that it would be possible to identify the BP strands where particular NGs were effecting change or to identify a relationship between the narrative patterns of social interaction of NG pupils and their BP scores. In other research studies, BP scores are used as a measure of SEB improvement and are often reported at group level which was not appropriate for this study that was concerned with NG individual pupil's experiences.

On comparison of the Boxall Profile results and the narrative patterns of social interaction for child participants, no clear pattern to pupil's improvements on the Developmental Profile were found and greater developmental gains were not found for pupils who displayed greater narrative engagement. In one NG where none of the children displayed completed narrative cycles of engagement, the pupils were found to make similar SEB gains as in groups where completed narrative cycles of engagement were evident. Further investigation of the BP measurement revealed differences in the development that is measured with the BP and the type of gains that are thought to be made during affective narrative engagement. It is proposed that during periods of attuned narrative engagement in social interaction, the deep level learning that takes place during this type of involvement, or state of flow, enables higher-level right-hemispheric brain development that is not measured by the social and emotional observations of the BP. This is where regulation of emotional states that lead to the development of positive attachment are thought to take place.

A significant finding of this study is that where narrative cycles of engagement were complete, there were also consistently high levels of Wellbeing and Involvement observed in all NG pupils. The conclusion that can be drawn from these findings is that NGs provide opportunities for social interaction between pupils, teachers and peers, that foster deep level learning and meaning-making through affectively-attuned engagement, allowing higher-level cognitive development to take place (Schorer, 2000b).

This finding fills a gap in the NG evidence about how NGs work to achieve positive outcomes for vulnerable pupils. It also raises questions about how success is measured. The BP records teacher observations of social, emotional and behavioural functioning, paying attention to the skills of social competence that are required for classroom learning, such as listening with interest, complying with teacher requests, maintaining acceptable behaviour and managing their own personal needs. It is proposed that such measurements conform to a behaviourist model of learning, where levels of development are measured by compliance with classroom structure. The researcher proposes that NGs succeed by working with pupils at their own stage of development, where the learning style conforms to the child, rather than the child conforming to the learning style. The findings from this study suggest that NGs are providing developmental opportunities for pupils that are not currently being measured.

These findings raise questions about the concept of 'school-readiness', particularly relating to the ways in which children's readiness for school is measured. This thesis has identified and furthered understanding of the ways in which deep-level learning can be promoted in school-aged children through engagement in embodied social interaction activity that displays non-verbal communicative exchange(s) between partners. Verbal communication, while forming an important aspect of children's future development, should not provide the primary foundation on which developmental progress is measured and NGs are well-placed to support children's learning in small classes where non-verbal interaction is both valued and supported.

The findings also confirm that children with SEB needs recognised on the Boxall Profile can be supported to learn in mainstream schools where an environment that is suitable for their needs is provided. High levels of Involvement or state of flow as observed for the child participants in this study are not dependent on the child's level of development or their behavioural characteristics (Laevers, 2000).

Placing value on a concept of school readiness constructs an artificial boundary between home/nursery and school. However, as displayed in the NGs, if the boundaries are taken away and the learning environment is structured to meet the child's needs, then any child can be supported to thrive in the school environment. It is suggested that educational policy and practice often places value on children's cognitive development without providing the environments in which such development can be fostered. It is only by supporting children's social and emotional development that the foundations for cognitive development can be achieved. Nurture Groups provide an effective environment where both SEB and cognitive development can flourish.

Research finding 2

Social interaction projects that display completed cycles of embodied narrative interaction activity between Nurture Group pupils and staff promote high levels of Wellbeing and Involvement and a state of Flow that supports learning.

Research finding 3

Current Nurture Group measures of SEB functioning using the Boxall Profile do not capture aspects of higher-level right-hemisphere brain development that are supported by Nurture Groups.

6.2 Research Question 3

RQ3: What is the reliability and predictability of the Nurture Group experience and how does this impact on the development of secure attachment relationships and on the Nurture Group's capacity to meet children's needs?

6.2.1 Structure, routine, patterning and rhythmicity displayed in Nurture Groups

Within NG literature, the routine and predictability of NGs is commonly referred to as a feature of the successful running of the groups (Colley, 2017; Lucas, 2010; Cooper & Whitebread, 2007), however the predictability, rhythmicity or patterning of the groups has not been well evidenced in current research and links to NG outcomes are tentative. This study was able to evidence not only the regular structure and routine of the NGs, but also the patterning and rhythmicity that is evident in the narrativity of the NG. All of the observed NGs displayed routine and predictability, however they did not all display consistent narrative patterning. Different NGs were found to display different narrative patterns at the levels of NG session, NG phase and individual child. Where completed narrative patterns of engagement were displayed, higher levels of involvement related to the quality of the environment were found.

No evidence was found that children's SEB outcomes were dependent on the routine and predictability of the NG, however as all NGs in this study displayed levels of routine and predictability and there was no control group, the design of the study did not lend itself to drawing such conclusions. Most importantly, in NGs where regular narrative patterning of NG structure was more clearly defined, there was clear evidence that children engage in a greater level of narrative interaction (and therefore meaning-making) in embodied and affective social engagements that support learning. Effects are proposed, however it is not possible within the parameters of this study to make concrete correlations.

NGs were found to employ 'chunking' of learning by breaking each NG session into smaller manageable 'chunks' of time. Children are able to make sense of learning tasks when they are broken down into smaller, more manageable tasks, with each smaller task being experienced as a 'project' with its own identifiable beginning, middle and end. In this way, young children can approach a larger task that may at first appear unmanageable, by successfully working through a series of stages, or project units, that are experienced as

individual positive achievements, coming together to create a larger, completed project. (Delafield-Butt & Adie, 2016). Engagement in this form of learning instils confidence in the child with each positive achievement building on the one before to enable them over time to accomplish more complicated tasks that require a higher level of social, motor and cognitive skill (Delafield-Butt & Adie, 2016).

Within the NGs, a hierarchy of levels of action were found, rather like a set of Russian dolls, where small units of action, arousal and interest (e.g. actively taking a turn in game) were embedded within greater projects of social interaction (e.g. playing a game together). In turn, these interactive projects sat within NG phases of activity that sat within the overarching NG session. The routine and regulation of activity sessions was assisted by short periods of transition that fell between the activity phases. Towards the end of each activity session, the NG teachers routinely prepared the children for transition to the next activity by counting down the time (e.g. 5mins, 3mins, 1min until [named activity]), allowing the pupils to prepare for endings and beginnings.

The NGs studied were structured in a consistent way, operating on the same day each week, in the same room within the school and facilitated by regular staff. The NGs were found to provide regular phases of familiar activity, where the phases followed a regular order with a short transition between each phase. Chunking of time and activity was evident, with small elements of action sitting within greater projects of interaction that in turn sat within the wider activity sessions forming the overarching NG session. Consistent narrative patterning was displayed across NG elements, phases and sessions. Opportunities for deep level learning were found to take place within NGs that had the most consistent structure, routine and teacher involvement. A relationship between reliability, predictability and SEB outcomes was not established in this study.

Research finding 4

Embodied, narrative engagement in learning activity is found where Nurture Groups display consistent structure, routine and teacher involvement.

6.3 Discussion of theoretical implications of the findings

NGs are afforded various theoretical explanations, the most central of which is Attachment Theory (Bowlby, 1969/1982). Current understanding and explanations for the effectiveness of NGs rely primarily on the theories of both Bowlby (1969/1982) and Vygotsky (1978), thereby positioning NGs as an ‘attachment intervention’ that helps NG pupils who are ‘stuck’ at a stage of development below their chronological age, and often below the age of 3 years, to build relationships (attachments) with NG staff, allowing pupils to move through the normal stages of development and ‘catch-up’ with the ‘competently functioning child.’ The notion that children become ‘stuck’ at an earlier stage of development and need to ‘catch up’ with the ‘competently functioning child’ have been promoted in the writing of NG founders Marion Bennathan and Marjorie Boxall (see Bennathan & Boxall, 2000; Bennathan & Haskayne, 2007). It is suggested that NGs in fact work to address children’s barriers to learning by providing the conditions where they can learn at their own stage of development. As such, it is not helpful to describe pupils as ‘nurture children’ as this suggests a deficit within the child. Neither is it helpful to situate NG practice within a culture of blame, where parents are made to feel that they are the cause of some sort of deficiency within their child.

Nurture Group teaching and practice is trauma informed, recognising the Boxall Diagnostic Profile as a window into the child’s world. The Diagnostic scores are used to gain insight to the causes of the child’s developmental needs, which are often social, environmental and relational. Children who are referred to NGs may live in families affected by poverty, deprivation and stress (Boxall, 2000) and teacher understanding of adverse childhood experiences, trauma and the social determinants of health provides them with the ability to see the reasons for the child’s needs or behaviour and plan suitable strategies of support.

NG literature widely attributes the success of NGs to the attachment relationship that develops between child and teacher and suggests that the development of a secure attachment between child and teacher ameliorates and/or repairs the effects of insecure

attachment in the earliest stages of development (Seth-Smith et al., 2010; Boxall & Lucas, 2010; Cooper & Tiknaz, 2005). It is proposed here that in NGs, Attachment and Intersubjectivity work in tandem to promote SEB improvements and engagement with learning. Within the NG, positive attachments can be developed to others and to school/the classroom. Attachment to school fosters socio-emotional benefits that have effects on school relationships and engagement with learning (Geddes, 2006).

Aspects of Attachment theory are useful to explain the reasons behind the SEB needs of children who are referred for NG intervention. Such children are often found to have experienced disrupted family relationships in the earliest years of life and may display behaviours associated with attachment difficulties. However, Bowlby's theory falls short of providing understanding of the mechanisms of change by which NGs achieve successful outcomes for children. Hughes and Schlosser (2014) describe a process whereby NG teachers provide a safe base for children, thereby allowing them to build secure attachments that enable the rewriting of internal working models. This description feeds into the notion that by building attachment to NG teachers, the effects of poor attachments in infancy can be repaired. In this study, Attachment needs were not evidenced for all children, however there was evidence that NG attendance helped pupils to form positive companionable relationships with NG teachers and peers and engage in positive social interactions in small group and one-to-one activity.

Cortina and Liotti (2010) describe the relationship between Attachment and Intersubjectivity that has been explored in psychoanalytic and developmental literature within the last decade and advance understanding of the distinctions between the Attachment features of security and protection and the Intersubjective features of affect sharing and validation. They propose that the ability to successfully integrate the developmental trajectories of Attachment and Intersubjectivity in infancy relies on both the quality of the infant/caregiver relationship and the ability of the caregiver to affectively respond to the infant as an autonomous agent. It is proposed that Attachment and Intersubjectivity work in tandem on different motivational levels, where intersubjective

motives become active under more general conditions than attachment motives, which display a more intense quality fuelled by the intrinsic need for safety and protection (Cortina & Liotti, 2010). It is unclear whether this is the case, or whether, as Stern (2004) suggests, they sit side by side on the motivational system, however agreement is consistent between developmental theorists (for example, Stern, Trevarthen, Tomasello) that Intersubjectivity promotes group functioning and cohesion (Cortina & Liotti, 2010).

A hierarchical motivational system, where intersubjectivity operates as a higher-level function, and attachment functions in the lower-level social system (Cortina & Liotti 2010), supports assertions within NG theory and Trauma Informed Practice that adverse or disrupted relational experiences in infancy can affect advanced intersubjective abilities, such as sharing and cooperation that result in behavioural or wellbeing concerns. It is suggested, however, that this is not the same in reverse, i.e. that disrupted intersubjective experience does not necessarily affect lower-level interpersonal systems such as attachment (Cortina & Liotti, 2010). If this is indeed the case, such understanding would support the proposal of the researcher in this study that (as in the example of the Case Study child), a child may have a positive attachment experience in infancy, yet also have disrupted intersubjective experience (with resulting developmental and behavioural concern displayed in their Boxall profile) that can be ameliorated by tailored NG intervention.

Providing further advanced theoretical understanding of Marjorie Boxall's observations and intuitive practice in the early NGs, Fonagy has demonstrated that attachment-related trauma has a negative influence on the higher-order function that allows the storing of attachment-related experiences in memory (Fonagy et al., 2002; Bateman & Fonagy, 2004).

When applied to NGs, these theoretical understandings show that the assertion that NGs allow pupils to work through stages of development that have been missed in infancy by forming new attachment relationships within the NG that are based on the security features of attachment that act to repair poor infant attachment are misleading. Aspects of NG

literature have interpreted this theoretical position to mean that children who have poor attachment relationships with their caregiver are supported by the development of a new attachment relationship with the NG teacher (Boxall & Lucas, 2010). Where this is promoted in relation to the lower-level attachment system (security and protection), the position fails to recognise the important role of higher-level cognitive processing (storing in memory and meaning-making) that are facilitated by the intersubjective sharing of affect and are essential for the development of secure attachment (Stern, 1985). In NGs, the safety features of attachment, which may be to people or school, provide the foundation for the development of intersubjective experience with companionable others. The researcher suggests that intersubjective experience is often overlooked in NGs as a process that operates outside the attachment system (Schorer, 2021) and enables the meaning-making and cognitive processes that support the creation of knowledge (Trevorthen & Delafeld-Butt, 2013a). It is suggested here, that this system could also support the embedding of knowledge that is required for the transfer of learning and children's attachment to school.

It has been suggested that the more educational elements of NGs could be better understood by reference to Vygotskian theory (Garner & Thomas, 2011). Examples of practice from the NGs observed in this study describe the ways in which expert adults (NG teachers) contain, regulate and negotiate meaning and knowledge with less expert children (NG pupils). These narratively organised interactions, found to be commonplace in NG practice, provide new understanding of the components of learning and teaching within the Zone of Proximal Development described by Vygotsky (1978).

NG intervention provides opportunities for children to learn in a small class of up to ten pupils with two members of staff. Individual interventions for pupils are created to match their stage of development, informed by the child's Boxall Profile assessment. Learning takes place within the child's Zone of Proximal Development where NG staff scaffold pupil learning in regular, structured episodes of small group and one-to-one social interaction activity that display narrative form. This structured and scaffolded learning bears similarities to the process of guided participation, described by Rogoff (1990), where the adult provides

instruction while ensuring that the child remains active in the process of learning and solving problems, with a gradual transfer of responsibility taking place from adult to child.

Meeting the child at their own stage of development and working at the child's own pace, the NG interactions offer a particular, sensitive teacher attunement to the rhythms and feelings of children that helps to encourage their active participation, sense of agency and successful accomplishment through narrative episodes of co-created meaning-making. These affectively-attuned social interactions were found to contribute to the essence of successful NG practice, displaying a form of effective NG process that this study set out to investigate.

From the inception of NGs over 50 years ago, there have been huge advances in the understanding of child development that are not fully represented in NG literature. The intuitive NG practice that was promoted by Marjorie Boxall, where NG practitioners were advised to treat children in the NG as a mother would treat their own child, still holds strong, yet is now provided the benefit of new theoretical understanding of the mechanisms and importance of affectively-attuned relationships for optimal emotional wellbeing and development. However, Marjorie Boxall's intuition as a psychologist and mother, or the intuition of a specially trained NG teacher, may not be the same as every teacher or practitioner's intuitive understanding. It is therefore crucial that staff working in early level education and care are appropriately trained in child development and nurturing principles and practice that includes updating learning about Intersubjectivity (Trevvarthen, 1979, 1998, 2012b; Trevvarthen & Aitken, 2001; and Companionship (Trevvarthen, 2005c). Let us explain and name what is now known to improve NG research, policy and practice.

Concluding theoretical position

Nurture Groups provide a unique intervention whereby attachment and intersubjective experience work in tandem to support SEB development and engagement with learning for vulnerable pupils as active agents within a community of learners.

6.4 Conclusions

The study set out to investigate the processes and experiences that facilitate improvements in social and emotional development and engagement with learning for pupils attending NGs in primary schools. The results of the study reveal areas of importance that improve understanding of NG processes and mechanisms of change, and highlight areas where further research should be focussed.

The study identified key opportunities for pupils to engage with learning in particular NG phases and activities through affectively attuned social interaction activity with NG teachers and peers. These interactions display regulation of actions and emotions within narratively-structured projects of interaction that provide the foundation for deep level cognitive learning. The learning, when scaffolded by specially trained NG staff, meets pupils at their own level of development and takes place within the pupil's Zone of Proximal Development.

6.4.1 Limitations of the study

The findings from the study build on previous research to progress understanding of the processes that underpin NG efficacy. However, the limitations of this study are recognised. The study was conducted with a small population, involving two schools, four NGs, seven NG staff and sixteen NG pupils, in one local authority area. The pupils attended the NG for one weekly session of sixty to ninety minutes duration in small classes of between four and six pupils. Accordingly, the results cannot be generalised to the entire population of NGs, NG pupils and NG staff.

The observational methods employed in the research, including the observations made by the researcher both in the NG and from viewing the video recordings provide a level of subjectivity to the findings. While triangulation of data was employed to mitigate these effects, it is acknowledged that the observations of another researcher may not elicit the

same results. A level of subjectivity is also contained within the Boxall Profile scores provided by the class teachers, which may vary if they were completed by a teacher with a different level of understanding of child development, or different worldview.

The data that was collected for this study did not include observation of all child participants during all NG sessions over the course of the study. As such, the findings relate to the sessions that were observed for each child and it is possible that if different sessions had been observed, the findings would not have been the same. However, as the results for individual participants and NGs displayed a level of consistency across the observed sessions, the researcher proposes that the findings from the observed NG sessions are reflective of the wider range of NG sessions attended by the participants.

The vast amount of data collected and the time constraints of the study resulted in an inability to pursue all avenues of enquiry that may have resulted in the further generation of knowledge. At times it proved difficult to constrain the project to the parameters that had been set and recommendations for further research that could be conducted on this, or additional data are provided later in this chapter.

The narrative research methodology used in this study was adopted from studies of mother-infant dyads and is new to the field of study of NG practice and efficacy. The researcher is not aware of any studies of children beyond infancy, (such as the 3-8 year age range in this study), where such methods have been employed. As such, the conclusions that can be drawn from this study are impacted by the limitation of being unable to compare the findings to equivalent research studies. However, the study has drawn on other research in its design, and the conclusions that have been made support and further current understanding of NG efficacy and practice, and provide the opportunity to be corroborated by future studies.

6.4.2 Contribution to knowledge

The findings of the study have been presented in this thesis and the limitations of the research are recognised. Drawing on the research findings and the discussion of how these are situated alongside the existing evidence base, the researcher has concluded that this thesis makes the following contributions to knowledge.

1. *New understanding of the ways in which intersubjective engagement in projects of embodied social interaction develops in small group and one-to-one activity for children aged 3-8 yrs.*
2. *Contribution to methodology - introducing the use of narrative analysis as an analytical methodology to examine children's connectedness with others and the quality of engagement with learning in school.*
3. *Updating the theoretical understanding of Nurture Group intervention from an attachment intervention to define their relevance today as an attachment-focused, attuned and narratively structured intersubjective intervention, situating new understanding alongside current policy and practice.*
4. *Extension of the theoretical understanding of inter-subjectivity, previously defined in mother-infant dyads, to pre-school and school-aged children aged 3-8yrs in small group settings. Findings update Nurture Group theory to explain how and where higher-level cognitive learning takes place, adding theoretical understanding of inter-subjectivity and companionship to Nurture Group practice.*

6.4.3 Recommendations for policy, practice, and further research

Knowledge of the ways in which learning is structured in units of meaning-making can assist teaching practice to reach children through attunement of emotion and action, generating companionship as the basis of learning through shared projects of discovery. The concept of chunking is employed to enable children to make sense of learning tasks by breaking them down into a series of smaller tasks, each containing small manageable projects with an identifiable beginning, middle and end. In this way, chunking of tasks and narrative social interaction with others ensures that young children, who have previously encountered difficulty settling in school, can engage with a task through the successful completion of smaller project units, celebrated as individual positive achievements, coming together to create a larger, completed project. This form of learning instils confidence in the young learner, enabling them over time to complete more complicated tasks requiring a higher level of social, motor and cognitive skill.

NGs have been described as a psycho-therapeutic model of intervention (Seth-Smith et al, 2010) that contrasts with most other school strategies. Within NGs, practitioners are encouraged to use their empathetic skills and their own life experience to develop positive strategies to support pupils, based on Boxall Profile observations of children's needs. This requires practitioners to have knowledge and understanding of child development, including trauma-informed practice and resilience. Despite the 'psycho-therapeutic' label that is sometimes attached to practice that is informed by psychological principles, NGs provide an example of the type of 'Ordinary Magic' referred to by Masten (2013), where children are able to build the skills that they need to succeed by having the right environment, the right relationships and the right chances to be able to safely explore themselves and the world around them. NG practice is not a therapeutic intervention, but a model of intensive and insightful educational practice, where the ultimate goal is to promote educational engagement (Colley, 2017).

This study has evidenced ways in which NGs foster children's connection to self, staff, peers, and learning in school. By mirroring the intersubjective learning experiences of infancy, children who have encountered disrupted early learning experiences, can learn to re-shape the coping mechanisms they have developed that interfere with school learning. Outcomes for children in the NGs confirmed that the children were ready, able and willing to engage with learning and could do so where the learning environment was tailored to their needs.

Measures and reporting of 'school readiness' support artificially constructed boundaries across which children must transition to school. However, by removing the (artificial) boundary and structuring the environment to meet the child's needs they can be supported to thrive in school. Within schools, where value is often placed on cognitive development, policies and environments should be tailored to supporting social and emotional development, as it is only when a child's social and emotional needs are met that cognitive learning can flourish. NGs provide a model of practice where vulnerable children can be supported to learn in a special setting within the school, however this model can also inform practice within mainstream classrooms that can support all learners and assist the transfer of gains for vulnerable pupils from NG to classroom.

Pupil transfer of NG learning to the mainstream class remains an under-researched area that impacts on understanding of the longer-term effectiveness of NGs and their place within inclusive educational practice. However, a recent study by Black (2022) suggests that differences in NG teacher and class teacher use of the Attunement Principles (Cubeddu & Mackay, 2017) and a mis-match in the availability of learning opportunities between NG and mainstream classroom could account for poor learning transfer. Many schools now support a whole school approach to nurture that is promoted as key to supporting behaviour, wellbeing, attainment and achievement in Scottish schools (Education Scotland, n.d.). It has been suggested that this approach may support the transfer of learning gains from the NG to mainstream class, where the mainstream class teacher is attuned to nurturing practices (Black, 2022). Within this, there remains a place for NGs that support learners through short-term targeted intervention that is tailored to individual need.

6.4.3.1 *Implications for practice*

- It is recommended that teachers and practitioners in primary schools and NGs pay attention to the conditions and processes described in this study whereby children are supported to engage in social interaction activity where deep-level learning can take place. Across pre-school and early level, it is suggested that small group interaction is as effective as one-to-one interaction when facilitated by a suitably trained and emotionally attuned adult.
- In agreement with the recommendations of Nurture UK, it is suggested that the use of the Boxall Profile across pre-school and early-level provision could identify the learning needs of pupils that would allow teacher/practitioner practice to be tailored to individual needs.
- Teachers and practitioners in pre-school and early level are recommended to undertake learning to develop their knowledge and awareness of child development, Adverse Childhood Experiences, Trauma Informed Practice and nurturing principles and practice, including the use of the Attunement Principles⁴⁸. Policy makers and education leaders will be instrumental in facilitating the ability of teachers and practitioners to do this.
- Local Authorities and Schools are recommended to embrace Whole School Nurturing practices that support a tiered level of nurture support for pupils and situate NGs within nurturing schools.
- Schools, Nurture UK, Nurture Group settings and NG practitioners should recognise the importance of consistent structure, routine and teacher involvement in NG practice for improved child outcomes.
- Practitioners working with parents and carers of infants and pre-school children should understand the implications of this study to inform early and preventative action to support infant/care-giver attuned social interaction in circumstances where this may be disrupted, recognising the social and environmental influences on interaction.

⁴⁸ Attunement Profile, <https://education.gov.scot/media/jzlj53f/inc55appendix2.pdf>

6.4.3.2 Implications for policy

- Policy makers are recommended to consider the implications of this study when developing policy that determines the environments in which young children learn. This study suggests that children who are referred to NGs with identified SEBN on Boxall Profile measures can engage and make meaning in school when the learning conditions meet their emotional and learning needs.
- It is recommended that school inclusion policy recognises, along with the rights of children to be educated in a setting that best meets their needs, and their right to be included in school, that NGs are effective for some pupils as a short-term small-group intervention that can provide support on a part-time basis and promote learning experiences that support children's reintegration to their mainstream class.
- Policy makers, campaigners and educators are recommended to integrate the theories of Intersubjectivity and Companionship to Nurture Group literature, training and teacher/practitioner education, situated alongside Attachment Theory to inform policy and practice.

6.4.3.3 Implications for research

- Future research should consider longer-term studies that can determine the transfer of learning from NGs to mainstream class and the longer-term outcomes for pupils who have attended NGs, particularly where engagement in completed narrative social interaction is observed. This would improve understanding of the transfer of learning that is facilitated by higher-level cognitive processes that are thought to take place during deep-level learning experiences.
- Observational research studies are recommended to consider the use of narrative methodology to examine children's connectedness with others and the quality of learning engagement for children at the early level, including NGs and mainstream classrooms.

- Research using narrative methodology in different settings, e.g. larger NGs, full time NGs and nurseries, to determine settings and practices where attuned narrative social interaction and deep level learning are found, would expand the findings of this study to include other environments that support higher level learning.

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Appendix A: Data sheet for Nurture Group participants

Data Sheet for Nurture Group Participants

(To be completed by Nurture Group teacher)

Child's Name: _____

Date of Birth: _____

Gender: M/F

School Year: _____

Date joined Nurture Group: _____

Days and hours of attendance in Nurture Group per week:

Does this child have a known developmental delay or learning disability? YES/NO. If Yes please specify_____

Type of nursery/ pre school provision attended (if known):

Length of time at nursery/ pre school (if known):

Has this child previously attended a Nurture Group (prior to this school year)? If Yes please give details:

Any other relevant information:

Date form completed:

Appendix B: Contextual information from pupil data sheets

Child	Age (yrs)	Gender M/F	School Year	Developmental delay/disability or other relevant info.	Prior school/ nursery attendance	NG attendance during previous school year Y/N
C1	6	M	P2	Recent return to mainstream class following part time segregated learning for several months.	Mainstream school	Y
C2	6	M	P2	No diagnosis but requires support with writing and speech.	Mainstream school Local authority nursery	Y
C3	5	M	P2	None	Mainstream school Local authority nursery	Y
C4	6	M	P2	None	Mainstream school Local Authority nursery	Y
C5	4	M	P1	English as second language.	Local authority nursery	Y
C6	5	M	P1	Delayed speech and fine motor skill development	Local authority nursery	Y
C7	5	F	P1	Additional year in Nursery – full time place to support delayed development.	Early Years Centre Local authority nursery	Y
C8	5	F	P1	Concerns re understanding and use of language	Early Years Centre Local authority nursery	Y
C11	3	M	Pre-school	None	Local authority nursery	N
C12	3	F	Pre-school	None	Local authority nursery	N
C13	4	M	Pre-school	None	Local authority nursery	N
C14	3	F	Pre-school	None	Local authority nursery	N
C15	5	M	P1	No diagnosis. Delays observed in attainment and milestones. SLT input.	Local authority nursery	N
C16	7	F	P3	Social & emotional health & wellbeing needs.	Mainstream school Local authority nursery	Y
C17	7	M	P3	No diagnosis. Possible ADHD. Communication needs. CAMHS input.	Mainstream school Local authority nursery	Y
C18	8	F	P4	Social & emotional health & wellbeing needs.	Mainstream school Private nursery.	Y

Appendix C: Worked sample of Elan analysis

This sample relates to the findings displayed in Figure 15, Section 3.4.4.1, Narrative patterns of engagement within NG phases (Child 6, NG Session 1)

Step 1.

Elan annotation data displaying NG phases by start and end time (extract)

Nurture Group Phase			
Annotation	Begin Time	End Time	Duration
1 WT	00:04:05.808	00:11:46.000	00:07:40.192
2 T1	00:11:46.008	00:12:05.920	00:00:19.912
3 CT	00:12:05.920	00:18:13.080	00:06:07.160
4 T2	00:18:13.088	00:18:41.872	00:00:28.784
5 FP1	00:18:41.872	00:35:42.016	00:17:00.144
6 T3	00:35:42.016	00:36:46.280	00:01:04.264
7 ST	00:36:46.280	00:45:57.960	00:09:11.680
8 T4	00:45:57.960	00:48:12.640	00:02:14.680
9 CB	00:48:12.640	00:51:15.120	00:03:02.480

Elan annotation data displaying narrative phases by start and end time (extract)

Narrative Form			
Annotation	Begin Time	End Time	Duration
1 Initiation	00:03:39.600	00:04:05.440	00:00:25.840
2 Build	00:04:05.440	00:10:40.728	00:06:35.288
3 Initiation	00:10:40.728	00:10:42.400	00:00:01.672
4 Build	00:10:42.400	00:10:53.160	00:00:10.760
5 Initiation	00:12:05.920	00:12:07.320	00:00:01.400
6 Build	00:12:07.320	00:18:13.080	00:06:05.760
7 Initiation	00:18:41.880	00:18:45.240	00:00:03.360
8 Build	00:18:45.240	00:27:50.920	00:09:05.680

Step 2. Data exported from Elan showing Tier 1 NG Phase & Tier 2 Narrative Form

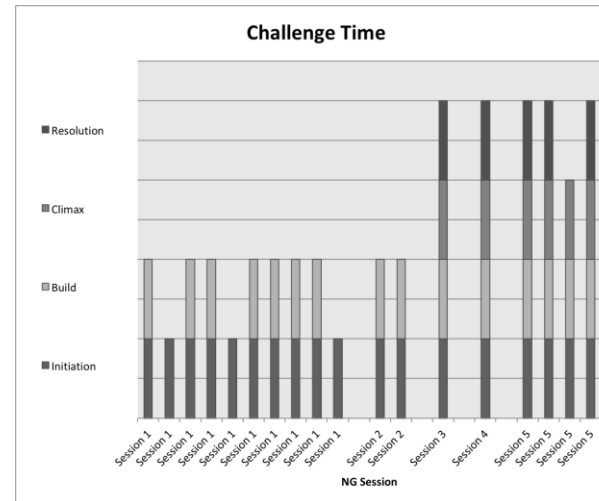
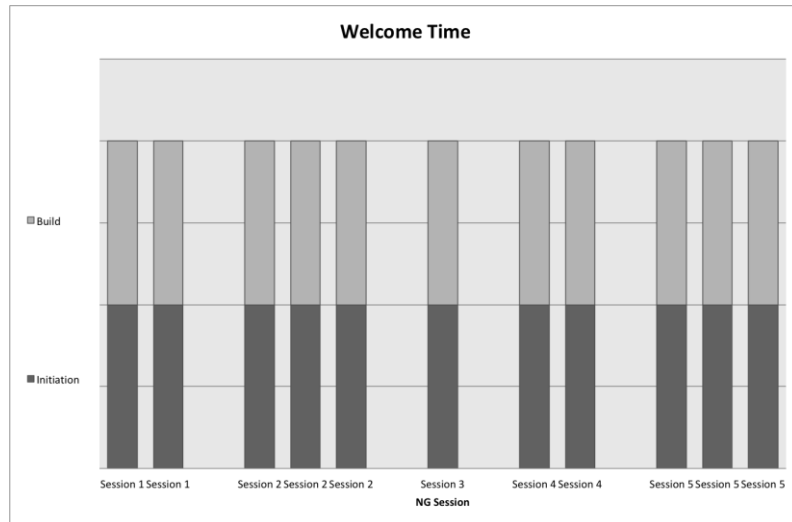
Nurture Group Phase	00:04:05.808	00:11:46.000	WI
Nurture Group Phase	00:11:46.008	00:12:05.920	T1
Nurture Group Phase	00:12:05.920	00:18:13.080	CT
Nurture Group Phase	00:18:13.088	00:18:41.872	T2
Nurture Group Phase	00:18:41.872	00:35:42.016	FP1
Nurture Group Phase	00:35:42.016	00:36:46.280	T3
Nurture Group Phase	00:36:46.280	00:45:57.960	ST
Nurture Group Phase	00:45:57.960	00:48:12.640	T4
Nurture Group Phase	00:48:12.640	00:51:15.120	CB
Nurture Group Phase	00:51:15.120	00:51:35.760	T5
Nurture Group Phase	00:51:35.760	01:00:58.600	FP2
Nurture Group Phase	01:00:58.608	01:02:48.600	TU
Narrative Form	00:03:39.600	00:04:05.440	Initiation
Narrative Form	00:04:05.440	00:10:40.728	Build
Narrative Form	00:10:40.728	00:10:42.400	Initiation
Narrative Form	00:10:42.400	00:10:53.160	Build
Narrative Form	00:12:05.920	00:12:07.320	Initiation
Narrative Form	00:12:07.320	00:18:13.080	Build
Narrative Form	00:18:41.880	00:18:45.240	Initiation
Narrative Form	00:18:45.240	00:27:50.920	Build
Narrative Form	00:28:08.960	00:28:10.920	Initiation
Narrative Form	00:28:10.920	00:28:36.800	Build
Narrative Form	00:28:36.800	00:28:39.280	Initiation
Narrative Form	00:28:39.280	00:28:58.600	Build
Narrative Form	00:28:58.600	00:29:00.760	Initiation
Narrative Form	00:29:00.760	00:35:54.080	Build
Narrative Form	00:35:54.080	00:35:58.440	Initiation
Narrative Form	00:35:58.440	00:37:31.240	Build
Narrative Form	00:37:31.240	00:37:33.400	Initiation
Narrative Form	00:37:33.400	00:45:57.960	Build
Narrative Form	00:48:31.760	00:48:34.240	Initiation
Narrative Form	00:48:34.240	00:51:15.120	Build
Narrative Form	00:51:36.208	00:51:38.080	Initiation
Narrative Form	00:51:38.080	00:52:46.240	Build
Narrative Form	00:52:57.160	00:52:58.200	Initiation
Narrative Form	00:52:58.200	00:53:36.960	Build
Narrative Form	00:53:40.080	00:53:47.520	Initiation
Narrative Form	00:53:47.520	00:55:30.640	Build
Narrative Form	00:56:00.760	00:56:01.760	Initiation
Narrative Form	00:56:01.760	00:56:17.920	Build
Narrative Form	00:56:17.920	00:56:27.760	Initiation
Narrative Form	00:56:27.760	00:56:47.360	Initiation

Step 3. Excel spreadsheet data showing Narrative Form by NG Phase & Session (extract)

Welcome Time				
	Initiation	Build	Climax	Resolution
Session 1	1		1	
Session 1	1		1	
Session 2	1		1	
Session 2	1		1	
Session 2	1		1	
Session 3	1		1	
Session 4	1		1	
Session 4	1		1	
Session 5	1		1	
Session 5	1		1	
Session 5	1		1	

Challenge Time				
	Initiation	Build	Climax	Resolution
Session 1	1		1	
Session 1	1			
Session 1	1		1	
Session 1	1		1	
Session 1	1			
Session 1	1		1	
Session 1	1		1	
Session 1	1		1	
Session 1	1			
Session 2	1		1	
Session 2	1		1	
Session 3	1		1	1
Session 4	1		1	1
Session 5	1		1	1
Session 5	1		1	1
Session 5	1		1	1
Session 5	1		1	1

Step 4. Graphs produced from Excel spreadsheet showing narrative patterns across NG phases (extract)



Appendix D: University Research Ethics Committee Approval

From: HaSS Research and Knowledge Exchange <hass-rke@strath.ac.uk>
Date: 10 June 2013 09:28:32 GMT+01:00
To: Jonathan Delafield-Butt <jonathan.delafield-butt@strath.ac.uk>
Cc: Allan Blake <a.blake@strath.ac.uk>
Subject: Type 1 Ethics Approval: J Delafield Butt, Companionship and Health in the Early Years

Dear Jonathan

“Companionship and Health in the Early Years: the effects of participation in a Nurture Group”

I can now confirm full ethical and sponsorship approval for the above study.

Kind regards.

Adele McPherson
Administrative Assistant
Research and Knowledge Exchange Team (RaKET)
Level 3, Lord Hope Building
Faculty of Humanities and Social Sciences
University of Strathclyde
141 St James Road
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The University of Strathclyde is a charitable body, registered in Scotland, with registration number SC015263.



From: Donald Christie
Sent: 09 June 2013 09:29^[SEP]
To: HaSS Research and Knowledge Exchange^[SEP]
Subject: RE: Type 1 Ethics for HOS Approval: J Delafield Butt, Companionship and Health in the Early Years

Approved

Donald

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Appendix E: Information sheet and consent form for Nurture Group teachers

Participant Information Sheet for Nurture Group Teachers

Name of department: School of Education

Title of the study: Companionship and Health in the Early Years: the effects of participation in a Nurture Group.

Introduction

You are being invited to participate in a study which is being undertaken by Jillian Adie who is a doctoral research student in the School of Education at the University of Strathclyde. Jillian's contact details are at the foot of this sheet.

Before you decide whether or not you would like to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information.

What is the research about?

Current evidence supports Nurture Groups as an effective intervention for primary school children displaying social, emotional and behavioural difficulties. Although we know the benefits of Nurture Groups in assisting children's development and academic attainment, it is not clear what it is about the way the groups operate that effects these changes. The aim of this study is to understand what is happening within Nurture Groups that helps children to make such progress.

Do you have to take part?

You may choose whether you wish to take part in the study or not. If you wish your to take part then you will be given a copy of this Information Sheet to keep and you will be asked to sign a Consent Form. If you choose to take part, you will be able to withdraw that agreement at any time without giving a reason. A decision not to take part or a withdrawal from the study will not affect your position in the Nurture Group. You will not benefit directly from participation in this study but it is hoped that the findings will assist children in the future.

What will happen?

You will be filmed during your usual Nurture Group sessions while you carry out your normal activities. The filming will take place over two weeks each term between August 2013 and June 2014. The filming will not interfere with your normal Nurture Group sessions and will take place as naturally as possible. You will also be asked to complete a background data sheet for each child participant at the start of the study (copy attached). You will be asked to provide completed Boxall Profiles for the child participants each term. You will also be asked to provide a sample lesson plan showing the Nurture Group daily structure. These tasks are assumed to be part of your regular routine.

Why have you been invited to take part?

You have been asked to take part in the study because you are a teacher in a Nurture Group in a school that has agreed to participate in the study. We are looking for teachers to participate in the study who are providing Nurture Group education for children at Primary 1 and/or Nursery level in a Nurture Group in a City of Edinburgh Council or Glasgow City Council primary school or nursery school.

What are the potential risks to you in taking part?

We do not consider that the study will be distressing or harmful to you in any way.

What happens to the information in the project?

The information collected during the course of the research will be kept confidential. The information that we gather will be made anonymous. Personal subject information will be coded and audio-video data will be stored on a password-protected computer. Your name will be removed from the information so that you cannot be recognised from it. The findings will be reported at professional conferences and in academic publications and footage or images from the video data may be used with your permission. Permission will be sought from you to keep the data indefinitely for research purposes and you may be asked to participate in follow up studies.

The University of Strathclyde is registered with the Information Commissioner's Office who implements the Data Protection Act 1998. All personal data on participants will be processed in accordance with the provisions of the Data Protection Act 1998.

Thank you for reading this information – please ask any questions if you are unsure about what is written here.

What happens next?

If you are happy to be involved in the project, please sign the consent form attached.

Once the study has been completed, the findings will be published in a doctoral thesis at the University of Strathclyde.

If you do not want to volunteer, we thank you for your time.

Researcher Contact Details:

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Lord Hope Building
141 St. James' Road
Glasgow G4 0LT
Tel: 0141 444 8053
Email: jonathan.delafield-butt@strath.ac.uk

This investigation was granted ethical approval by the University of Strathclyde ethics committee.

If you have any questions/concerns, during or after the investigation, or wish to contact an independent person to whom any questions may be directed or further information may be sought from, please contact:

Allan Blake
School of Education Research Committee
University of Strathclyde
Lord Hope Building
141 St. James' Road
Glasgow G4 0LT
Tel: 0141 444 8106
Email: a.blake@strath.ac.uk

Consent Form

Name of department: School of Education

Title of the study: Companionship and Health in the Early Years: the effects of participation in a Nurture Group.

- I confirm that I have read and understood the information sheet for the above project and the researcher has answered any queries to my satisfaction.
- I understand that my participation is voluntary and that I am free to withdraw from the project at any time, without having to give a reason and without any consequences.
- I understand that I can withdraw my data from the study at any time before publication.
- I understand that any information recorded in the investigation will remain confidential and no personal information that identifies me will be made publicly available.
- I consent to being a participant in the project.
- I consent to being audio and video recorded as part of the project.
- I consent to these data being stored confidentially and indefinitely for the duration of the project.
- I consent to these data being used for professional presentation and publication.
- I consent to video footage being used for professional presentation and publication.
- I consent to being contacted for follow up research.

(PRINT NAME)	Hereby agree to take part in the above project
Signature of Participant:	Date

Appendix F: Information sheet and consent form for child participants

Participant Information Sheet (Children)

Name of department: School of Education

Title of the study: Companionship and Health in the Early Years: the effects of participation in a Nurture Group.

Introduction

Your child is being invited to participate in a study which is being undertaken by Jillian Adie who is a doctoral research student in the School of Education at the University of Strathclyde. Jillian's contact details are at the foot of this sheet.

Before you decide whether or not you would like your child to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information.

What is the purpose of this investigation?

Nurture Groups help young children with their social, emotional and behavioural development and can also assist them to improve their schoolwork. The groups help children to feel more secure and confident, which in turn helps them to work better within their mainstream class. The aim of this study is to understand what is happening within Nurture Groups that helps children to make such progress.

Does your child have to take part?

You may choose whether you wish your child to take part in the study or not. If you wish your child to take part then you will be given a copy of this Information Sheet to keep and you will be asked to sign a Consent Form. If you choose to allow your child to take part, you will be able to withdraw that agreement at any time without giving a reason. A decision not to take part or a withdrawal from the study will not affect your child's attendance or care in the Nurture Group. Your child will not benefit directly from participation in this study but it is hoped that the findings will assist children in the future.

What will happen?

Your child will be filmed during their usual Nurture Group sessions while they carry out their normal activities. The filming will take place over two weeks each term between August 2013 and June 2014. The filming will not interfere with your child's normal Nurture Group experience and will take place as naturally as possible. Teachers will be asked to provide completed Boxall Profiles for your child each term and to provide information about your child's attendance in Nurture Groups and pre-school care. A sample of the Data Sheet for Nurture Group Participants which will be used to collect this information is attached.

Why has your child been invited to take part?

Your child has been asked to take part in the study because he/she attends a Nurture Group in a school that has agreed to participate in the study. We are looking for children to participate in the study who are aged between 3 and 6 years and are attending a Nurture Group in a City of Edinburgh Council or Glasgow City Council primary school or nursery school.

What are the potential risks to your child in taking part?

We do not consider that the study will be distressing or harmful to your child in any way.

What happens to the information in the project?

The information collected during the course of the research will be kept confidential. The information that we gather will be put into a computer and will be made anonymous. Your child's name and birth date will be removed from the information so that they cannot be recognised from it. The findings will be reported at professional conferences and in academic publications and footage or images from the video data may be used with your permission. Permission will be sought from you to keep the data indefinitely for research purposes and your child may be asked to participate in follow up studies.

The University of Strathclyde is registered with the Information Commissioner's Office who implements the Data Protection Act 1998. All personal data on participants will be processed in accordance with the provisions of the Data Protection Act 1998.

Thank you for reading this information – please ask any questions if you are unsure about what is written here.

What happens next?

If you are happy for your child to be involved in the project, please sign the consent form attached.

Once the study has been completed, the findings will be published in a doctoral thesis at the University of Strathclyde.

If you do not want to volunteer, we thank you for your time.

Researcher Contact Details:

Jillian Adie
School of Education
University of Strathclyde
Lord Hope Building
141 St. James Road
Glasgow G4 0LT
Email: jillian.adie@strath.ac.uk

Chief Investigator Details:

Dr. Jonathan Delafield-Butt
School of Education
University of Strathclyde
Lord Hope Building
141 St. James' Road
Glasgow G4 0LT
Tel: 0141 444 8053
Email: jonathan.delafield-butt@strath.ac.uk

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If you have any questions/concerns, during or after the investigation, or wish to contact an independent person to whom any questions may be directed or further information may be sought from, please contact:

Allan Blake
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Lord Hope Building
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Email: a.blake@strath.ac.uk

Consent Form

Name of department: School of Education

Title of the study: Companionship and Health in the Early Years: the effects of participation in a Nurture Group.

- I confirm that I have read and understood the information sheet for the above project and the researcher has answered any queries to my satisfaction.
- I understand that my child's participation is voluntary and that I am free to withdraw them from the project at any time, without having to give a reason and without any consequences.
- I understand that I can withdraw my child's data from the study at any time before publication.
- I understand that any information recorded in the investigation will remain confidential and no personal information will be made publicly available.
- I consent to my child being a participant in the project.
- I consent to the completed Boxall Profiles for my child being made available to the researcher.
- I consent to information about my child being provided in the Data Sheet for Nurture Group Participants.
- I consent to my child being audio and video recorded as part of the project.
- I consent to these data being stored confidentially and indefinitely for research purposes.
- I consent to these data being used for professional presentation and publication.
- I consent to video footage of my child being used for professional presentation and publication.
- I consent to being contacted for follow up research.

(PRINT NAME)	Hereby agree for my child to take part in the above project
Signature of Parent/Guardian:	Date

Appendix G: Leuven Scales for Wellbeing and Involvement

THE LEUVEN SCALE FOR WELL-BEING

Level	Well-being	Signals
1	Extremely low	The child clearly shows signs of discomfort such as crying or screaming. They may look dejected, sad, frightened or angry. The child does not respond to the environment avoids contact and is withdrawn. The child may behave aggressively, hurting him/herself or others.
2	Low	The posture, facial expression and actions indicate that the child does not feel at ease. However, the signals are less explicit than under level 1 or the sense of discomfort is not expressed the whole time.
3	Moderate	The child has a neutral posture. Facial expression and posture show little or no emotion. There are no signs indicating sadness or pleasure, comfort or discomfort.
4	High	The child shows obvious signs of satisfaction (as listed under level 5). However, these signals are not constantly present with the same intensity.
5	Extremely High	The child looks happy and cheerful, smiles, cries out with pleasure. They may be lively and full of energy. Actions can be spontaneous and expressive. The child may talk to him/herself, play with sounds, hum or sing. The child appears relaxed and does not show any signs of stress or tension. He/she is open and accessible to the environment. The child expresses self-confidence and self-assurance.

THE LEUVEN SCALE FOR INVOLVEMENT

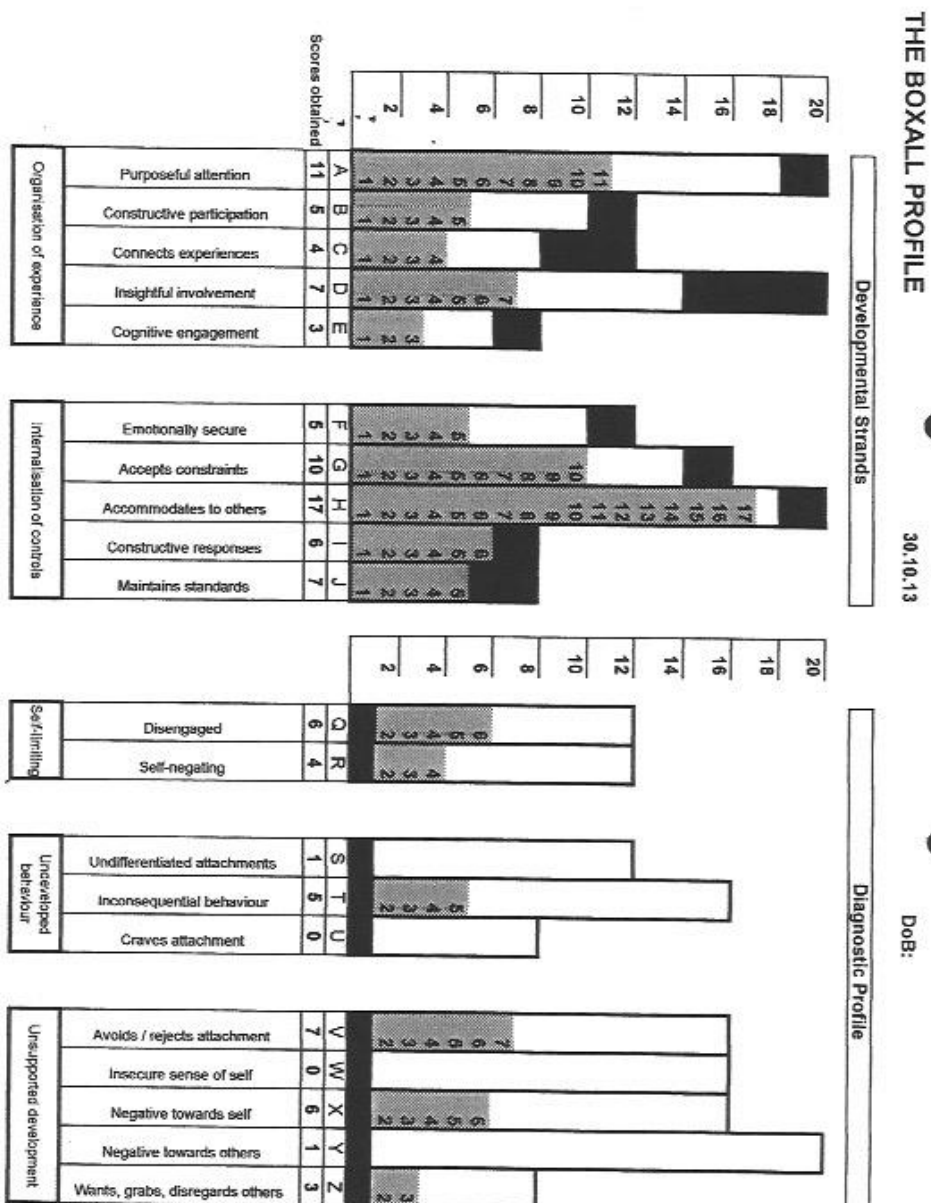
Level	Involvement	Signals
1	Extremely Low	Activity is simple, repetitive and passive. The child seems absent and displays no energy. They may stare into space or look around to see what others are doing.
2	Low	Frequently interrupted activity. The child will be engaged in the activity for some of the time they are observed, but there will be moments of non-activity when they will stare into space, or be distracted by what is going on around them.
3	Moderate	Mainly continuous activity. The child is busy with the activity but at a fairly routine level and there are few signs of real involvement. They make some progress with what they are doing but don't show much energy and concentration and can be easily distracted.
4	High	Continuous activity with intense moments. The child's activity has intense moments and at all times they seem involved. They are not easily distracted.
5	Extremely High	The child shows continuous and intense activity revealing the greatest involvement. They are concentrated, creative, energetic and persistent throughout nearly all the observed period.

Source: <https://www.tes.com/teaching-resource/well-being-and-involvement-leuven-scale-6340990>

Appendix H: Boxall Profile scores for Child 6

C6 Profile scores, start of study

The black areas indicate the range of average scores in a sample of competently functioning children in the primary school age range.



C6 Developmental Profile, Start of study

Abilities that are **equal to** average scores in a sample of competently functioning children in the primary school age range (AFC range):

1. Constructive Responses
 - In freely developing activities involving other children s/he constructively adapts to their ideas and suggestions.
 - Show genuine concern and thoughtfulness for other people; is sympathetic and offers help.
2. Maintains Standards
 - Abides by the rules of an organised group game in the playground or school hall: *interacts and co-operates and continues to take part for the duration of the game.*
 - Accepts disappointments: *e.g. if an outing is cancelled because it is raining, or s/he is not chosen for favourite activity s/he does no more than complain or briefly moan.*

Abilities that are **within 10%** of average scores (AFC range):

1. Accommodates to others
 - Makes and accepts normal physical contact with others: *e.g. when holding hands in a game.*
 - Makes an appropriate verbal request to another child who is in his/her way or has something s/he needs: *disregard situations of provocation.*
 - Accommodates to other children when they show friendly and constructive interest in joining his/her play or game.
 - Gives way to another child's legitimate need for the classroom equipment s/he is using by sharing it with him/her or taking turns: *no more than a reminder is needed.*

Abilities that are **within 30%** of average scores (AFC range):

1. Accepts constraints
 - Begins to clear up or bring to a close and enjoyable work or play activity when the teacher, with adequate warning, makes a general request to the group.
 - Complies with specific verbal prohibitions on his/her personal use of classroom equipment.
 - Works or plays alongside a child who is independently occupied, without interfering or causing disturbance.
 - Sits reasonably still without talking or causing disturbance when the teacher makes a general request to all the children for their attention.

Abilities that are **within 40%** of average scores (AFC range):

1. Purposeful attention

- Listens with interest when the teacher explains something to the class.
- Makes appropriate and purposeful use of the materials/equipment/toys provided by the teacher without the need for continuing direct support: *disregard repetitive activity which does not progress.*
- Listens, attends and does what is required when the teacher addresses a simple positive request specifically to him/her: *e.g. to get out his/her work book.*
- Is adequately competent and self-reliant in managing his/her basic personal needs: *i.e. clothes, toilet, food.*
- Takes part in a teacher centred group activity: *e.g. number or language work, or finger games.*

Abilities that are **within 50%** of average scores(AFC range):

1. Constructive participation

- Shows awareness of happenings in the natural world, is interested and curious, and genuinely seeks explanations.
- Shows genuine interest in another child's activity or news; looks or listens and gains from experience: *does not intrude unduly, does not take over.*
- Is reasonably well organised in assembling the materials s/he needs and in clearing away: *reminders only are needed.*

2. Connects experiences

- Of his/her own accord returns to and completes a satisfying activity that has been interrupted: *e.g s/he finishes a painting or carries on with a written story later in the day or the following day.*
- Recalls information of relevance to something s/he reads or hears about and makes a constructive link.
- Communicates a simple train of thought with coherence: *e.g. when telling or writing a story or describing an event.*

3. Insightful involvement

- Appreciates a joke or is amused by an incongruous statement or situation: *disregard lack of appreciation at a joke which is at his/her expense; disregard amusement that is clearly inappropriate.*
- Makes constructive and reciprocal friendships which provide companionship
- Responds to stories about animals and people with appropriate feeling; appropriately identifies the characters as good, bad, funny, kind, etc: *disregard responses to nursery rhymes or fairy stories.*
- Shows curiosity and constructive interest when something out of the ordinary happens: *is secure enough to accept a change or the introduction of something new, is alert to the possibilities of the event and gains from it.*

4. Cognitive engagement

- Contributes actively to the course of co-operative and developing play with two or more other children and shows some variation in the roles s/he takes: *e.g. in the play house, other free play activities, or improvised class drama.*
- Engages in conversation with another child: *an interchange of information, ideas or opinion is implied.*

5. Emotionally secure

- Takes appropriate care of something s/he has made or work s/he has done: *investment of feeling in his/her achievement is implied, and self esteem.*
- Turns to his/her teacher for help, reassurance or acknowledgement, in the expectation that support will be forthcoming: *disregard occasional normal negativism.*
- Looks up and makes eye contact when the teacher is nearby and addresses him/her by name: *i.e. heeds the teacher; does not necessarily pay attention.*

C6 Diagnostic profile, Start of study

Abilities that are **equal to** average scores in a sample of competently functioning children in the primary school age range (within AFC range):

1. Craves attachment.

- Adopts strategies to gain and maintain close physical contact with the adult.
- Desperately craves affection, approval and reassurance, but doubts and questions the regard shown; seeks it repeatedly but remains insecure.

2. Insecure sense of self.

- Variable in mood; sometimes seeks and responds to affectionate contact with the adult, at other times rejects or avoids.
- Contrary in behaviour; sometimes helpful, co-operative and compliant, at other times stubborn, obstinate and resistive, or unheeding.
- Attention-seeking in a bid for recognition and admiration.
- Can't tolerate even a slight imperfection in his/her work and is upset or angry if s/he can't put it right.

Abilities that are **within 10%** of average scores (AFC range):

1. Undifferentiated attachments.

- Relates and responds to the adult as a baby would; enjoys baby-level pleasures; may happily babble and coo, call out or crawl about, or mirror the others.

- Over-reacts to affection, attention or praise; gets very excited and may become out of control.
- Clings tenaciously to inconsequential objects and resists having them taken away.

2. Negative towards others.

- Reacts defensively even when there is no real threat; is evasive, blames others, finds excuses or denies.
- Disparaging attitude to other children; is critical and contemptuous.
- Remembers a real or imagined offence, bears a grudge and determinedly takes his/her revenge.
- Determinedly dominates or persecutes by bullying, intimidation, or the use of force.
- Erupts into temper, rage or violence when thwarted, frustrated, criticized or touched; the “trigger” is immediate and specific.

Abilities that are **within 30%** of average scores (AFC range):

1. Wants, grabs, disregards others.

- Variable in mood; sometimes seeks and responds to affectionate contact with the adult, at other times rejects and avoids.
- Contrary in behaviour; sometimes helpful, co-operative and compliant, at other times stubborn, obstinate or resistive, or unheeding.
- Attention-seeking in a bid for recognition or admiration.

Abilities that are **within 40%** of average scores (AFC range):

1. Self-negating.

- Avoids, rejects or becomes upset when faced with a new and unfamiliar task, or a difficult or competitive situation.
- Self-conscious and easily rebuffed, and hypersensitive to disapproval or the regard in which s/he is held by others.
- Self-disparaging and self-demeaning.

Abilities that are **within 50%** of average scores (AFC range):

1. Inconsequential behaviour.

- Inappropriate noises or remarks, or patterns of behaviour, that are bizarre fragments of no obvious relevance.
- Gives uninhibited expression to boisterous and noisy behaviour; is not influenced by normal social constraints and expectations.
- ‘Is into everything’; shows fleeting interest, but doesn’t attend to anything for long.
- Restless and erratic; behaviour is without purposeful sequence, continuity and direction.

Abilities that are **within 60%** of average scores (AFC range):

1. Disengaged.
 - Oblivious of people and events; doesn't relate; is 'out of contact and can't be reached'.
 - Repetitively pursues a limited work or play activity which does not progress.
 - Listless and aimless; lacks motivation and functions only with direct and continuing support or pressure.
2. Negative towards self.
 - Uncontrolled and unpredictable emotional outburst or eruptions that release and relieve pent-up and endured anger or distress.
 - Spoils, destroys, or otherwise negates the achievement or success s/he has worked for and values.
 - Sulks when disapproval is shown, or when attention is withdrawn, or when thwarted.
 - Feels persecuted; imagines that others are against him/her, and complains of being 'got at' and left out.

Abilities that are **within 70%** of average scores (AFC range):

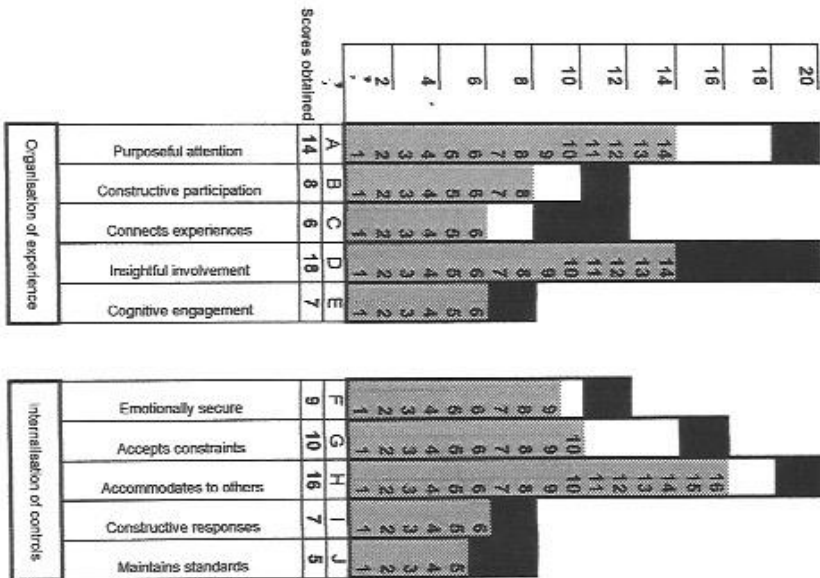
1. Avoids/rejects attachment.
 - Abnormal eye contact and gaze.
 - Lacks trust in the adults' intentions and is wary of what they might do; avoids contact, and readily shows fear.
 - Functions and relates to others minimally, and resists or erupts when attempts are made to engage him/her further.
 - Sullen, resentful, and negative in general attitude and mood.

THE BOXALL PROFILE

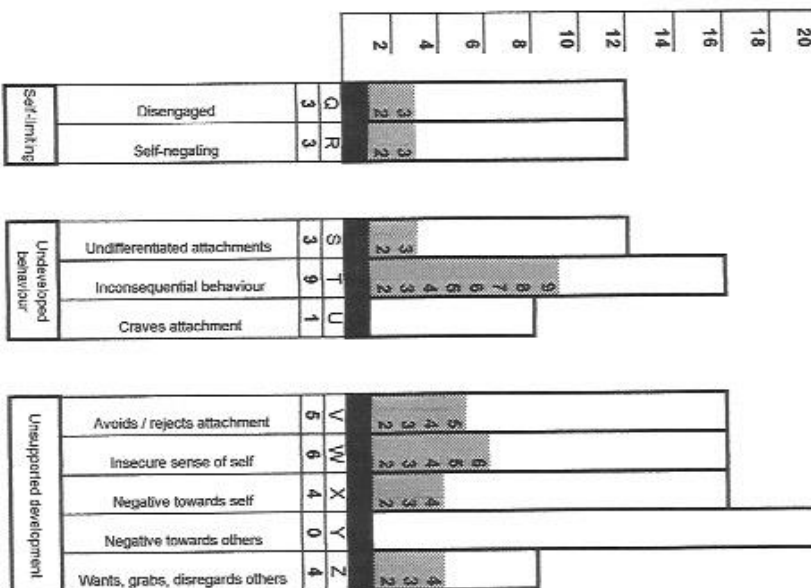
1st June 2014

DoB: 0

Developmental Strands



Diagnostic Profile



The back axes indicate the range of average scores in a sample of competently functioning children in the primary school age range.

C6 Developmental Profile, End of study

Abilities that are **equal to** average scores in a sample of competently functioning children in the primary school age range (AFC range):

1. Insightful involvement

- Appreciates a joke or is amused by an incongruous statement or situation: *disregard lack of appreciation at a joke which is at his/her expense; disregard amusement that is clearly inappropriate*
- Makes constructive and reciprocal friendships which provide companionship
- Responds to stories about animals and people with appropriate feeling; appropriately identifies the characters as good, bad, funny, kind, etc: *disregard responses to nursery rhymes or fairy stories.*
- Shows curiosity and constructive interest when something out of the ordinary happens: *is secure enough to accept a change or the introduction of something new, is alert to the possibilities of the event and gains from it.*

2. Cognitive engagement

- Contributes actively to the course of co-operative and developing play with two or more other children and shows some variation in the roles s/he takes: *e.g. in the play house, other free play activities, or improvised class drama.*
- Engages in conversation with another child: *an interchange of information, ideas or opinion is implied.*

3. Constructive Responses

- In freely developing activities involving other children s/he constructively adapts to their ideas and suggestions.
- Show genuine concern and thoughtfulness for other people; is sympathetic and offers help.

4. Maintains Standards

- Abides by the rules of an organised group game in the playground or school hall: *interacts and co-operates and continues to take part for the duration of the game.*
- Accepts disappointments: *e.g. if an outing is cancelled because it is raining, or s/he is not chosen for favourite activity s/he does no more than complain or briefly moan.*

Abilities that are **within 10%** of average scores (AFC range):

1. Emotionally secure

- Takes appropriate care of something s/he has made or work s/he has done: *investment of feeling in his/her achievement is implied, and self esteem.*
- Turns to his/her teacher for help, reassurance or acknowledgement, in the expectation that support will be forthcoming: *disregard occasional normal negativism.*
- Looks up and makes eye contact when the teacher is nearby and addresses him/her by name: *i.e. heeds the teacher; does not necessarily pay attention.*

Abilities that are **within 20%** of average scores (AFC range):

1. Accommodates to others

- Makes and accepts normal physical contact with others: *e.g. when holding hands in a game.*
- Makes an appropriate verbal request to another child who is in his/her way or has something s/he needs: *disregard situations of provocation.*
- Accommodates to other children when they show friendly and constructive interest in joining his/her play or game.
- Gives way to another child's legitimate need for the classroom equipment s/he is using by sharing it with him/her or taking turns: *no more than a reminder is needed.*

2. Constructive participation

- Shows awareness of happenings in the natural world, is interested and curious, and genuinely seeks explanations.
- Shows genuine interest in another child's activity or news; looks or listens and gains from experience: *does not intrude unduly, does not take over.*
- Is reasonably well organised in assembling the materials s/he needs and in clearing away: *reminders only are needed.*

Abilities that are **within 30%** of average scores (AFC range):

1. Purposeful attention

- Listens with interest when the teacher explains something to the class.
- Makes appropriate and purposeful use of the materials/equipment/toys provided by the teacher without the need for continuing direct support: *disregard repetitive activity which does not progress.*
- Listens, attends and does what is required when the teacher addresses a simple positive request specifically to him/her: *e.g. to get out his/her work book.*
- Is adequately competent and self-reliant in managing his/her basic personal needs: *i.e. clothes, toilet, food.*
- Takes part in a teacher centred group activity: *e.g. number or language work, or finger games.*

2. Connects experiences

- Of his/her own accord returns to and completes a satisfying activity that has been interrupted: *e.g s/he finishes a painting or carries on with a written story later in the day or the following day.*
- Recalls information of relevance to something s/he reads or hears about and makes a constructive link.
- Communicates a simple train of thought with coherence: *e.g. when telling or writing a story or describing an event.*

3. Accepts constraints

- Begins to clear up or bring to a close and enjoyable work or play activity when the teacher, with adequate warning, makes a general request to the group.
- Complies with specific verbal prohibitions on his/her personal use of classroom equipment.
- Works or plays alongside a child who is independently occupied, without interfering or causing disturbance.
- Sits reasonably still without talking or causing disturbance when the teacher makes a general request to all the children for their attention.

Diagnostic profile, End of study

Abilities that are **equal to** average scores in a sample of competently functioning children in the primary school age range (AFC range).

1. Negative towards others.

- Uncontrolled and unpredictable emotional outburst or eruptions that release and relieve pent-up and endured anger or distress.
- Spoils, destroys, or otherwise negates the achievement or success s/he has worked for and values.
- Sulks when disapproval is shown, or when attention is withdrawn, or when thwarted.
- Feels persecuted; imagines that others are against him/her, and complains of being 'got at' and left out.

Abilities that are **within 10%** of average scores (AFC range):

1. Craves attachment.

- Adopts strategies to gain and maintain close physical contact with the adult.
- Desperately craves affection, approval and reassurance, but doubts and questions the regard shown; seeks it repeatedly but remains insecure.

Abilities that are **within 30%** of average scores (AFC range):

1. Disengaged.
 - Oblivious of people and events; doesn't relate; is 'out of contact and can't be reached'.
 - Repetitively pursues a limited work or play activity which does not progress.
 - Listless and aimless; lacks motivation and functions only with direct and continuing support or pressure.
2. Self-negating.
 - Avoids, rejects or becomes upset when faced with a new and unfamiliar task, or a difficult or competitive situation.
 - Self-conscious and easily rebuffed, and hypersensitive to disapproval or the regard in which s/he is held by others.
 - Self-disparaging and self-demeaning.
3. Undifferentiated attachments.
 - Relates and responds to the adult as a baby would; enjoys baby-level pleasures; may happily babble and coo, call out or crawl about, or mirror the others.
 - Over-reacts to affection, attention or praise; gets very excited and may become out of control.
 - Clings tenaciously to inconsequential objects and resists having them taken away.

Abilities that are **within 40%** of average scores (AFC range):

1. Negative towards self.
 - Uncontrolled and unpredictable emotional outburst or eruptions that release and relieve pent-up and endured anger or distress.
 - Spoils, destroys, or otherwise negates the achievement or success s/he has worked for and values.
 - Sulks when disapproval is shown, or when attention is withdrawn, or when thwarted.
 - Feels persecuted; imagines that others are against him/her, and complains of being 'got at' and left out.
2. Wants, grabs, disregards others.
 - Variable in mood; sometimes seeks and responds to affectionate contact with the adult, at other times rejects and avoids.
 - Contrary in behaviour; sometimes helpful, co-operative and compliant, at other times stubborn, obstinate or resistive, or unheeding.
 - Attention-seeking in a bid for recognition or admiration.

Abilities that are **within 50%** of average scores (AFC range):

1. Avoids/rejects attachment.
 - Abnormal eye contact and gaze.
 - Lacks trust in the adults' intentions and is wary of what they might do; avoids contact, and readily shows fear.
 - Functions and relates to others minimally, and resists or erupts when attempts are made to engage him/her further.
 - Sullen, resentful, and negative in general attitude and mood.

Abilities that are **within 60%** of average scores (AFC range):

1. Insecure sense of self.
 - Variable in mood; sometimes seeks and responds to affectionate contact with the adult, at other times rejects or avoids.
 - Contrary in behaviour; sometimes helpful, co-operative and compliant, at other times stubborn, obstinate and resistive, or unheeding.
 - Attention-seeking in a bid for recognition and admiration.
 - Can't tolerate even a slight imperfection in his/her work and is upset or angry if s/he can't put it right.

Abilities that are **within 90%** of average scores (AFC range):

1. Inconsequential behaviour.
 - Inappropriate noises or remarks, or patterns of behaviour that are bizarre fragments of no obvious relevance.
 - Gives uninhibited expression to boisterous and noisy behaviour; is not influenced by normal social constraints and expectations.
 - 'Is into everything'; shows fleeting interest, but doesn't attend to anything for long.
 - Restless and erratic; behaviour is without purposeful sequence, continuity and direction.

Appendix I: Identifying measures for NG phases

NG1, NG2		
NG Phase	Identification of Commencement of NG Phase for individual child	Identification of Commencement of NG Phase for Nurture Group
Enter Room	Door squeak on opening	Door squeak on opening
Welcome Time	Observed child sits down in Welcome Corner	All participants sitting down in Welcome Corner
Transition 1	Teacher gives instruction to collect Challenge Books, OR first Challenge Book collected (if no instruction given)	Teacher gives instruction to collect Challenge Books, OR first Challenge Book collected (if no instruction given)
Challenge Time	Observed child sits at challenge table, or is ready to commence challenge if not at table	All participants sitting at challenge table, or ready to commence challenge if not at table
Transition 2	Observed child leaves challenge table or challenge activity	Last child leaves challenge table or challenge activity
Free Play 1	Observed child chooses Free Play activity	All children have chosen Free Play activity
Transition 3	Teacher gives instruction for children to wash hands for snack	Teacher gives instruction for children to wash hands for snack
Snack Time	Observed child sits at snack table	All participants sitting at snack table
Transition 4	Teacher gives instruction to collect dishes/clear table OR first plate/cup is collected if no instruction is given	Teacher gives instruction to collect dishes/clear table OR first plate/cup is collected if no instruction is given
Challenge Books	First Challenge Book is handed out	First Challenge Book is handed out
Transition 5	Observed child leaves table or turns attention to a new task (if remaining at table)	Last child leaves table or turns attention to a new task (if remaining at table)
Free Play 2	Observed child chooses Free Play activity	All children have chosen Free Play activity
Tidy Up Time	Teacher gives instruction to stop playing and tidy up	Teacher gives instruction to stop playing and tidy up
Line Up	Teacher gives instruction to line up at the door	Teacher gives instruction to line up at the door

NG3		
NG Phase	Identification of Commencement of NG Phase for individual child	Identification of Commencement of NG Phase for Nurture Group
Enter Room	Door squeak on opening	Door squeak on opening
Free Play 1	Observed child chooses Free Play activity	All children have chosen Free Play activity
Transition 1	Teacher gives instruction to come to the circle	Teacher gives instruction to come to the circle
Circle Time	Observed child sits in the circle	All participants are sitting in the circle

NG3		
NG Phase	Identification of Commencement of NG Phase for individual child	Identification of Commencement of NG Phase for Nurture Group
Transition 2	Observed child leaves circle	Last child leaves circle
Free Play 2	Observed child chooses Free Play activity	All children have chosen Free Play activity
Transition 3	Teacher gives instruction for children to tidy toys and come to story corner	Teacher gives instruction for children to tidy toys and come to story corner
Story Time	Observed child sits down in the story corner	All participants are sitting down in the story corner
Line up	Teacher gives instruction to line up at the door	Teacher gives instruction to line up at the door

NG4		
Phase	Identification of Commencement of NG Phase for individual child	Identification of Commencement of NG Phase for Nurture Group
Enter Room	Door to classroom opens	Door to classroom opens
Challenge Time	Observed child sits at challenge table, or is ready to commence challenge if not at table	All participants are sitting at challenge table, or are ready to commence challenge if not at table
Transition 1	Observed child leaves challenge table or challenge activity	Last child leaves challenge table or challenge activity
Free Play	Observed child chooses Free Play activity	All children have chosen Free Play activity
Transition 2	Teacher gives instruction for children to come to the snack table	Teacher gives instruction for children to come to the snack table
Snack Time	Observed child sits at snack table	All participants are sitting at snack table
Tidy Up Time	Teacher gives instruction to stop and tidy up	Teacher gives instruction to stop and tidy up

Appendix J: Boxall Profile sub-strand descriptors

Section I		
DEVELOPMENTAL STRANDS		
Enter scores for Section I items in the appropriate column of Section I histogram		
Score each item in turn according to the Key below		
4 Yes, or usually		
3 At times		
2 To some extent		
1 Not really, or virtually never		
0 Does not arise, not relevant.		
(Refer to page 9, 2nd bullet point, of Handbook for discussion).		
	Score	column
1 Listens with interest when the teacher explains something to the class		A
2 Takes appropriate care of something s/he has made or work s/he has done <i>investment of feeling in his/her achievement is implied, and self esteem</i>		F
3 Appreciates a joke or is amused by an incongruous statement or situation <i>disregard lack of appreciation of a joke which is at his/her expense</i> <i>disregard amusement that is clearly inappropriate</i>		D
4 Begins to clear up or bring to a close an enjoyable work or play activity when the teacher, with adequate warning, makes a general request to the group <i>score 2 if a personal and specific request is needed</i>		G
5 Makes and accepts normal physical contact with others <i>e.g. when holding hands in a game</i>		H
6 Makes appropriate and purposeful use of the materials/equipment/toys provided by the teacher without the need for continuing direct support <i>disregard repetitive activity which does not progress</i>		A
7 Maintains acceptable behaviour and functions adequately when the routine of the day is disturbed <i>e.g. when there are visitors in his/her class, or the class is taken by a teacher s/he does not know well</i>		H
8 Makes an appropriate verbal request to another child who is in his/her way or has something s/he needs <i>disregard situations of provocation</i>		H
9 Complies with specific verbal prohibitions on his/her personal use of classroom equipment <i>score 2 if s/he complies but often protests or sulks</i>		G
10 Abides by the rules of an organised group game in the playground or school hall <i>interacts and co-operates and continues to take part for the duration of the game</i>		J
11 Accommodates to other children when they show friendly and constructive interest in joining his/her play or game		H
12 Listens, attends and does what is required when the teacher addresses a simple positive request specifically to him/her <i>e.g. to get out his/her work book</i>		A
13 Works or plays alongside a child who is independently occupied, without interfering or causing disturbance		G
14 Shows awareness of happenings in the natural world, is interested and curious, and genuinely seeks explanations		B
15 Of his/her own accord returns to and completes a satisfying activity that has been interrupted <i>e.g. s/he finishes a painting or carries on with a written story later in the day or the following day</i>		C
16 Is adequately competent and self-reliant in managing his/her basic personal needs <i>i.e. clothes, toilet, food</i>		A

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17	In freely developing activities involving other children s/he constructively adapts to their ideas and suggestions	I
18	Turns to his/her teacher for help, reassurance or acknowledgement, in the expectation that support will be forthcoming <i>disregard occasional normal negativism</i>	F
19	Accepts disappointments <i>e.g. if an outing is cancelled because it is raining, or s/he is not chosen for favourite activity s/he does no more than complain or briefly moan</i>	J
20	Takes part in a teacher centred group activity <i>e.g. number or language work, or finger games</i> <i>score 2 if s/he does no more than try to follow</i>	A
21	Shows genuine interest in another child's activity or news; looks or listens and gains from experience <i>does not intrude unduly; does not take over</i>	B
22	Shows genuine concern and thoughtfulness for other people; is sympathetic and offers help	I
23	Recalls information of relevance to something s/he reads or hears about and makes a constructive link	C
24	Makes constructive and reciprocal friendships which provide companionship <i>score 3 if the friendship is with one child only</i> <i>score 2 if no friendship lasts longer than a week</i> <i>score 1 if the association is fleeting, albeit constructive and reciprocal</i>	D
25	Contributes actively to the course of co-operative and developing play with two or more other children and shows some variation in the roles s/he takes <i>e.g. in the Play House, other free play activities, or improvised class drama</i>	E
26	Is reasonably well organised in assembling the materials s/he needs and in clearing away <i>reminders only are needed</i>	B
27	Communicates a simple train of thought with coherence <i>e.g. when telling or writing a story or describing an event</i>	C
28	Responds to stories about animals and people with appropriate feeling; appropriately identifies the characters as good, bad, funny, kind etc. <i>disregard response to nursery rhymes or fairy stories</i>	D
29	Makes pertinent observations about the relationship between two other people; appropriately attributes attitudes and motives to them	D
30	Engages in conversation with another child <i>an interchange of information, ideas or opinions is implied</i>	E
31	Looks up and makes eye contact when the teacher is nearby and addresses him/her by name <i>i.e. heeds the teacher; does not necessarily pay attention</i>	F
32	Sits reasonably still without talking or causing disturbance when the teacher makes a general request to all the children for their attention	G
33	Gives way to another child's legitimate need for the classroom equipment s/he is using by sharing it with him/her, or taking turns <i>no more than a reminder is needed</i>	H
34	Shows curiosity and constructive interest when something out of the ordinary happens <i>is secure enough to accept a change or the introduction of something new, is alert to the possibilities of the event and gains from it</i>	D

Any additional comments to amend or extend the information provided by the Profile?

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Section II

DIAGNOSTIC PROFILE

Enter scores for Section II items in the appropriate column of Section II histogram

Score each item in turn according to the Key below

4 Like this to a marked extent

3 Like this at times

2 Like this to some extent

1 Only slightly or occasionally like this

0 Not like this

(If behaviour may exist but has not been observed leave Score blank.


Refer to page 9, 2nd bullet point, of Handbook for discussion).

		Score	column
1	Abnormal eye contact and gaze		V
2	Avoids, rejects or becomes upset when faced with a new and unfamiliar task, or a difficult or competitive situation		R
3	Variable in mood; sometimes seeks and responds to affectionate contact with the adult, at other times rejects or avoids		W
4	Oblivious of people and events; doesn't relate; is 'out of contact and can't be reached'		Q
5	Uncontrolled and unpredictable emotional outburst or eruptions that release and relieve pent-up and endured anger or distress		X
6	Inappropriate noises or remarks, or patterns of behaviour, that are bizarre fragments of no obvious relevance		T
7	Erupts into temper, rage or violence when thwarted, frustrated, criticised or touched; the 'trigger' is immediate and specific		Y
8	Relates and responds to the adult as a baby would; enjoys baby-level pleasures; may happily babble and coo, call out or crawl about, or mirror the others		S
9	Always has to be first, or the best, or have the most attention or get immediate attention		Z
10	Adopts stratagems to gain and maintain close physical contact with the adult		U
11	Lacks trust in the adults' intentions and is wary of what they might do; avoids contact, and readily shows fear		V
12	Self-conscious and easily rebuffed, and hypersensitive to disapproval or the regard in which s/he is held by others		R
13	Contrary in behaviour; sometimes helpful, co-operative and compliant, at other times stubborn, obstinate and resistive, or unheeding		W
14	Repetitively pursues a limited work or play activity which does not progress		Q
15	Spoils, destroys, or otherwise negates the achievement or success s/he has worked for and values		X
16	Gives uninhibited expression to boisterous and noisy behaviour; is not influenced by normal social constraints and expectations		T
17	Reacts defensively even when there is no real threat; is evasive, blames others, finds excuses or denies		Y
18	Over-reacts to affection, attention or praise; gets very excited and may become out of control		S
19	Desperately craves affection, approval and reassurance, but doubts and questions the regard shown; seeks it repeatedly but remains insecure		U

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20	Can't wait for his/her turn or something s/he wants; plunges in or grabs	Z
21	Functions and relates to others minimally, and resists or erupts when attempts are made to engage him/her further	V
22	Self-disparaging and self-demeaning	R
23	Attention-seeking in a bid for recognition or admiration	W
24	Disparaging attitude to other children; is critical and contemptuous	Y
25	Listless and aimless; lacks motivation and functions only with direct and continuing support or pressure	Q
26	Sulks when disapproval is shown, or when attention is withdrawn, or when thwarted	X
27	'Is into everything'; shows fleeting interest, but doesn't attend to anything for long	T
28	Remembers a real or imagined offence, bears a grudge and determinedly takes his/her revenge	Y
29	Clings tenaciously to inconsequential objects and resists having them taken away	S
30	Sullen, resentful, and negative in general attitude and mood	V
31	Can't tolerate even a slight imperfection in his/her work and is upset or angry if s/he can't put it right	W
32	Feels persecuted; imagines that others are against him/her, and complains of being 'got at' and left out	X
33	Restless and erratic; behaviour is without purposeful sequence, continuity and direction	T
34	Determinedly dominates or persecutes by bullying, intimidation, or the use of force	Y

Any additional comments to amend or extend the information provided by the Profile?

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Appendix K: Researcher observations of narrative social interaction

Extract from research observation of Child 6 (NG Session 3, Challenge Time)

Child: 6	Session: 3	Duration: 967.44
NG Phase: Challenge Time		
<p>T2 structures the game play by asking C6 which colour of counter he would like, "Do you want to be orange or white?" C6 points to the orange counter and T2 confirms his choice, saying "orange." T2 continues to set up the game play, holding their attention by confirming counters for each child and talking them through the set up. T2 talks them through the rules of the game, pointing to the game board to explain what she is saying and confirms their understanding of the rules and the goal of the game. She asks C6 to start and talks him through his turn. The game continues with the other children taking their turns and the two teachers guiding their play. T2 assists the children by talking them through their actions while allowing them to be in control of moving their counters. C6 shows interest in the game, leaning forward and watching the others take their turns and frequently smiling. Towards the end of the game the children grow more excited, showing their enjoyment through movement and expression. C7 wins the game and the group share her pleasure. The other children move off to different activities while C6 helps the teachers to tidy away the game.</p>		

Extract from researcher observation of Child 6 (NG Session 4, Challenge Time)

Child: 6	Session: 4	Duration: 526.24
NG Phase: Challenge Time		
<p>The children remain in the Welcome Corner for today's challenge, which is listening to a story-book together. T2 introduces the book by showing the children the picture on the cover and reading the name of the book, "It's called Sonny's birthday prize". While the teacher is introducing the book, C6 is looking down at his hand. He looks up and says "I've hurt my hand" and T2 looks at him and listens while he tells her a story about what happened to his hand. C7 joins in the conversation to tell a story of her own and C6 looks at her and listens. T2 brings everyone's attention back to the story-book by holding up the book and pointing to the picture on the cover while saying "I think this might be Sonny. What do you think?" C6 is looking at the book and shrugs his shoulders and raises his eyebrows to communicate his engagement in the conversation and his response, without using words. As T2 starts to read the story, C6 looks to C9 who is sitting beside him and they share a smile before both turning their gaze back to the book. C6 and C9 alternate their attention between the story-book and each other, sharing smiles and facial expressions of surprise (matching the story line) and enjoyment before C9 turns her full attention to the book. C6 continues to turn to her, however when his actions are no longer reciprocated he focuses his attention solely on the book. Throughout the story, C6 is engaged and appears relaxed, leaning forward at key moments of the story, reclining on the beanbag at others and moving forwards to sit nearer to T2 and the story-book as the children's engagement with the story heightens. C6 shows his engagement by gasping as the storyline is revealed, frequently turning to C9 to see if she is sharing his pleasure. At key moments towards the end of the story, C6 points at pictures in the book and makes verbal responses to the story, gasping with excitement each time the page is turned to reveal more of the story. As the story peaks to reveal the outcome, C6 has moved even closer to T2 and the book and shares his pleasure as they both smile and verbalise the outcome.</p>		

Extract from researcher observation of Child 6 (NG Session 5, Challenge Time)

Child: 6	Session: 5	Duration: 693.68
NG Phase: Challenge Time		
<p>C6 smiles happily as C7 sets up the game and he chooses his snail. The children appear to know the game and T2 reads the rules to remind them. They take turns rolling the dice and moving the snails. C6 fidgets on his chair but remains attentive to the game. As C7 moves her snail to the end of the game, C6 smiles and looks up at T2, clapping his hands, smiling also at C7 as she claps and exclaims "Yeah, I got there first." T2 opens her mouth and smiles as she makes a small gasp and shares the joy with C7 before swiftly moving the game on to see who will be next finished. T2 throws a blue and moves the blue snail to the end, saying in a singing voice that Blue has got to the end, although the children do not respond and continue playing. The teacher on her next move gets the orange snail to the end and again acknowledges it quietly while allowing the game play to continue. As they continue playing C5 enters the room, arriving late for the group and while T2 chats with him C7 moves the green snail to the finish line. C6 immediately exclaims "Yeah" with a broad smile directly at T2 who acknowledges him by looking at him but does not respond to his joy. C6 quickly looks away, trying once more to engage T2 saying "C7 wins....look" and looking up at T2. He looks away when she fails to respond again. The game play continues and C6 smiles each time the final remaining snail moves forward, periodically smiling at T2 who is still talking to C5. When T2 throws a red he immediately exclaims "Yeah" and throws his hands in the air, meeting the gaze of T2 with a smile as they share a moment of joy. C6 then throws another red and moves the snail to the finish line, again throwing his hands in the air and exclaiming "Yeah" as C7 says "I win." T2 smiles but does not look at C6, however as C6 and C7 debate who won the game she returns her attention saying "All the snails got to the end so they all won." C7 leaves the table and C6 and T2 put away the game together.</p>		

Appendix L: Narrative observation extract for Child 6

Extract from narrative observation of C6 during NG Session 4, Free Play 1

Child: 6	Session: 4	Phase: Free Play 1
Introduction		
<p>C6 initiates a game-play interaction by choosing a boxed game (Connect 4), taking it to T2 and asking her to open the box for him. The teacher does this without conversation and C6 takes the opened box and walks towards another child, asking her by name "Do you want to play with me?" The child is busy playing in the house corner with one of the NG teachers and replies to C6 "I can't, I'm baking a cake." C6 turns away from her without comment and takes the game over to a table where he removes the game from the box and starts to set it up. Requiring assistance, he walks towards another teacher (T5) as she is already walking towards him saying "I'll do it with you."</p> <p>C6 and T5 assemble the game together, with T5 assembling the board and C6 sorting the coloured counters. The child knows to place a different set of coloured counters in each person's tray ready to start the game, suggesting that he has played the game before and is familiar with the rules of play. The child and teacher settle down to play the game with the teacher taking the lead, directing the order of play and reaffirming the goal "Do you want to go first? See if you can get four in a row."</p>		
Round 1 of game play		
<p>C6 picks up a counter and places it in the game board and this action is repeated by T5 with one of her counters. The double action (C6 counter, T5 counter) is repeated with both participants eyes on the game, however before placing his third counter C6 looks up at T5 as if looking for reassurance that he is following the actions of the game correctly, then with no reaction from T5 to suggest otherwise, he places his third counter in the board. C6 now has three counters in a row and as T5 places her counter on top of his to thwart his completion of four in a row, she directs the child's attention by saying "Whoa, need to stop you." The child and teacher continue to take turns until T5 has three counters in a row and directs the child's attention to this by saying "Whoa, think T5 is going to get one," again confirming the child's understanding of the goal.</p> <p>At this point, prior to placing her counter in the game board, the teacher becomes distracted from the game play as she realises that her understanding of the game is that the goal is to get four counters in a row, however the game box describes the game as '5 across.' As T5 turns her attention away from the game board to read the game box, C6 follows her gaze. T5 picks up and reads the box "Oh, is this 5 across?" directing her query to T2 who is sitting at another table. During this conversational exchange with others in the room, C6 waits patiently. As he gets tired of waiting, C6 carries on with the game and places his next counter in the board, taking his turn out of sequence. T5 directs her query to the T2 "That's strange...." at which point another child is talking loudly about her own pretend play in the house corner and C6 turns his head to watch her and listen to what she is saying. C6 and T5 are now both distracted from playing the game and T5 draws the attention back, inviting C6 to attend to the game by pointing to her eyes saying "C6 look." As C6 turns to look at her she draws his attention to the game board "What's going to happen now – look" as she places her next counter to make four in a row. Although C6 is watching her action he does not realise the significance, suggesting that the interruption to play has lost his attention to or understanding of the goal. It may be that although the child is familiar with the game he in fact does not understand the goal. He continues play by moving his hand to place his next counter while T5 interrupts his action by placing her hand above his "Oh stop, look what T5's done. I've got four in a row," she points to her four counters, providing confirmation of what is required to win the game. C6 smiles. T5 "So I won that game. Shall we try it again? See if you can get four in a row this time."</p>		
Transition		
A period of transition while the game board is dismantled and set up again ready for the play to resume.		
Round 2 of game play		
<p>C6 takes the lead by taking the first turn and placing his counter in the game board. T5 and C6 continue to take turns, placing their counters one after the other. The game takes on a rhythmic quality with the teacher commencing her movement to place her counter before the child has completed his own movement. As the child attunes to the rhythm of play he starts his own movements earlier, at the time the teacher places her counter but before her movement is complete.</p>		

The child attends to the game, watching the placing of the counters and the game progresses rhythmically without interruption. As the child reaches his final turn (d) he displays a broad smile at the realisation that he is about to win the game, and the teacher reciprocates with a smile. Following the completion of his turn, C6 immediately raises his arms in the air and lets out a joyous exclamation "Yeah!" The teacher reciprocates with a sharp intake of breath to acknowledge that the child has won the game. C6 turns to T2 who is sitting to his right who smiles and T5 follows his gaze, with the moment of joy being shared by all three.
Transition
A period of transition while the game board is dismantled and set up again ready for the play to resume. T5 continues to respond to C6 winning the game, saying "How many did you get in a row? Four, well done" while they tidy the game pieces.
Round 3 of game play
T5 plays the first counter and both participants are attending to the game board. They take turns, following swiftly after each other, both smiling and focusing on the game play. T5 narrates the game play, saying "Woah, T5 is in the lead" and as she places her fourth counter in a row, "Woah, you could have stopped me." As the final counter drops in, T5 exclaims "She's done it" at which point T5 and C6 look at each other and share a broad smile, while both throw their hands in the air and C6 exclaims "Yeah!" As they share this moment of joy, C7 who has been watching from a distance also smiles broadly.
Transition
A period of transition while the game board is dismantled and set up again ready for the play to resume.
Round 4 of game play
C6 takes the first turn, smiling as he plays. The turns are taken in quick succession and as the counters build up T5 puts her hand out to slow C6's actions, reminding him of the goal of the game, saying "Wait, stop, you need to try and stop T5 from getting four in a row." They continue play and C6 continues to smile broadly throughout, looking up at T5 from time to time, however the teacher's attention is focused on the game board. C6 is distracted from the game at one point as he watches and listens to C7 in conversation with T2. However, without prompting he turns his attention back to the game and continues his turn. His attention wanders to C7 for a second time and T5 redirects his attention as she prepares to place the winning counter, saying "C6, look, T5 is going to get it." C6 acknowledges the win with a broad smile, however this is not shared and he continues to play the game, seemingly unaware that this is the end of the round. He is still smiling as they move into the transition phase.
Transition
A period of transition while the game board is dismantled and set up again ready for the play to resume.
Round 5 of game play
C6 takes the first turn and game play commences, however his attention is frequently distracted to the actions of others around him. C7 and T2 are moving around nearby and C7 is loudly preparing for a game. As the game play progresses, T5 continually draws the child's attention back to the game board by highlighting the counters and the outcome of the participants actions. When T5 plays the winning counter, she again has to draw the child's attention to it, counting out the coloured row of counters, "1, 2, 3, 4" at which point C6 lets out an exclamation and throws his hands in the air, while T5 simultaneously inhales a sharp gasp of breath. They both share a smile as the game comes to a conclusion.

Appendix M: Description of narrative social interaction activities

Activities where narrative social interaction is observed for children in NG1	
Activity	Description
Board games	Board Game Play in NG1 includes games where a group of children played a game collectively on one large board, such as <i>Snakes and Ladders</i> , <i>Snails Pace Race</i> and <i>Pirates Ahoy</i> , and games where each child in the group plays on an individual board, such as <i>Incy Wincy Spider</i> , <i>On the Farm</i> and <i>The Tower Game</i> . For the group large-board games, the children take turns of throwing the dice and moving their counter, depending on the number or colour shown on the dice. The objective is to reach an end point, with the child whose counter is first to reach the end point winning the game. <i>Snails Pace Race</i> is played slightly differently as the coloured snails do not belong to individual children and therefore the winner is the snail rather than the child. With the individual board games, each child has their own small board on which to play the game, however the turn-taking by rolling the dice one after another is the same. The children then place counters or tiles on their own board and the winner is the first to complete all of the spaces on their board. A third type of board game is also played, such as <i>On The Farm</i> , where each child has their own board, however there is no dice and the game does not involve turn-taking and rounds. <i>On The Farm</i> is similar to <i>Bingo</i> – each child's board has a number of pictures of farm animals, one of the teachers plays animal sounds on a CD player and the children place a tile on their board if they have the animal picture that corresponds to the sound. Again, the winner is the person who completes their board first.
Card game	There is one card game, <i>Spotty Dog</i> , observed in NG1 between a teacher and two children. This game is described in Chapter 3, Case Study.
Group active play	<p><i>Pass the Parcel</i>: The children sit in a circle with one of the teachers, while the second teacher sits to the side of the circle to operate the music player. Teacher 1 (T1) starts by drawing the children's attention to the activity as she asks "Now, do you know how we play this game?" before describing the rules. As she describes the rules, she pauses occasionally to allow the children to fill in the gaps with their existing knowledge of the game play. When one of the children wanders away from the circle, distracted, she stops and asks him to return to the group, waiting until he does so before continuing. One of the children asks about the wrapping paper on the parcel and T1 takes this opportunity to remind the children of the goal of the game, saying "We'll have to wait and see who opens it up." The game then starts with Teacher 2 (T2) beginning the music and T1 passing the parcel to the child who has just returned to the circle, drawing his attention to the game. The children pass the parcel from one to the other, concentrating their attention on the parcel, and T2 reminds them of the rules as they go along with verbal prompts. The game continues until all the layers are opened and concludes when the final prize is revealed, with the whole group sharing the joy.</p> <p><i>Dooking for Apples</i>: This activity involves all of the Nurture children and both teachers. It starts with Teacher 2 asking the children "Does everybody know how to dook for apples?" One of the children responds with a description of the activity and the teacher clarifies the rules that they will follow today, as there are different ways to play. The children and teachers gather in a circle around a bowl of water and apples that is lying on the floor. A chair is placed beside the bowl and Teacher 2 directs the first child to kneel on the chair and hold a fork above the apple bowl. The child then lets go of the fork in an attempt to pierce an apple. The children and teachers take turns until they have all successfully pierced an apple and the activity ends when the final apple is pierced.</p>
Pretend play	The Pretend Play that is observed in NG1 to include narrative interaction is between a child and teacher playing with hand puppets during a Free Play session. The child initiates the interaction and leads the game, handing a puppet to the teacher and telling her "You can be the witch and

Activities where narrative social interaction is observed for children in NG1	
Activity	Description
	steal Goldilocks.” Once the play commences, the child and teacher each take control of their own puppets, creating their own dialogue and actions for the puppets to interact together. The play takes the form of a conversation between the two puppets with the child and teacher taking turns to speak as they move their puppets.
Creative play	The Creative Play that is observed in NG1 to include narrative interaction is a group activity during Challenge Time where the children and teachers sit around a table and create shared posters. The teacher introduces the activity, describing the task whereby the children will choose from a selection of ‘face’ pictures, decide if the picture is of a happy face or a sad face and then paste it on to the corresponding poster, to create a happy poster and a sad poster. The pictures are set out on a tray and the teacher offers the tray to the first pupil, asking “Would you like to choose a picture?” The tray is then offered in turn to each person round the table. When everyone has taken a picture, the first child is asked to show everyone her picture and the teacher asks the child whether it is a happy or sad face and how does she know. The child is then invited to glue the picture onto the correct poster and the other children and the two teachers observe. This process continues, moving round the group with the teacher initiating each person’s turn and group discussion encouraged about each of the pictures. The activity ends when the posters are complete with the teacher rounding off the discussion about the completed posters.

Activities where narrative social interaction is observed for children in NG2	
Activity	Description
Creative play	Creative Play activities involve a combination of group and 1:1 activities. Some of the Creative Play takes place between two or more children, with no teacher contribution, such as building a construction toy together and creating objects with play dough. During Challenge Time there are science and craft activities that take place in a group setting with children and teachers present. Construction toy: Two children work together to create a construction toy from blocks and shapes that join together. One child leads the play by deciding on the toy that he will build from a picture in a booklet and the other child joins in. They both consult the picture and jointly build the model by adding pieces, sharing their pleasure together in the shared endeavour.
Card game	The card games observed in NG1 are <i>Ladybirds</i> and <i>Spotty Dog</i> , with both instances being group activities involving a teacher and three children.
Board game	Snails Pace Race and The Golden Apple are both board games played by multiple players. In Snails Pace Race, the game can be played with each player selecting their own game piece (snail) and racing to reach the finish line, or by all of the game pieces (snails) being neutral and the players racing the snails, as opposed to each other.

Activities where narrative social interaction is observed for children in NG3	
Activity	Description
Action song	In NG3, Circle Time starts each week with a <i>Hello Song</i> and finishes with a <i>Goodbye Song</i> . For these songs, the children and teachers sit in a circle and sing together, with the song taking a circular motion from person to person, as the group sing together “Hello (or goodbye) to [Child/Teacher X]” and [Child/Teacher X] responds by waving and singing “Hello” (or goodbye).
Group	<i>Derek the Duck</i> : The children and teachers sit in a circle. One of the teachers has a small soft toy

Activities where narrative social interaction is observed for children in NG3	
Activity	Description
active play	<p>duck called Derek. The children are introduced to Derek in their first session in the Nurture Group. The circle time activity involves the duck being passed round the circle with each person taking a turn to tell something to the duck. For example, the teacher may say, "Today we are going to tell Derek our name and what we had for breakfast". The teacher then takes the first turn by saying "Hello Derek, my name is [X] and today I had [toast and jam] for my breakfast". The duck makes a chirping sound when his stomach is pressed and the teacher will then press his stomach and verbalise the duck's response, for example, "Derek says that sounds lovely [teacher/child's name]". The teacher then passes the duck to the child sitting next to them and prompts them to take a turn to tell Derek what they had for breakfast. This continues round the circle until everyone has taken a turn.</p> <p><i>Learn 5 Skills:</i> The children and teachers sit in a circle. One of the teachers starts the activity by saying "Today we are going to learn our five skills for Circle Time". The teacher has a booklet that contains five pages, with each page showing a number from one to five and a picture to illustrate one of the five skills: looking, speaking, listening, thinking, concentrating. The teacher starts by saying, "[Child X] can you tell me what number this is?" The child then says the number if they know it or the teacher asks another child who appears to know. The teacher then points to the picture and says, for example "We use our eyes for....." then lets the child say "looking". The teacher then confirms this by saying "That's right [Child X], we use our eyes for looking. Well done". This continues round the circle, or by the teacher choosing children that are paying attention, until all five skills have been talked about. The teacher then recaps on the five skills one at a time, allowing the children to collectively fill in the gaps in her speech.</p> <p><i>Treasure Box:</i> The children and teachers sit in a circle. One of the teachers has a box with a lid that contains a number of small items. The teacher picks up the box and says "We're going to have a look in the box and see if you can choose your favourite thing. Shall I start?" The teacher opens the lid and looks in the box, saying "Today my favourite is going to be....." before picking an item out of the box and saying what it is, for example "the panda" and holding the item (small toy panda animal) for the children to see. The teacher then tells the children why she likes this item, for example "I like the colours on the panda". The teacher then puts the item back in the box, closes the lid and passes the box to the child next to them in the circle, saying "[Child X], would you like to choose your favourite?" The teachers remind the children of the five Circle Time skills throughout the activity, helping them to sit still and concentrate on the activity, while talking to the child who has the treasure box, encouraging them to pick an item and tell the others in the group why they chose it. This continues round the circle until all children and both teachers have taken their turn.</p>
Story-book	<p><i>Story-book reading</i> takes place in the Welcome Corner and is the concluding activity at the end of each NG session before the children return to their nursery class. The teacher who is reading the story-book sits on the sofa and the children sit facing the teacher on the floor. The second teacher also joins the session, choosing whether to sit beside the first teacher or on the floor with the children and this is often dependent on how comfortably the children are sitting. The teacher introduces the story by showing the children the book cover and reading out the title of the book, allowing the children to talk about what the story may be about as she draws their attention to the book. The teacher reads the story, using descriptive actions and tone of voice as she narrates, building the excitement and anticipation of the story and allowing the children to join in. While reading the story, the book is facing the children so that they can follow the pictures, helping to build their understanding of, and engagement with, the story. Where children are familiar with the story they may call out words of the story ahead of the teacher and sometimes the teacher will deliberately pause to allow them to fill the gap.</p>

Activities where narrative social interaction is observed for children in NG3	
Activity	Description
Card game	<p>There are three occurrences of card game play observed in NG3, spanning two types of play. The first type involves matching and counting games, such as Spotty Dog and Ladybirds, while the second type involves hand-held cards in a traditional game of Snap between two players.</p> <p><i>Spotty Dog</i> is played with two teachers and three children during a Free Play phase. It is a number and counting game where participants take turns to spin the spinner and find the dog with that number of spots, then turn over the card to see how many bones it is worth. The game ends when all of the cards are selected and the winner is the participants who has the greatest number of bones.</p> <p>In <i>Ladybirds</i>, the players take turns to roll the dice before counting the spots on cards that are laid face down on the table, then turning over the card and counting the ladybirds hiding on the leaves. The player with the most ladybirds at the end of the game is the winner.</p>
Board game	<p>Three instances of board game are observed in NG3 during Free Play phases. The board games played are:</p> <p><i>Snails Pace Race</i>: Play takes place on a game board with coloured snail counters, which are not usually allocated to individual players. Therefore it is the snail that wins the game as opposed to a player. This means that all of the players in the game are equal participants who have no vested interest in the outcome of the game and the goal is to help all of the snails to complete the race. However, in this particular game play, the rules are varied to allow each participant to select a coloured snail with the objective of winning by racing the snails to the finish line. The game is played until all snails get to the finish line with the winner being the participant whose coloured snail reaches the end before the other participant's snail.</p> <p><i>Shopping List</i>: In this game, each participant has their own individual game board that displays an empty shopping trolley, plus a shopping list card that displays a number of shopping items in writing and pictures. The participants take turns to select from cards that are spread face down on the table and match the shopping items they uncover to those on their list. It is a game of memory and matching, with the winner being the first to complete their shopping trolley.</p>
Creative play	The creative play that is observed in NG3 involves a child and teacher working together to build a construction toy.

Activities where narrative social interaction is observed for children in NG4	
Activity	Description
Board game	<p><i>Snails Pace Race</i>: Four children come together to play the game in Challenge Time with a teacher who is involved with their play but is not a player in the game. The children set up the board and game pieces but encounter difficulty agreeing the rules of play, so the teacher sets out the rules and assists them to start the game play by agreement that the youngest child takes the first turn. Throughout the game the teacher takes the role of observer, intervening when there are disagreements between the children and assisting in the smooth running of the game play by prompting children to take their turn at the correct time. The children lose interest in the game before there is a winner and leave the game unfinished to pursue other activities.</p> <p><i>What's the time Mr Wolf</i>: During Challenge Time four children sit round a table to play the board game with a teacher who is involved with their play but is not a player in the game. The teacher describes the rules of the game and assists the game flow as the children do not appear to be familiar with the rules of the game. The teacher prompts children to take their turn and describes the actions that they should take, such as rolling the dice and moving their game piece. One child leaves the game before it is completed and the other children lose interest and also stop playing</p>

Activities where narrative social interaction is observed for children in NG4	
Activity	Description
	before a conclusion is reached.
Card game	There is one observed card game in NG4, which is a group interaction during Challenge Time. The game is Happy Families and is played among a group of four children and one teacher who sit in a circle around a table. The teacher deals the cards so that each player has an equal number. The players then take turns to ask each other for a card that they need to complete a family, with the goal to collect as many families as possible. The play continues in a turn-taking manner until all of the families are complete and there are no cards left to play. The winner of the game is the player that has the most completed families of cards.

Appendix N: Levels of Wellbeing and Involvement during narrative interaction

NG1

Levels of Wellbeing and Involvement during completed narrative activity (NG1)

NG1 Wellbeing and Involvement by activity type for complete narratives												
Participant	Activity category	Incidences	Wellbeing score					Involvement score				
			5	4	3	2	1	5	4	3	2	1
5	Creative play	1	0	1	0	0	0	0	1	0	0	0
	Board Game	3	1	2	0	0	0	0	3	0	0	0
7	Pretend Play	1	1	0	0	0	0	1	0	0	0	0
	Card Game	1	0	1	0	0	0	0	1	0	0	0
8	Group active play	2	1	1	0	0	0	1	1	0	0	0
	Board Game	2	0	2	0	0	0	0	2	0	0	0
Total	5	10	3	7	0	0	0	2	8	0	0	0

Levels of Wellbeing and Involvement during incomplete narrative activity (NG1)

NG1 Wellbeing and Involvement by activity type for incomplete narratives												
Participant	Activity category	Incidences	Wellbeing score					Involvement score				
			5	4	3	2	1	5	4	3	2	1
5	None	0	0	0	0	0	0	0	0	0	0	0
7	Pretend play	2	1	1	0	0	0	1	1	0	0	0
8	None	0	0	0	0	0	0	0	0-	0	0	0
Total	1	2	1	1	0	0	0	1	1	0	0	0

NG2

Levels of Wellbeing and Involvement during completed narrative activity (NG2)

NG2 Wellbeing and Involvement by activity type for complete narratives												
Participant	Activity category	Incidences	Wellbeing score					Involvement score				
			5	4	3	2	1	5	4	3	2	1
1	None	0	0	0	0	0	0	0	0	0	0	0
2	Creative Play	2	1	1	0	0	0	1	1	0	0	0
3	Creative Play	2	0	2	0	0	0	1	1	0	0	0
	Board Game	4	1	3	0	0	0	2	2	0	0	0
4	Creative Play	1	0	1	0	0	0	0	1	0	0	0
	Board Game	2	1	1	0	0	0	1	1	0	0	0
Total	2	11	3	8	0	0	0	5	6	0	0	0

Levels of Wellbeing and Involvement during incomplete narrative activity (NG2)

NG2 Wellbeing and Involvement by activity type for incomplete narratives												
Participant	Activity category	Incidences	Wellbeing score					Involvement score				
			5	4	3	2	1	5	4	3	2	1
1	Board game	2	0	1	0	1	0	0	0	1	1	0
	Story book	1	0	1	0	0	0	0	0	1	0	0
2	Creative play	2	0	1	1	0	0	0	1	1	0	0
3	Creative play	1	0	1	0	0	0	0	1	0	0	0
4	Creative play	3	0	2	1	0	0	1	2	0	0	0
Total	3	9	0	6	2	1	0	1	4	3	1	0

NG3

Levels of Wellbeing and Involvement during completed narrative activity (NG3)

NG3 Wellbeing and Involvement by activity type for complete narratives												
Participant	Activity category	Incidences	Wellbeing score					Involvement score				
			5	4	3	2	1	5	4	3	2	1
11	Action song	6	0	6	0	0	0	0	6	0	0	0
	Group activity	5	0	5	0	0	0	0	5	0	0	0
	Card game	1	1	0	0	0	0	1	0	0	0	0
	Group active play	1	0	1	0	0	0	0	1	0	0	0
	Creative play	1	1	0	0	0	0	1	0	0	0	0
	Story book	1	0	1	0	0	0	0	1	0	0	0
12	Action song	3	0	3	0	0	0	1	2	0	0	0
	Group activity	2	0	2	0	0	0	0	2	0	0	0
	Story book	1	0	1	0	0	0	0	1	0	0	0
13	Group activity	3	2	1	0	0	0	1	2	0	0	0
	Board game	1	0	1	0	0	0	0	1	0	0	0
	Action song	2	0	2	0	0	0	0	2	0	0	0
	Story book	2	1	1	0	0	0	1	1	0	0	0
14	Group activity	3	0	3	0	0	0	0	3	0	0	0
	Board game	1	1	0	0	0	0	1	0	0	0	0
Total	7	33	6	27	0	0	0	6	27	0	0	0

NG3

Levels of Wellbeing and Involvement during incomplete narrative activity (NG3)

NG3 Wellbeing and Involvement by activity type for incomplete narratives												
Participant	Activity category	Incidences	Wellbeing score					Involvement score				
			5	4	3	2	1	5	4	3	2	1
11	Story book	4	0	3	1	0	0	0	2	2	0	0
	Action song	5	0	3	2	0	0	0	3	2	0	0
	Group active play	3	0	3	0	0	0	0	3	0	0	0
	Creative play	1	0	1	0	0	0	0	1	0	0	0
	Card game	2	0	2	0	0	0	0	2	0	0	0
12	Story book	4	0	3	1	0	0	0	2	2	0	0
	Group active play	8	0	5	2	1	0	0	3	3	2	0
	Action song	2	0	1	1	0	0	0	1	0	1	0
13	Action song	9	1	6	2	0	0	1	4	2	1	0
	Group active play	5	0	4	1	0	0	0	3	1	1	0
	Board game	1	0	1	0	0	0	0	1	0	0	0
	Story Book	1	0	1	0	0	0	0	0	1	0	0
14	Action song	10	0	3	5	2	0	0	2	3	1	4
	Group active play	6	0	4	2	0	0	0	3	2	1	0
	Creative play	1	0	1	0	0	0	0	1	0	0	0
	Story book	3	0	2	1	0	0	0	1	1	1	0
Total	5	65	1	42	18	3	0	1	31	18	8	4

NG4

Levels of Wellbeing and Involvement during completed narrative activity (NG4)

NG4 Wellbeing and Involvement by activity type for complete narratives												
Participant	Activity type	Incidences	Wellbeing score					Involvement score				
			5	4	3	2	1	5	4	3	2	1
15	None	0	0	0	0	0	0	0	0	0	0	0
16	None	0	0	0	0	0	0	0	0	0	0	0
17	None	0	0	0	0	0	0	0	0	0	0	0
18	None	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0

Levels of Wellbeing and Involvement during incomplete narrative activity (NG4)

NG4 Wellbeing and Involvement by activity type for incomplete narratives												
Participant	Activity type	Incidences	Wellbeing score					Involvement score				
			5	4	3	2	1	5	4	3	2	1
15	None	0	0	0	0	0	0	0	0	0	0	0
16	Board game	4	0	4	0	0	0	0	2	2	0	0
17	Board game	1	0	0	1	0	0	0	0	1	0	0
18	Card game	1	0	0	1	0	0	0	0	1	0	0
	Board game	1	0	0	1	0	0	0	0	1	0	0
Total	2	7	0	4	3	0	0	0	2	5	0	0