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The impact and cost effectiveness of Nurture Groups in Primary Schools in Northern Ireland

Seaneen Sloan, Karen Winter, Fiona Lynn, Aideen Gildea and Paul Connolly

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THE IMPACT AND COST-EFFECTIVENESS OF NURTURE GROUPS IN PRIMARY SCHOOLS IN NORTHERN IRELAND

SEANEEN SLOAN, KAREN WINTER, FIONA LYNN,
AIDEEN GILDEA & PAUL CONNOLLY

FINAL REPORT TO THE DEPARTMENT OF EDUCATION
FOR NORTHERN IRELAND

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**Centre for Effective Education, School of Education, Queen's University Belfast,
69-71 University Street, Belfast BT7 1HL**

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Contents

Executive Summary

Nurture Groups

Nurture Groups are widespread throughout the UK, with an estimated 1,500 currently in operation and registered with the Nurture Group Network. They represent a short-term and focused intervention to address barriers to learning arising from unmet attachment needs. They are a targeted programme, aimed at pupils who have difficulties coping in mainstream classes, who fail to engage in the learning process, and who may otherwise be at risk of underachievement, leading to Special Educational Needs support or the need for education outside of the school setting.

The classic model for Nurture Groups involve classes of about 10-12 children, typically in the first few years of primary school, and staffed by a teacher and teaching/classroom assistant. The aim of the Groups is to provide children with a carefully planned, safe environment in which to build an attachment relationship with a consistent and reliable adult. Children spend the majority of the school week in the Group, receiving highly structured and supported learning experiences, but where possible re-join their mainstream class for registration, assembly, break, lunch and home time. Pupils attend the Group for between two and four terms, after which the ultimate aim is that they can reintegrate into their mainstream class on a full-time basis.

In Northern Ireland, there are a number of established Nurture Groups that have been operating for many years, with some schools self-funding or accessing funds through the Department for Social Development (DSD) Neighbourhood Renewal Investment Fund. The Office of the First Minister and Deputy First Minister announced funding for 20 new Nurture Groups in 2012, through the Delivering Social Change (DSC) Signature Projects. The Department for Education (DE) and DSD are delivering this project, and DE has invested further funds for the continued provision of 10 established Nurture Groups in schools in which funding was coming to an end.

The Present Evaluation

Commissioned by the Department of Education, the objectives of the present evaluation are:

- To assess the effectiveness of nurture provision in improving child social, emotional and behavioural development, and ability to learn, both within the Nurture Group and following reintegration with the mainstream class;
- To assess the cost-effectiveness of nurture provision in achieving its objectives.

There are four elements to the present evaluation:

- Stage 1:an analysis of data for 529 children from 30 primary schools who had previously attended Nurture Groups (the 20 Signature Project schools and the 10 established Nurture Groups) to assess their progress during their time in the Groups and the potential factors associated with the progress made;
- Stage 2: a quasi-experimental trial involving 384 children in total and comparing the progress of those currently attending Nurture Groups in the 30 primary schools (during the 2014/15 school year) with children in 14 matched schools with no Nurture Group provision;
- a cost-effectiveness analysis and economic review of Nurture Group provision; and
- a qualitative process evaluation involving interviews with school principals, Nurture Group teachers and class assistants, mainstream teachers, parents and children as well as observations of the Nurture Groups in practice.

Impact of Nurture Group Provision

This evaluation found clear evidence that Nurture Group provision in Northern Ireland is highly successful in its primary aim of achieving improvements in the social, emotional and behavioural skills of children from deprived areas exhibiting significant difficulties.

Findings from Stage 1: analysis of previous data

Analysis of the data gathered on the 529 children that had previously attended Nurture Groups showed that, on average, they had made consistently large improvements in social, emotional and behavioural development (see Figures E.1 and E.2). This was measured using the Boxall Profile (see brief description in Box E.1). The size of change in Boxall scores over time is expressed as an 'effect size' (Cohen's d). An effect size of .2 may be considered a 'small' change, .5 is a 'medium change' and.8 or above a 'large' change. In relation to the Boxall Profile, pupils demonstrated significant improvements with regard to the overall developmental strand scale (which assesses the extent to which children exhibit positive attitudes and behaviours) (effect size, d = +1.64) and similarly large reductions in the diagnostic profile (which assesses the level of children's negative behaviours and attitudes) (d = -1.02).

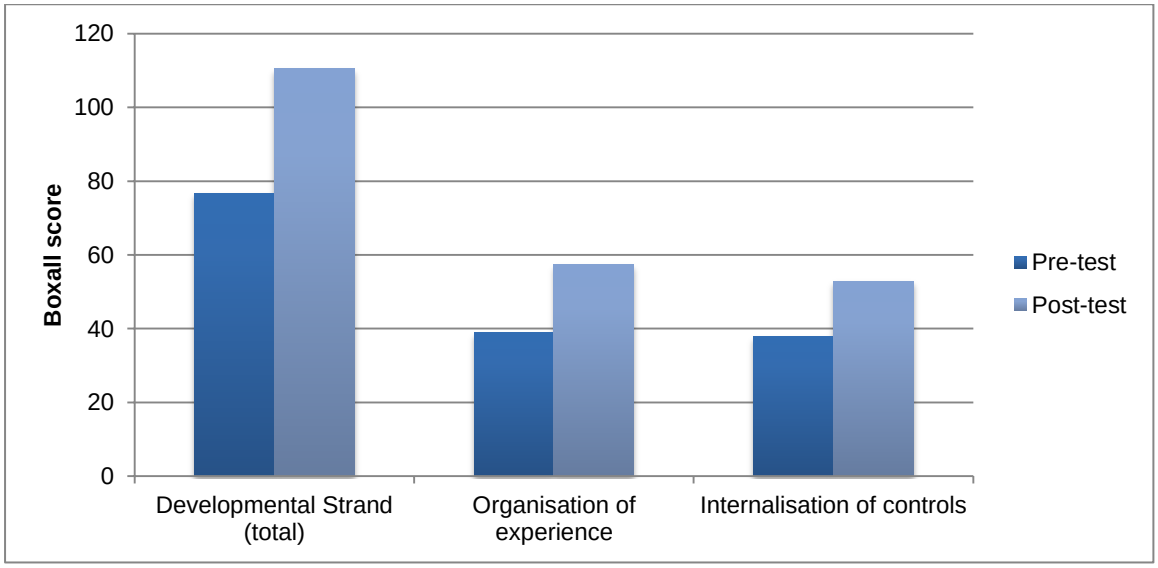
Box E.1: Description of the Boxall Profile

The Boxall Profile is a tool designed for use in Nurture groups. It contains:

- a Developmental Strand which measures aspects of the developmental process in the early years that lays the foundation for being able to function socially, emotionally, behaviourally and academically in school; and
- a Diagnostic Profile which measures behaviours that act as a barrier to full and satisfactory participation in school.

Total scores for both sections can range from 0 to 136.
Positive progress over time on the Developmental Strand is indicated by an increasing score, while positive progress on the Diagnostic Profile is indicated by a decreasing score.

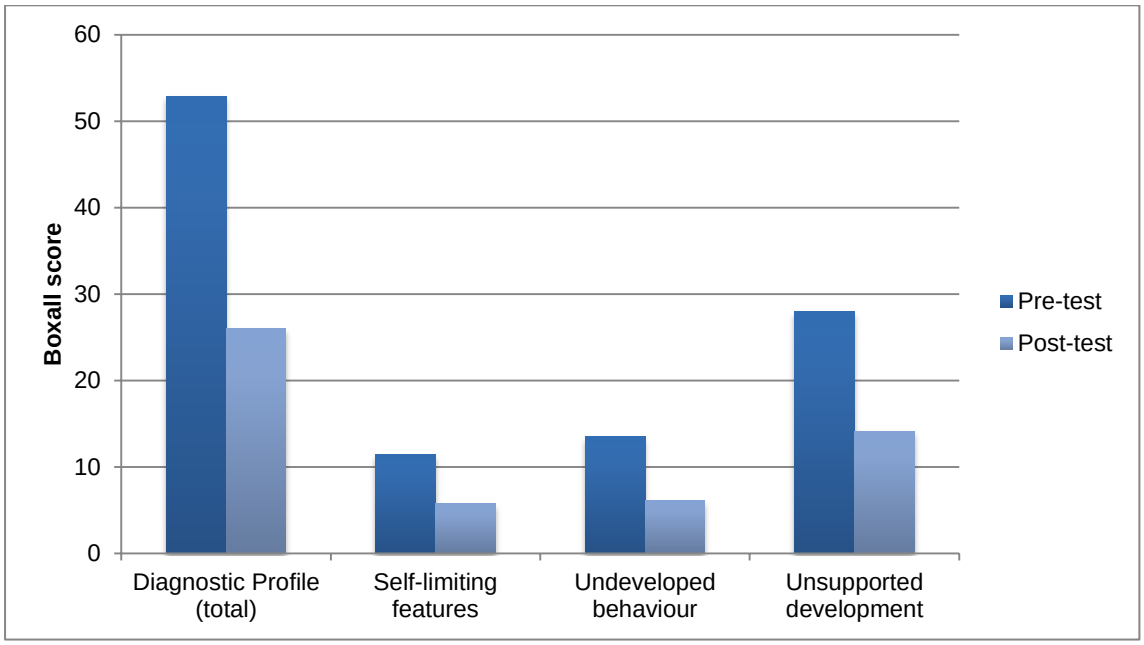
Figure E.1. Mean scores on the Developmental Strand (and associated clusters) at pre- and post-test (increasing scores denote a positive change)



Moreover, these levels of improvement were found to occur for all groups of children, regardless of gender, age, whether there has been social services involvement or the particular stage of the Special Education Needs Code of Practice a child is at on entry to

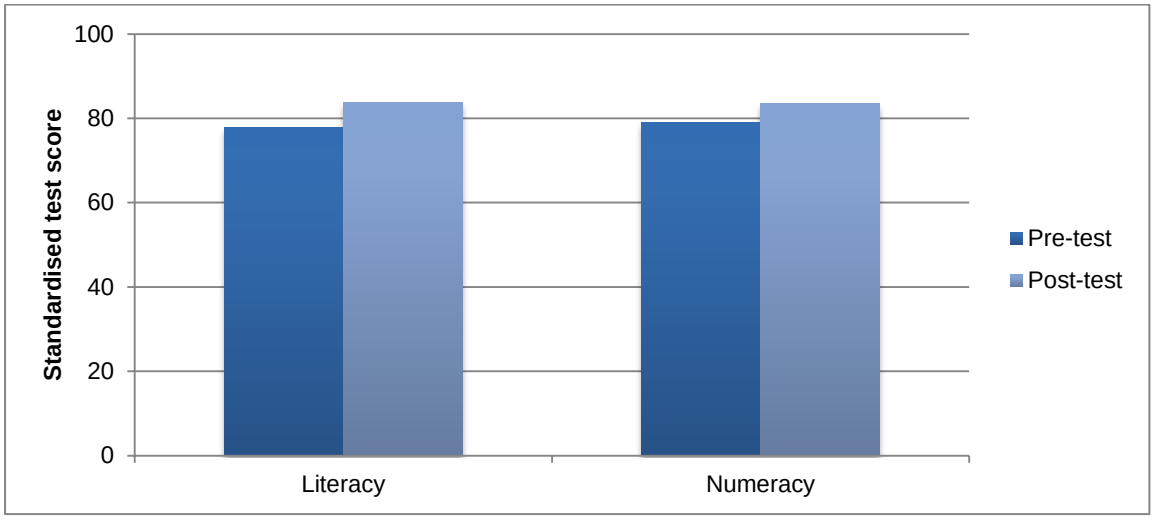
Nurture Group. However, whilst progress was found amongst children from all subgroups identified, there was some evidence that greater progress was being made by: those attending on a full-time basis; looked after children; and by those not eligible for free school meals.

Figure E.2. Mean scores on the Diagnostic Profile (and associated clusters) at pre- and post-test (decreasing scores denote a positive change)



There were also smaller, but significant improvements found in relation to academic attainment in literacy and numeracy (d= +.61 and +.40 respectively; see Figure E.3), although no notable change was found in relation to school attendance or suspension patterns (however, it should be noted that any significant change is unlikely to be evident, as pupils at Key Stage 1 are less likely to be suspended).

Figure E.3. Literacy and numeracy standardised test scores at pre- and post-test



Whilst these findings were very encouraging, they needed to be treated with some caution given that they are not based upon a comparison with a control group of similar children not attending Nurture Groups. As such, it is not possible to determine how much of these gains made were due to Nurture Group provision and how much would have happened in any case.

Stage 2: Findings from quasi-experimental trial

It is with this in mind that a quasi-experimental trial was undertaken involving 384 pupils, comparing the progress made by those currently attending Nurture Groups in 30 schools during 2014/15 with the progress of similar children attending 14 other matched primary schools not offering Nurture provision. These schools were identified from the list of schools that satisfied the original criteria for allocation of Signature Project funding (i.e., schools with above average proportion of pupils eligible for free school meals, below average attendance, below average attainment at KS1 and KS2 and above average numbers of pupils with a statement of special educational needs).

The level of progress made by children attending Nurture Groups in this stage was found to be very similar, on average, to that found from the analysis of data on children from Stage 1 of the evaluation. Most notably, whilst such Nurture Group children experienced large gains in social, emotional and behavioural skills, there was no evidence of any change found amongst similar children attending the matched control schools that had no nurture provision (see Figures E.4 and E.5). Thus, for example, whilst 77.7% of children who entered Nurture Groups as part of the trial were exhibiting difficult behaviour (as measured by the SDQ total

difficulties score), this reduced to just 20.6% at post-test. However, for those children in the control schools, 62.8% of children exhibited difficult behaviour at the start of the year and this remained largely unchanged at post-test (61.9%).

Figure E.4. Mean scores on the Developmental Strand (and associated clusters) for the intervention and control groups at pre- and post-test

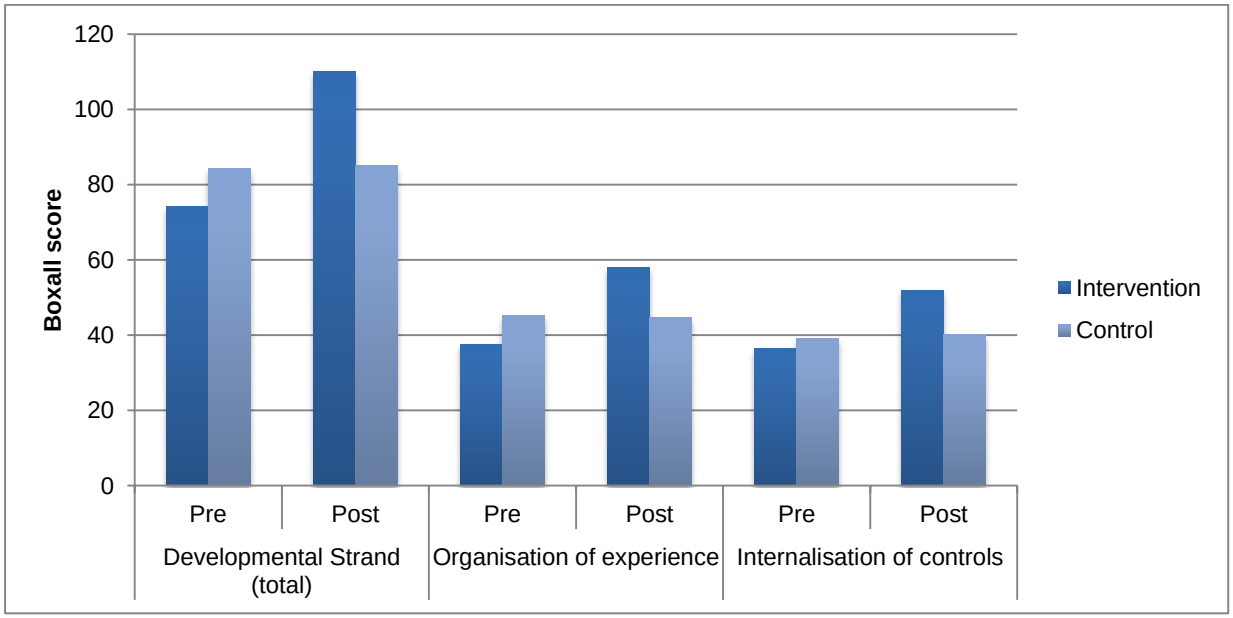
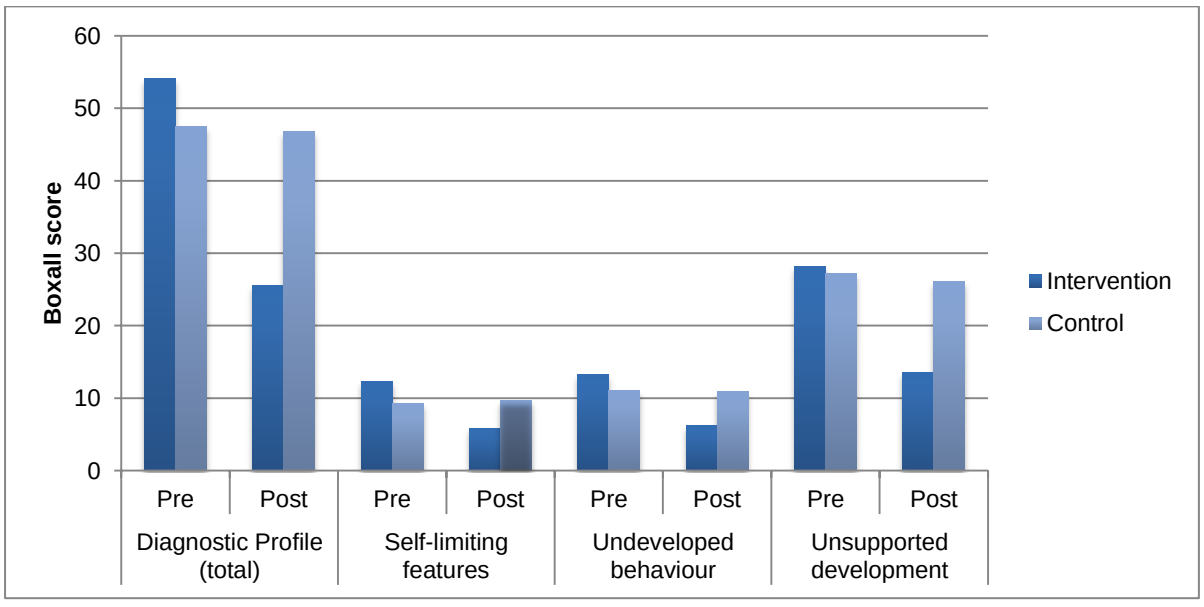


Figure E.5. Mean scores on the Diagnostic Profile (and associated clusters) for the intervention and control groups at pre- and post-test



Moreover, when analysing the data from the trial more formally, and controlling for pre-test differences, the gains made by the children attending Nurture Groups remained large and similar in order to those found from the earlier analysis of the past pupil data in Stage 1 (see Figures 6 and 7). In relation to the Boxall profile, for example, the children made large improvements in overall development strand scale (d = +1.35) and similarly large reductions in the diagnostic profile (d = -.90). Similarly, and with regard to the SDQ, they also made notable gains in relation to prosocial behaviour (d = +.93) and reductions in total difficulties scores (d = -1.30). Whilst the trial did not find evidence of improvements in academic attainment in literacy or numeracy, Nurture Group pupils reported significantly greater enjoyment of school compared to pupils in the control group. Therefore it is possible that improvements in academic attainment may be medium to longer-term outcomes of nurture provision that follow once engagement with learning and school in general is achieved. Indeed, this is supported by the qualitative data, where teachers felt that barriers to learning were removed through nurture provision, facilitating pupil engagement in the classroom.

As in Stage 1 of the evaluation, and for the most part, Nurture Groups tended to be equally likely to lead to positive gains regardless of variations in the school's characteristics or the characteristics of the pupils. One exception to this was school size, where an inverse relationship was found between school size and amount of progress, such that pupils in smaller schools tended to make greater gains. The other main exception was in relation to the children's pretest scores, whereby those exhibiting higher levels of social, emotional and behavioural difficulties when entering Nurture Group were more likely to make the greatest gains.

For the most part, the findings from both the analysis of past pupil data and that gained from the quasi-experimental trial (Stages 1 and 2) were largely consistent with existing evidence reported from evaluations of Nurture Groups elsewhere. The one slight area of divergence was in relation to the effects of Nurture Group provision on academic outcomes where the findings were mixed. However, it could be argued that these are more appropriately regarded as medium to long-term outcomes of Nurture Group provision and likely to follow improvements in social, emotional and behavioural outcomes.

Figure E.6. Adjusted post-test means for Developmental Strand (and associated clusters)

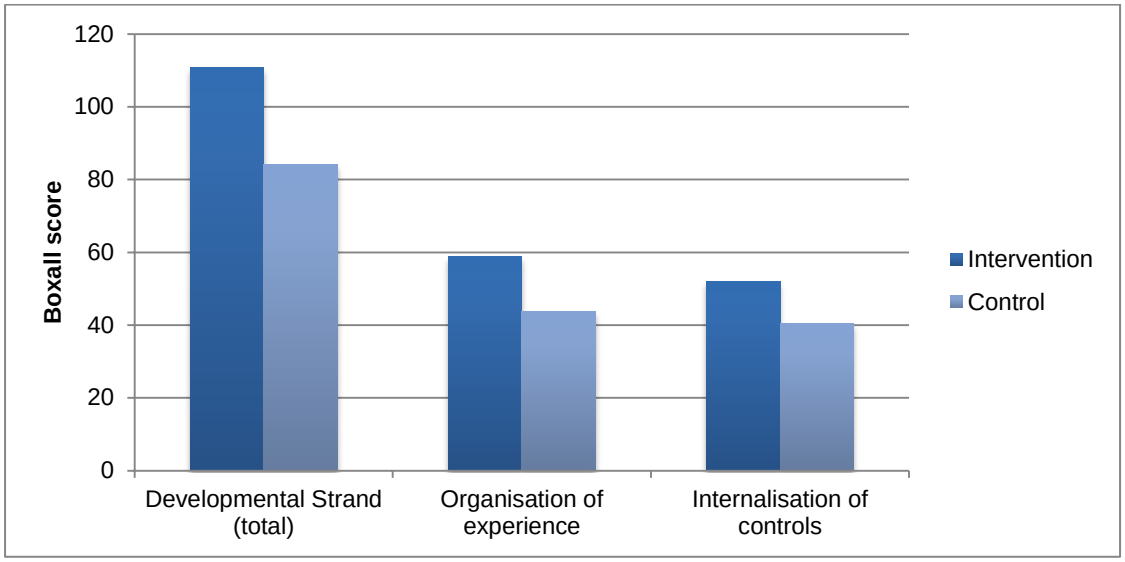
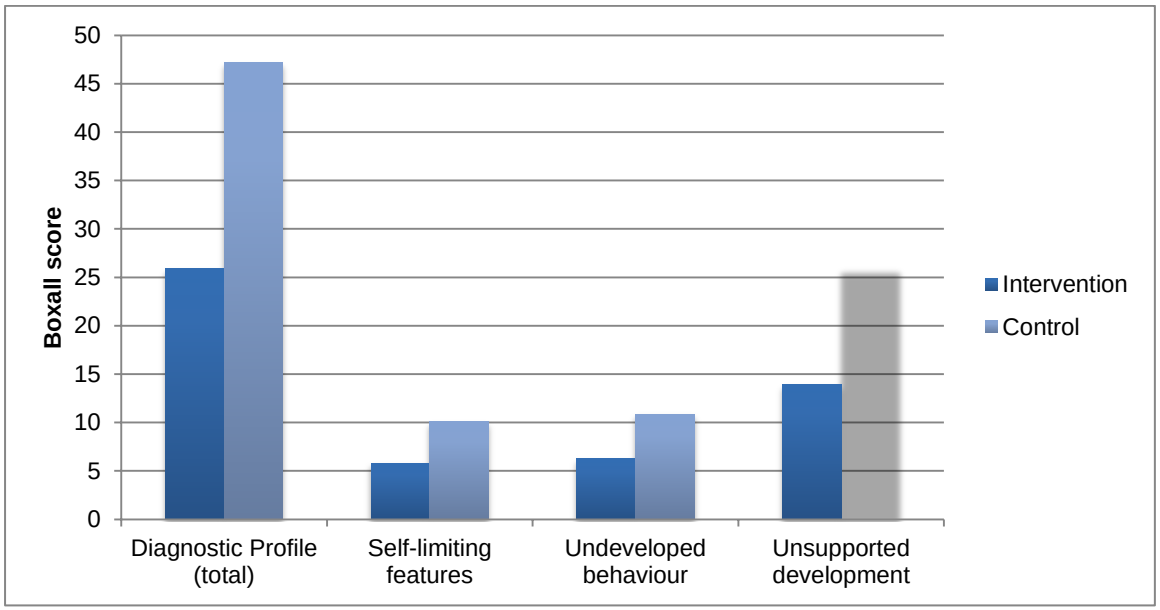


Figure E.7. Adjusted post-test means for Diagnostic Profile (and associated clusters)



One final element to note is the effect of Nurture Group provision on children on the Special Education Needs (SEN) register. Whilst no children in the control group schools showed improvements by moving down the Code of Practice from pre-test to post-test, nearly one in five children attending Nurture Groups (19.5%) did.

Overall, whilst Stage 2 included a control group, a degree of care is required in relation to interpreting the findings. There are some limitations to the methodology, which are considered in detail in the main report, including the non-random allocation of schools and the differences between the control and interventions groups at baseline. Also, whilst the main outcome measure relied on teacher ratings, it was not possible for teachers to be 'blind' to pupil intervention or control group membership. Factors such as this can have an impact on the robustness of the findings and thus further research involving a proper randomised controlled trial design is therefore recommended in order to gain a more robust estimate of the actual size of the effects of Nurture Group provision.

Finally, and in terms of differing models of delivery, no evidence was found in Stage 2 of the evaluation that the effectiveness of Nurture Groups varied between" full and part-time provision; length of time the Nurture Group has been running; Nurture Group size; or whether the Groups were part of the new Signature Project or within schools already providing Nurture Groups. This latter point is important as Signature Project schools were required to run their Nurture Groups in line with the classic model of delivery, whereas the existing schools were able to continue providing Nurture Groups in more variable ways. These points should be treated with some care however, given that the trial was not sufficiently large to test the effects of these different models of provision. Further research would be required with a larger sample of schools to be able to draw more definitive conclusions.

Cost Effectiveness

The estimated cost per year of reducing one child who is defined as having behavioural difficulties (as measured by the SDQ) to within the normal range is £12,912.41 (known as the incremental cost-effectiveness ratio). However this figure may be an overestimate of the actual cost – a further explanation is provided at pages 70 -72 of the main report.

Comparison with the estimated costs of providing other additional educational services to children with behavioural difficulties in Northern Ireland, suggests that effective Nurture

Group provision will present direct savings to the education system. In particular, the cost of a pupil with behavioural difficulties being provided with just one of the many additional educational resources during their school careers (from Year 3 to Year 12) will cost the education system at least twice as much as it would by addressing those difficulties through effective Nurture Group provision before the start of Year 3, and considerably higher than this if the child has to avail of alternative full-time education provision and/or attend a special school.

Existing evidence estimates the additional costs to families and educational and social services of children with antisocial behaviour as ranging from £5,960 to £15,282 per year. Whilst it is important to treat these estimates with some caution, they do suggest that investment in Nurture Group provision is likely to pay for itself after just two years for each child whose problem behaviour is reduced to the normal range.

More generally, it has been estimated that, by the age of 28, the cumulative additional costs to public services for someone with conduct disorder is £62,596 and £16,901 for those with conduct problems. Moreover, and taking a lifetime approach it has been estimated that preventing conduct disorders would save public services £150,000 per case averted. The level of such long-term costs therefore also clearly suggests that the initial investment through Nurture Groups of an estimated £12,912 to prevent conduct problems for each child is therefore likely to be cost-effective and to represent a significant economic return to society.

Stakeholder Perspectives

Interviews with school principals, teachers and parents from Nurture Group schools confirmed that they have largely been established in local areas facing significant social problems, including poverty, social

exclusion, mental health issues, alcohol abuse, domestic violence and, in a number of areas, ongoing sectarianism and communal violence. As also noted by interviewees, such a context is also likely to impact upon children, with higher proportions of children on the special educational needs registers and exhibiting emotional and behavioural difficulties, with much of this arising from attachment difficulties within the family. This broader picture is certainly reflected in the baseline trial data, where a large majority (88%) of children attending Nurture Groups in the Signature Project schools were eligible for free school meals and over a third (36%) were known to social services.

Overall, the process evaluation found that Nurture Group provision was very positively regarded and well received by school principals and teachers and by parents and children. Teachers, for example, felt that they could see clear improvements in the children in relation to punctuality, increased attendance and significant reductions in social, emotional and behavioural difficulties. Parents tended to find that Nurture Group staff were very approachable and clearly appreciated the 'open door policies' that schools tended to operate. Moreover, they also felt that they could see positive benefits for their children. As for the children, they tended to find the Nurture Groups much more enjoyable than the mainstream classroom and noted how they had more opportunities to play and make new friends. Some also reported that it made them feel more involved in their lessons and that it had impacted on their behaviour; noting how they tended to feel more confident, calmer and less aggressive.

The introduction of Nurture Groups has not been without its challenges however. For example, teachers noted: the difficulties, at times, engaging some of the parents; the struggles of keeping the wider staff group on board; and the fact that whilst they found working in Nurture Groups highly rewarding, it was also challenging at times and emotionally

draining. Similarly, some parents explained how they were initially anxious when they were first approached regarding their child attending Nurture Group and were concerned about how this might be perceived negatively by others.

Key Components of Successful Delivery

Through interviews, ten key components were identified in relation to the successful establishment and delivery of Nurture Group provision:

1. ***School leadership:*** The importance of leadership, especially in relation to the pivotal role of the school principal. Successful principals tended to be in post for a number of years, have an affinity and significant relationships with the local community and an absolute commitment to bringing about positive change through their schools.
2. ***Recruitment of Nurture Group teachers:*** The importance of looking beyond qualifications and identifying a range of key personal characteristics aligned with the goals of Nurture Group provision, including: firmness, fairness, compassion, empathy, energy, enthusiasm and ability to establish good relationships with other teachers in the school.
3. ***Training:*** The importance of attending the initial training days and the follow-up recall day and how these were valued by teachers not only in relation to the content covered but also the opportunities they provided for networking.
4. ***Identification of children:*** The importance of not just drawing upon baseline assessments but also the expertise from the interdisciplinary Steering Group Committees in identifying children most in need and also most able to benefit from Nurture Group provision. Also noted in this respect was the importance of creating a mixed group of children so that they were not over-represented with particular types of difficulties.

5. ***Careful planning:*** The importance of being clear about what is to be delivered; particularly in terms of spending sufficient time planning and developing an environment and set of activities that align with the Nurture Group ethos i.e. a structured, predictable and safe approach based around plan and activities that focus on

developing social skills and self-esteem such as turn-taking, learning how to listen and eating together. This includes building in sufficient time for liaison between the nurture teacher and mainstream teachers, to ensure that planning in the nurture group was, where possible, in line with mainstream class activities.

6. ***Whole-school approach:*** The importance of ensuring that all school staff understand the Nurture Group approach and are on board to enable effective transition for children between the Nurture Group, mainstream class and wider school environment. One particular method for facilitating this has been the training of additional teachers and classroom assistants to act as further back up for the nurture staff and to ensure that the nurture principles are embedded throughout the whole school.
7. ***Managing transitions:*** The importance of planning carefully, and putting in place, the necessary processes for ensuring the effective transition for children from Nurture Groups back to mainstream classes. This needs to be done in an open and phased way, involving the Nurture Group teacher, mainstream classroom teacher and parents.
8. ***Relationships with parents*****:** The importance of making sustained efforts to engage parents and maintain effective relationships with them. The more that parents are encouraged to visit the Nurture Group, attend coffee mornings, come and play, cook and eat with the children, the more that it is hoped that attachment relationships can be modelled out.
9. ***Engagement in wider Nurture Group networks:*** The importance of teachers engaging in the support provided by the Education Authority and the wider Northern Ireland Nurture Group Network as effective mechanisms for gaining support and encouragement, sharing best practice and learning about new ideas.
10. ***Funding:*** The importance of providing a consistent funding framework to ensure that schools are able to develop Nurture Group provision and plan effectively.

Recommendations

Overall, there is clear and convincing evidence that Nurture Groups are:

- well received by schools, parents and children and that they can be successfully developed and delivered across a wide range of schools;

- having a consistent, significant and large effect in improving social, emotional and behavioural outcomes among children from some of the most deprived areas and demonstrating high levels of difficulty;
- successful in improving pupil enjoyment of school in the short term, although longer follow-up is necessary to determine whether such improvements have a knock-on effect on attendance and academic attainment;
- cost effective and have the potential to result in a significant saving to the education system and an even greater return to society by preventing the cumulative additional costs to the family, public services and the voluntary sector associated with anti-social behaviour and conduct problems.

It is therefore recommended strongly that the Department of Education continue to support Nurture Group provision in Northern Ireland. However, this presents a number of challenges and therefore it is also recommended that the Department of Education ensures that:

1. A sustainable funding model is put in place to ensure the longer-term viability of Nurture Group provision and its further expansion across Northern Ireland.
2. Appropriate training is provided that addresses the ten issues identified above, along with a wider mechanism for enabling Nurture Group schools to effectively network and collaborate to support one another and share best practice.
3. Until further research is available on the effectiveness of different models of delivery, it would be wise for the Department of Education to continue to target the provision of Nurture Groups in schools in the most deprived areas (as measured, for example, by the Multiple Deprivation Measure) and to continue to promote adherence to the classic model of Nurture Group delivery.
4. The development and roll-out of Nurture Group provision is planned in such a way as to enable further research into its implementation and effectiveness, particularly in relation to facilitating the use of randomised controlled trials to ensure the creation of the most robust and unbiased evidence base to inform future planning and decision-making. This should include research with a larger sample of schools to be able to test, more robustly, the possible effects of different modes of delivery and possibly to pilot test different models (Mackay, 2015).

1. Introduction

Nurture groups are a short-term, focussed, early intervention to address barriers to learning arising from social, emotional and/or behavioural difficulties (SEBD[1]). They are a targeted programme, aimed at pupils who have difficulties coping in mainstream classes, who fail to engage in the learning process, and who may otherwise be at risk of underachievement, leading to Special Educational Needs support or the need for education outside the school setting.

Nurture groups were initially introduced in the UK in the 1960s by Marjorie Boxall, who suggested that the root of many barriers to learning was unmet attachment needs (Boxall, 2002). The aim of the Nurture Group was therefore to provide children a carefully structured, safe environment in which to build an attachment relationship with a consistent and reliable adult. The functioning of Nurture Groups is guided by six key principles, which are described by the Nurture Group Network (NGN) as follows[2]:

1. Children's learning is understood developmentally;
2. The classroom offers a safe base;
3. The importance of nurture for the development of self-esteem and wellbeing;
4. Language is a vital means of communication;
5. All behaviour is communication;
6. The importance of transition in children's lives.

The main premise within Nurture Groups is that they should interact with the pupil in a way that is appropriate for their *developmental* age, which may not be at the same level as their *chronological* age (Boxall, 2000). By responding to and providing for the pupil at a level appropriate for their development, it is hoped that the relationship between teacher and pupil is strengthened and that the child's self-esteem is improved. The structured and predictable routine of the Nurture Group reinforces the classroom as a safe place, and behaviour management is positive and consistent, so that the child can develop feelings of security and

[1] SEBD is an imprecise, umbrella term (now referred to as BESD in England) is a category under the Special Educational Needs Code of Practice (DENI, 1998) and includes, for example, withdrawn, depressive or suicidal attitudes; disruptive, anti-social and uncooperative behaviour; school phobia; and frustration, anger and threat of or actual violence.
[2] The Nurture Group Network is a national, charitable organisation that oversees Nurture Groups and delivers a number of training courses in this and related areas (Nurture Groups.org).

control (Boxall, 2000). The Boxall Profile (which is the main tool by which teachers assess the pupil's level of functioning in terms of social and emotional development) aids in the identification of priority areas for intervention for each individual pupil, such as areas of social skills development, which can then be targeted depending on the needs of each pupil.

1.1 Models of Nurture Provision

Nurture Provision is typically classified into three groups (often referred to as Variant 1, 2 or 3). 'Variant 1' Nurture Groups (the 'classic' model) are classes of about 10-12 pupils staffed by a teacher and teaching/classroom assistant (Boxall, 2002; Cooper and Whitebread, 2007). Pupils spend the majority of the school week in this Group, receiving highly structured and supported learning experiences, and where possible, re-join their mainstream class for registration, assembly, break, lunch and home time. Pupils attend the Group for between two and four terms, after which the ultimate aim is that they can reintegrate into their mainstream class on a full-time basis.

'Variant 2' Nurture Groups adhere to the principles of the classic model but differ in terms of structure and organisation (Cooper and Whitebread, 2007). They may run on a part-time basis, possibly involving a Key Stage 1 Nurture Group in the morning sessions, and a Key Stage 2 Nurture Group in the afternoons. Such models are often seen as a more feasible option for schools as more pupils can be supported while, at the same time, pupils spend more time accessing the mainstream curriculum with their peers.

Both Variant 1 and 2 Nurture Groups are recognised by the Nurture Group Network (NGN) as meeting the quality standard of nurture provision. 'Variant 3' Groups have been described as groups radically departing from the principles and practice of Nurture Provision, for example, lunch-time or after-school groups that tend to focus on social and emotional issues but have no focus on teaching the curriculum in the way that Variant 1 and 2 Groups would do.

1.2 History of Nurture Groups in Northern Ireland

Nurture Groups are widespread throughout the UK, with an estimated 1,500 currently in operation and registered with the NGN. In Northern Ireland, there are a number of established Nurture Groups that have been operating for a number of years, with some schools self-funding or accessing funds through the Department for Social Development

(DSD) Neighbourhood Renewal Investment Fund. The Office of the First Minister and Deputy First Minister announced funding for 20 new Nurture Groups in 2012, through the Delivering Social Change (DSC) Signature Projects. The Department for Education (DE) and DSD are delivering this project, and the DE has invested further funds for the continued provision of 10 established Nurture Groups in schools in which funding was coming to an end.

The new Nurture Groups established under the Signature Project mostly adhere to the model as outlined by the Department of Education. Their guidelines recommend that the majority of children be selected from the Primary 2 year group, although children with assessed need from Primary 1 and Primary 3 may also be included, where appropriate.

As part of the Signature Project, each region of the Education Authority received funding through DE for a Nurture Support Officer/Nurture Advisor and Educational Psychologist hours to provide support and advice to the Signature Project schools. This support has ensured a consistent approach to the set up and delivery of nurture provision, including the publication of Nurture Guidelines developed collaboratively with DE and the EA support staff. While each region has maintained some flexibility, support provided has included:

- Support for school principals and nurture group teachers, particularly in the first year of operation;
- Cluster support networks for the Signature Project schools;
- Identification of issues arising and training needs;
- Training sourced and arrangements made for delivery (e.g. domestic violence, developing resilience, managing challenging behaviour);
- The Belfast region have facilitated monthly cluster groups using the Farouk psychodynamic approach led by the Educational Psychologist which are considered to be of particular value.

Since the merging of the funding streams for both the Signature Project and the established nurture groups from July 2015, EA support is available for all 30 schools, including the sharing of the Nurture Guidelines.

1.3 The Current Evaluation

This report presents the findings of an evaluation of Nurture Groups in Northern Ireland. The overall aim of this evaluation is to provide an evidence base for a policy decision on whether Nurture Provision should continue to be supported in schools and, if so, how best to target this effectively to ensure maximum impact for those children most in need of this form of support.

The objectives of the research, as outlined and agreed in the Project Initiation Document (PID; version 2.1), are:

- To assess the effectiveness of nurture provision in improving child social, emotional and behavioural development, and ability to learn, both within the Nurture Group and following reintegration with the mainstream class;
- To assess the cost-effectiveness of nurture provision in achieving its objectives.

This report begins by describing the methods used for the current evaluation, which included:

- Stage1: an analysis of progress data for pupils who have previously received Nurture Group provision;
- Stage 2: a quasi-experimental trial comparing the progress of children in 30 Nurture Groups (20 new Signature Project Nurture Units and 10 established Nurture Groups) with matched pupils in 14 similar schools with no nurture provision;
- a cost-effective analysis and economic review; and
- a qualitative process evaluation involving interviews with school principals, Nurture Group teachers and class assistants, mainstream teachers, parents and children as well as observations of the Nurture Groups in practice.

The report then presents the findings from each of these elements of the evaluation, in turn, before drawing these together in the final chapter that also considers the implications of these findings for the future provision of Nurture Groups in Northern Ireland.

2. Methods

2.1 Stage 1: Analysis of Nurture Group Past Pupil Data

The first element of the evaluation involved an analysis of data on pupils who had previously attended a nurture group in Northern Ireland, to examine pupil social, emotional, behavioural and academic outcomes. The main aim of this was to examine whether any differences in progress exist for different subgroups of pupils and different models of nurture provision.

Participants and data collection

All 30 schools in which a funded Nurture Group was operational during 2014/15 were invited to participate. Schools were asked to provide anonymised data on pupils who had attended the nurture group in their school. The following data were collected:

- Unique Pupil Number (UPN);
- amount of time spent in the nurture group (i.e. number of terms, full-time or part-time);
- need for additional support after reintegration;
- academic attainment data (from standardised, reliable tests);
- whether the pupil has ever been on the Child Protection Register;
- if the pupil's family has ever been known to social services.

The UPN was then used to link to the Annual School Census, from which the data were extracted on pupil gender, date of birth, ethnicity, free school meal eligibility, school attendance, suspensions, first language, whether pupil has been a newcomer with English as an additional language, looked-after status and special education needs stage and type. Schools also provided information on each pupil's social, emotional and behavioural progress as measured by the Boxall Profile at two time points; on Nurture Group entry (pre-test) and on Nurture Group exit (post-test). Some schools also used the Strengths and Difficulties Questionnaire to assess pupil functioning; this was also collected where available. Both instruments and their scoring are described in detail in Appendix A.

Analysis

The main analyses examined the progress made by pupils (in terms of the Boxall Profile) across all nurture groups as a whole as well as by nurture group type (i.e. Signature Project compared to established nurture group). Analyses then explored progress for the following subgroups of pupils:

- Pupils who attended on a full-time or part-time basis;
- Boys and girls;
- Pupils eligible for free school meals compared to those not eligible;
- Pupils in Foundation stage, KS1 and KS2;
- Looked after pupils;
- Pupils with social services involvement;
- Pupil at different stages of the Special Education Needs Code of Practice on nurture group entry;
- Pupils with and without recorded social, emotional and behavioural concerns on Nurture Group entry.

In addition to the above analyses, other pupil-level outcomes are reported, including the amount of additional support required in school following reintegration, academic progress, speech and language development, attendance, and suspensions, and school-level data for the 10 schools with established nurture groups were examined for trends in whole-school attendance and proportion of statements over time. Findings are presented in Chapter 4.

2.2 Stage 2: Quasi-Experimental Trial

Stage 2 involved a quasi-experimental study with three groups of schools: the 20 Signature Project Nurture Units, the 10 additional funded Units, and 14 similar schools with no nurture provision. The aim of this stage was to compare the progress made by pupils attending nurture groups to standard practice (i.e. mainstream primary school provision).

Sample

The sample includes 384 pupils from three groups of schools: the 20 Signature Project Nurture Units (232 pupils), the 10 additional schools with established Nurture Groups (66 pupils), and 14 similar schools with no Nurture Provision (86 pupils). To ensure that the control group matched the profile of intervention group as closely as possible, control schools

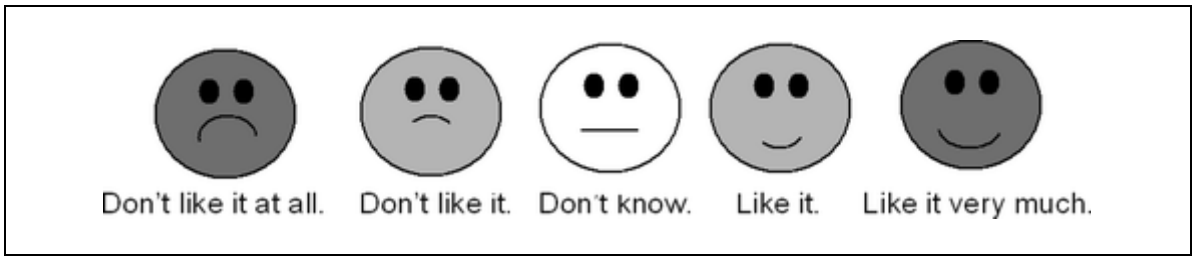
were identified from the list of schools that satisfied the original criteria used by DENI to allocate Signature Project funding[3].

Outcomes and Measures

Social, emotional and behavioural development: The Boxall Profile and the Strength and Difficulties Questionnaire were used to measure pupils' social, emotional and behavioural outcomes (see Appendix A for description).

Enjoyment of School: Pupils self-reported their own enjoyment of school based on the following 11 aspects of school: reading; writing; spelling; numeracy; using the computer/iPad; working by yourself; outdoor play with your class; break/lunchtime in the playground; lunch time in the dinner hall; golden time; and coming to school. Pupils rated each aspect on a 5-point scale by point to or putting a circle around one of a set of 5 'smiley faces' (see Figure 1.2).

Figure 1.2 Response Options for the 'Enjoyment of School' Measure



Responses were scored from 1 ('don't like it at all') to 5 ('like it very much'), meaning that total scores could range from 11 to 55. High scores reflected greater enjoyment of school, and increasing scores from pre- to post-test reflected a positive change over time. Inspection of the baseline data indicates that the scale as a whole has good reliability (Cronbach's alpha=0.80).

Academic outcomes: Schools were asked to provide available data on academic attainment gathered through standardised assessments which are routinely administered each school year for pupil progress tracking. For a large majority of pupils, standardised attainment scores were unavailable. The main reason for this was pupil age; the majority of schools do

[3] Schools were eligible to receive Signature Project funding if they met the following criteria: above average FSM entitlement, above average numbers of pupils with SEN statements, below average attendance rate and below average achievement at Key Stage 1 and 2.

not begin administering such assessments until Year 3. In other cases, teachers reported that data were unavailable because the pupil would not comply with the testing procedures. In the absence of standardised tests, teachers reported on pupil progress and engagement with the curriculum based on their own observations (examples of this are included in the qualitative findings chapter).

Through structured questionnaires completed by teachers, data were also collected on a range of relevant pupil characteristics, including: gender; current year group; English as an additional language; free school meal eligibility; school attendance rate; home postcode (for linking to index of deprivation measure[4]); special educational needs stage and type; looked after status; whether the pupil's family was known to social services or whether the pupil was on the child protection register.

As indicated in the flow diagram (Figure 1.1), there were variations in the pre-test and post-test data collected. In relation to the enjoyment of school questionnaire, for example, as this involved direct contact with the pupil at the beginning of their Nurture Group attendance, and due to the timing of evaluation beginning, it was not possible to collect baseline data on the cohort of pupils who started in Signature Project Nurture Groups in 2013/14. For this reason, enjoyment of school was only collected for 106 pupils at baseline out of the 232 Signature Project Nurture Group pupils. Similarly, there was also some variation in completion of the Strengths and Difficulties Questionnaire, as some schools used the Boxall Profile solely as an indicator of pupil social, emotional and behavioural functioning.

Statistical Analysis

Analysis of the data involved a number of stages. Firstly, any baseline differences between pupils in the intervention and control group (in terms of both core characteristics and baseline scores on measures of social, emotional and behavioural functioning, enjoyment of school, attendance and academic attainment in literacy and numeracy) were explored.

Raw changes in these outcome measures from pre-test to post-test in both the intervention group and control group were then examined. For the main analysis data were analysed in a series of multi-level statistical models for each outcome. These models accounted for any differences at baseline in terms of pre-test scores and other key pupil characteristics (i.e. gender, year group, free school meal eligibility, neighbourhood deprivation, looked-after

[4] In addition to data on pupil free school meal eligibility (FSME), pupil postcodes were also matched to the Northern Ireland Multiple Deprivation Measure (NISRA, 2010), giving a further indicator of the socio-economic context in which the children lived.

status, if pupil's family was known to social services). Effect sizes (Hedges' *g*) were calculated as the standardised mean difference in outcomes between the intervention and control groups, adjusted for any differences at pre-test.

Beyond these main models, exploratory analyses[5] were undertaken to determine whether Nurture Group provision had a differential impact for:

- Boys and girls;
- Pupils with English as an additional language;
- Pupils from areas with differing levels of deprivation;
- Looked after children;
- Pupils from families with social services involvement;
- Pupils at different stage of the SEN Code of Practice;
- Pupils with differing scores on the outcome variable at baseline.

In addition, the exploratory analysis also examined whether the Nurture Group provision had differential effects in relation to:

- Schools with differing proportions of pupils eligible for free school meals;
- Schools with differing proportions of pupils with special education needs;
- Schools with pupils with differing levels of deprivation;
- Schools of differing size.

Finally, and in terms of types of provision, the exploratory analysis also assessed whether there were differential effects in relation to:

- Full-time versus part-time provision;
- Nurture Group size;
- Length of time the Nurture Group has been running;
- Nurture Group type (Signature Projects versus established Groups).

[5] Exploratory analyses were conducted on all outcomes with the exception of academic outcomes due to the smaller sample size

2.3 Cost-Effectiveness Analysis and Economic Review

Cost effectiveness

The cost-effectiveness of Nurture Groups compared to mainstream education was analysed in terms of the child's socio-emotional wellbeing, using the teacher-reported SDQ, as the primary measure of effect. Reflecting the recommended cut-off point regarded as indicative of clinically significant difficulties (Goodman, 1997), a reported SDQ score of ≥16 was used to identify a pupil as having such difficulties. Subsequently, cost-effectiveness is presented in terms of cost per reduced case of difficult behaviour.

Economic data, including resource use and unit costs, were collected in parallel with the main quasi-experimental trial. For the base case, a payer (Department of Education) perspective was taken. This was subsequently extended to a broad public sector perspective by including education, health and social care service use. Resource use information was derived from educational records, for educational, health and social care service use at pupil level, and collected from participating schools. Nurture group costs were calculated using a standard micro costing (bottom-up) approach, and were based on teacher and classroom assistant salaries plus on-costs (employers national insurance and superannuation contributions) and appropriate capital, administrative and managerial overheads. The unit costs of schooling and school resource use were taken from Department of Education publications and data provided directly from schools, where possible. Nationally applicable unit costs were applied to all health and social care contacts, derived from the Personal Social Services Research Unit (PSSRU). All costs reported were at 2014 prices.

Data were entered into Microsoft Excel for analysis. Estimates of mean costs and outcomes for the nurture provision and control groups were calculated using follow up, post-intervention data obtained at the end of the 2014/15 school year. Analysis was performed only for pupils that had completed teacher-reported SDQ scores at follow up. Monte Carlo simulation methods were used to provide bootstrapped estimates of incremental cost-effectiveness. In addition, cost-effectiveness was assessed using the net benefit approach, which values the difference between the alternatives on the monetary scale. Uncertainty around the cost and effectiveness estimates was represented by cost-effectiveness acceptability curves. These curves are a recommended decision-making approach to deal with the uncertainty that exists around the estimates of expected costs and expected effects and uncertainty regarding the maximum cost-effectiveness ratio that a decision-maker would consider acceptable.

Economic review

A strategic review of the economic literature was also carried out to identify the potential long-term costs and benefits of nurture groups in comparison to mainstream schooling and relevant alternative school-based interventions. The review focused on the following key areas: (i) the economic burden of children with socio-emotional and behavioural difficulties on the education system (ii) identifying the range, scope and effect of school-based interventions aimed at supporting children with socio-emotional and behavioural difficulties, and (iii) the economic impact of these interventions on education services in terms of costs and effects.

A systematic search strategy was developed. The Preferred Reporting Items of Systematic reviews Meta-Analyses (PRISMA) guidelines was adhered to when conducting this review (Moher, Liberati, Tetzlaff, Altman: The PRISMA Group, 2009). Studies included were identified through electronic searching of the following databases: PEDE, EconLit, NHS EED, HEED, ERIC, and the British Education Index. No limitations were made in terms of date of publication. The search strategy included terms such as child, social, emotional or behavioural difficulties, school or education, nurture and costs. The full search strategy is presented as an appendix (Appendix D). Reference lists of relevant papers and reviews were explored for additional studies.

The review was limited to school-based interventions that were specifically designed to reduce social, emotional and behavioural difficulties and/or attachment disorders in children. Outcome measures included costs, cost-effectiveness, effects relating to behaviour (internalising and externalising), social and emotional wellbeing and quality of life. Any long-term impacts reported were also included. Studies were considered for inclusion if they were written in English and reported original data of school-based interventions in which the primary or secondary aim was to identify the economic burden to the education system, the cost-effectiveness or the long term economic impact of the intervention being assessed. All types of full economic evaluations (cost-minimisation, cost-effectiveness, cost-benefit and cost-utility) were included, in addition to partial economic evaluations (cost analyses). Identified studies were assessed using quality hierarchies of data sources for economic analyses.

2.4 Qualitative Process Evaluation

As with the quantitative data collection, robust ethical protocols were also followed in relation to the recruitment of participants to the study, their consent to be involved and the management and storage of data. Critically the research team ensured that all participants had full and accessible information regarding the purpose of the study and the reasons for seeking their involvement. Also, participants were only included if they gave their consent freely and with full knowledge and, with the exception of any emergent child protection concerns, their rights to anonymity and confidentiality were upheld.

With the relevant permissions secured the process evaluation involved:

- 8 classroom observations in a selection of established and new Nurture Groups;
- 4 interviews with nurture advisors;
- 8 interviews with school principals;
- 12 interviews with Nurture Group teachers and classroom assistants;
- 10 interviews with mainstream teachers;
- 22 interview with parents; and
- 14 interviews with children (plus a further 18 children who provided comments in writing).

All data from the interviews were digitally recorded, transcribed and anonymised and the digital recordings deleted. Data from the field notes (which were handwritten and anonymised at source) were also transferred into a series of word documents and the original notes destroyed. With permission some photographs of Nurture Group rooms were taken and were suitably generic to avoid identification. All transcribed data were stored in NVivo 10 using a coding framework developed through a thematic analysis.

Pseudonyms have been given to all those involved in interviews. This anonymisation of quotes has been done to ensure that it is not possible to identify actual participants.

3. Stage 1: Analysis of Nurture Group Past Pupil Data

3.1 The sample

In total, data were collected on 529 pupils, including 110 pupils from the 20 Nurture Groups established in 2013/14 under the Delivering Social Change Signature Project, and an additional 419 pupils from the 10 established units. Table 3.1 describes the pupils in the sample: around two thirds were boys, and a substantial majority were eligible for free school meals. Just under a third were also known to social services. In addition, on entry into the nurture group, two thirds of pupils in the established group, and all pupils in the Signature Project group, were on the register for the Code of Practice for Special Educational Needs. In both groups, most pupils were at Stage 3 (Table 3.1).

Table 3.1. Description of the sample

		Signature Project	Established
Gender	Boy	63%	68%
	Girl	37%	32%
Free School Meal (FSM) eligibility	Yes	88%	80%
	No	12%	20%
English as Additional Language (EAL)	Yes	*	2%
	No	-	98%
Ethnicity	White	*	95%
	Other	-	5%
Family known to social services	Yes	36%	29%
	No	64%	71%
Looked After Child (LAC)	Yes	11%	6%
	No	89%	94%
On Child Protection Register (CPR)	Yes	8%	9%
	No	92%	91%
Special Educational Needs (SEN) stage Date for Stage 4/5 removed to ensure anonymity.	Not on SEN register	*	33%
	Stage 1	15%	15%
	Stage 2	48%	28%
	Stage 3	23%	21%
Special Educational Needs type	No SEN	*	33%
	Social, emotional and behavioural	85%	61%
	Cognitive and/or learning difficulty	49%	26%
	Speech and language	7%	14%
	Other	27%	6%

3.2 Nurture Group Placement Duration and Models of Provision

Pupils are placed in the Nurture Group in the expectation that they will make sufficient gains within a year (three terms), or four terms at the most. Placement in Nurture Group is usually between two and four terms, depending on the progress and needs of the pupil. It is recommended that the Boxall Profile is completed each term, and this, together with an assessment of the pupil's curriculum work and overall progress, indicates how long the pupil will stay in the Nurture Group. Further, the overall amount of time spent in a Nurture Group will vary according to the model of provision used by the school (i.e. full-time or part-time provision).

In the current sample, two thirds of pupils (68%) in the established schools attended the nurture group on a full-time basis (usually 4 full days per week) and the remaining pupils attended on a part-time basis (4 or 5 half days per week). The majority of pupils in Signature Project nurture groups attended on a full-time basis, in line with the model of provision recommended by DENI during set up of the programme. In both the Signature Project and Established groups, almost half of pupils attended the nurture group for 3 terms (Table 3.2).

Table 3.2. Nurture group attendance in the Signature Project and Established group

		Signature Project	Established
Nurture Group attendance	Full-time	97%	68%
	Part-time	3%	32%
Terms spent in Nurture Group	One	4%	16%
	Two	28%	19%
	Three	42%	47%
	Four	25%	12%
	Five or more	-	6%

3.3 Progress in Social, Emotional and Behavioural Outcomes

The Boxall Profile was used to measure pupil progress over time. It has two sections representing the Developmental Strand (which describes developmental process that lay the foundations for being able to engage with and function in school) and the Diagnostic Profile (which describes behaviours that act as barriers to full and satisfactory participation in school). Scores on these two main sections of the Boxall Profile can range from 0 to a maximum of 136 (see Appendix A for description of the Boxall Profile and its scoring). The change in mean scores on the Boxall Profile between the initial teacher assessment (pre-test) and the assessment completed at the time of reintegration (post-test) are displayed in

Appendix B. As demonstrated by Figures 3.1 and 3.2, relatively large and notable improvements were found consistently across all sections (with an increasing score for the Developmental Stand and associated clusters, and decreasing scores for the Diagnostic Profile and associated clusters). To allow for direct comparability of the size of the changes experienced, the standardised mean difference between pre- and post-test scores was also calculated (Cohen's *d*). Large changes, in the expected direction, were found for the Developmental Strand and associated cluster outcomes, and also for the Diagnostic Profile and associated cluster outcomes.

Figure 3.1. Mean scores on the Developmental Strand (and associated clusters) at pre- and post-test

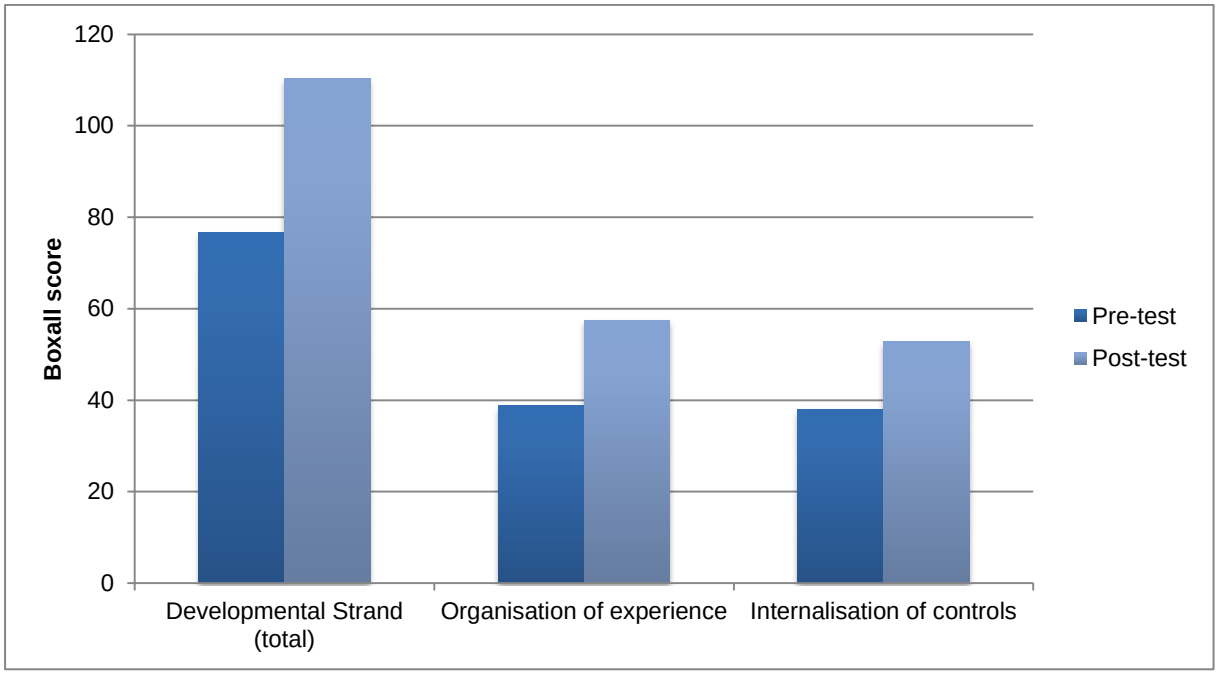
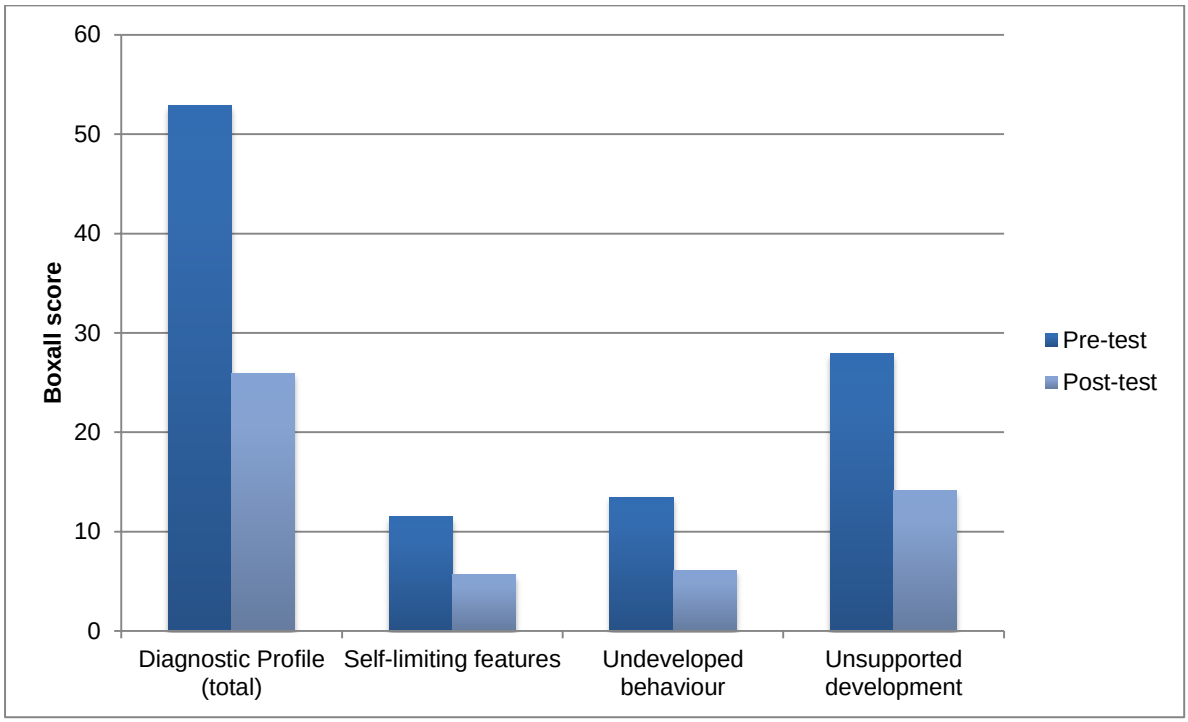


Figure 3.2. Mean scores on the Diagnostic Profile (and associated clusters) at pre- and post-test



3.4 Social, emotional and behavioural progress across subgroups

A series of regression models were estimated for each of the main outcomes to identify any factors which may impact on the amount of progress made. In each model, the relevant post-test Boxall cluster score was used as the dependent variable and its corresponding pre-test score was added as an independent variable. Variables reflecting the amount of time pupils spent in the nurture group (i.e. number of terms and full-time or part-time attendance) were also included in the models. Each model also included variables representing core characteristics of pupils, i.e. gender, free school meal eligibility, school stage on entry into the nurture group (Foundation, KS1 and KS2), looked-after status, social service involvement, stage on the SEN Code of Practice on nurture group entry, and whether SEN type was social, emotional and behavioural concerns on nurture group entry.

Table 3.4 displays the regression coefficients for each outcome variable, with statistically significant results shaded and in bold. These shaded coefficients indicate variables that were found to have a significant impact on levels of progress made by pupils, once pre-test differences and other variables have been controlled for.

Table 3.3. Boxall Profile Total and Cluster mean scores for Signature Project and Established nurture groups[1]

	Signature Project NG			Established NG		
	Mean (sd)		Size of change (Cohen's *d*)	Mean (sd)		Size of change (Cohen's *d*)
	Pre test	Post test		Pre test	Post test	
Developmental Strand total	71.25 (19.30)	115.21 (17.82)	+2.28	78.41 (20.71)	108.97 (18.99)	+1.48
Diagnostic Profile total	60.01 (24.07)	24.05 (21.00)	-1.49	50.67 (26.64)	26.55 (20.64)	-0.91
Clusters						
Organisation of experience	36.38 (11.84)	60.74 (10.45)	+2.06	39.59 (12.58)	56.53 (11.62)	+1.35
Internalisation of controls	34.94 (10.64)	54.29 (9.09)	+1.82	38.82 (10.90)	52.44 (9.14)	+1.25
Self-limiting features	13.10 (5.05)	5.45 (4.57)	-1.52	10.97 (5.25)	5.79 (4.34)	-0.99
Undeveloped behaviour	14.83 (7.32)	5.63 (5.96)	-1.26	13.07 (8.51)	6.28 (5.85)	-0.80
Unsupported development	32.08 (17.15)	12.97 (12.88)	-1.11	26.62 (17.43)	14.48 (13.42)	-0.70

[1]Difference between pre- and post-test scores significant at $p<0.001$ for all outcomes.

The coefficients are also directly interpretable so that, for example, for the Developmental Strands outcome, the coefficient of 11.415 indicates that full-time nurture provision was associated with an average increased gain in the Boxall score at post-test of 11 points compared to part-time provision, and once pre-test scores and other differences were accounted for. For variables, such as number of terms and SEBD on nurture group entry, some caution is advised in interpreting the single significant coefficients highlighted, as a significant effect on only one outcome could have emerged randomly. With this in mind, it is advisable only to draw conclusions for those variables that showed a significant effect across a number of the outcomes listed.

For the most part, it can be seen from Table 3.5 that the progress made is the same for most subgroups including:

- Pupils who attend for different numbers of terms;
- Boys and girls;
- Pupils in Foundation stage, KS1 and KS2;
- Pupils with social services involvement;
- Pupils at all stages of the Special Education Needs Code of Practice on nurture group entry;
- Pupils with and without recorded social, emotional and behavioural concerns on nurture group entry.

Beyond this, there is some evidence that some groups are making more progress than others during their time in a nurture group, after controlling for pre-test differences and all other variables. In particular, there is some evidence that looked-after children made more significant gains than others for some of the outcomes, being between 2 and 6 points higher, on average, on the Boxall post-test scores when pre-test differences were accounted for. Also, there is some evidence that pupils eligible for free school meals make less progress on the Diagnostic Profile than those not eligible for free school meals.

Table 3.4. Regression models showing significant predictors for each outcome

Outcome	Predictor Variables in the Model (Coefficients with robust standard errors)												
	Pre test Score	Full time	No. of Terms	Boy	FSM	KS1	KS2	Looked After	Known to SS	SEN Stage	SEBD	Cons	% Explained
Developmental	**.486 (.065)**	**11.415 (4.076)**	.455 (1.423)	-1.685 (2.636)	**-4.541 (1.541)**	**7.789 (3.295)**	-1.214 (5.635)	**6.298 (2.898)**	1.682 (1.272)	-2.152 (2.254)	-5.076 (2.865)	**109.547 (5.751)**	31.8%
Diagnostic	**.410 (.064)**	-7.697 (4.797)	1.698 (1.291)	.846 (2.341)	**6.143 (1.444)**	-1.136 (3.489)	4.876 (6.248)	-3.517 (2.720)	-2.613 (1.995)	-.909 (1.751)	4.355 (3.556)	**24.007 (6.517)**	28.9%
Organisation of experience	**.512 (.071)**	**7.255 (1.925)**	.311 (.788)	-.905 (1.509)	-2.125 (1.421)	**4.971 (1.973)**	-.378 (2.799)	**5.311 (1.580)**	.829 (.899)	-1.137 (1.415)	-3.220 (1.660)	**56.042 (3.132)**	36.3%
Internalisation of controls	**.449 (.051)**	4.092 (2.287)	-.157 (.642)	-.914 (1.386)	**-2.656 (1.016)**	2.986 (1.733)	-.875 (3.286)	.839 (1.424)	1.057 (.624)	-1.180 (.922)	-2.126 (1.415)	**53.982 (3.129)**	31.4%
Self-limiting features	**.245 (.062)**	-1.028 (.657)	**.597 (.217)**	.812 (.696)	1.184 (.681)	-.101 (.983)	**1.286 (.619)**	**-1.832 (.586)**	-.101 (.627)	.049 (.547)	**1.468 (.642)**	**4.197 (.642)**	16.1%
Undeveloped behaviour	**.440 (.049)**	-1.828 (.907)	.265 (.328)	-.798 (.750)	1.014 (.511)	-.836 (.604)	-.992 (1.569)	-1.861 (1.270)	-.723 (.577)	.325 (.422)	.807 (.771)	**7.232 (1.494)**	33.8%
Unsupported development	**.427 (.054)**	-4.531 (3.335)	.781 (.783)	.813 (1.289)	**3.799 (1.170)**	-.224 (2.240)	4.414 (4.611)	.034 (2.174)	-1.708 (1.238)	.513 (.900)	1.999 (2.407)	**12.595 (4.343)**	35.0%

3.5 Comparison of Results with Other Evaluations

Comparisons were drawn between the progress made by pupils in the current sample and progression rates in other published research. Table 3.5 summarises six published evaluations of nurture provision in a primary school setting, across the UK. The majority of these studies involved sample sizes much smaller than the current study (n<100 in two studies, and n<50 in two studies). Scores for the Boxall Developmental Strand ranged from 71 to 89 at baseline (compared to 77 in the current sample), and from 95 to 114 at post-test (compared to 109 in the current sample). Similarly, for the Diagnostic Profile, scores across other studies ranged from 33 to 63 at pre-test and 23 to 41 at post-test (compared to mean scores of 53 and 26 at pre- and post-test in the current sample). Overall, progression rates in the current study would appear to be consistent with findings across the UK.

3.6 Other pupil outcomes

Based on the sample of 419 pupils who attended the 10 established nurture groups, the following analyses consider a range of other outcomes, including the amount of additional support required in school following reintegration, academic progress, speech and language development, attendance, and suspensions.

Pupil reintegration and need for additional support

Pupil stage on the code of practice for Special Educational Needs, in the 2014/15 Annual School Census, was examined as an indicator of the amount of support required. Twenty percent of the sample was not on the SEN register in 2014/15 (see Table 3.6). The proportion of pupils in the sample with statemented support was 21% (compared to 5% in the general Northern Ireland population, including mainstream and special Primary and Secondary schools).

Table 3.5. Comparison of current results with other published evaluations[1]

Study (year)	Location	Design	Sample	Developmental Pre post scores	Effect size	Diagnostic Pre post scores	Effect size
CURRENT RESEARCH	Northern Ireland	Single-group pre-post-test; average time between assessments=3 terms	N=507 pupils in 27 schools	Pre: 77.28 Post: 108.96	+1.49	Pre: 53.17 Post: 26.13	-0.97
Shaver & McClatchey (2013)	Northern Scotland	Single-group pre-post-test; 8 weeks to 1 year between assessments	N=32 pupils in 2 schools Age not reported	Pre: 89.21 Post: 112.10	+0.88	Pre: 33.18 Post: 22.77	-0.31
Reynolds et al. (2009)	Glasgow	Pre-post-test with matched control group; 6 months between assessments	N=97 pupils in 16 schools[2] Age 5-7 years	Pre: 81.25 Post: 102.10	*	Pre: 41.11 Post: 28.20	*
Binnie & Allen (2008)[3]	West Lothian	Single-group pre-post-test; 8 months between assessments	N=36 pupils in 6 schools Age 5-10 years	Pre: 79 Post: 114	*	Pre: 63 Post: 35	*
Cooper & Whitebread (2007)	Various sites, England	Pre-post-test with matched control group; time between assessments ranges from 2 to 4 terms	N=359 pupils in 23 schools[2] Age 4-14 years	After 2 terms (n=253): Pre: 77.92 Post: 96.19 After 4 terms (n=86): Pre: 73.37 Post: 105.53	+0.75 +1.07	After 2 terms (n=253): Pre: 51.58 Post: 41.34 After 4 terms (n=86): Pre: 51.24 Post: 33.72	-0.34 -0.68
O'Connor & Colwell (2002)	London	Single-group pre-post-test; average of 3 terms between assessments	N=68 pupils in 5 schools Mean age=5.25 years	Pre: 71.22 Post: 110.16	+1.66	Pre: 49.15 Post: 23.43	-0.63
Cooper et al. (2001)	Various sites, England/ Wales	Pre-post-test with matched control group; average time between assessments=2 terms	N=216 pupils in 25 schools Age 4-10 years	Pre: 77.14 Post: 95.21	+0.73	Pre: 50.83 Post: 39.98	-0.38

[1]Published UK research by Sanders (2007); Seth-Smith et al. (2010) and Scott & Lee (2009) are not included as raw mean scores were not reported.
[2]Only intervention group data reported.
*Standard deviations not reported in original publication therefore effect size could not be calculated.

Table 3.6. Special Educational Needs status of Nurture Group pupils in 2014/15

SEN stage		%
0	Not on SEN register	19%
1	School-based provision involving teacher and SENCo	9%
2		26%
3	External specialist support	22%
4	Statutory Assessment by ELB	3%
5	Statemented support	21%

Schools were asked to provide information on the level of additional support provided to each pupil following reintegration. Schools did not provide this information for 88 pupils (in 39 cases, this was because pupil had transferred to another mainstream primary school). From the data provided, 37% of the full sample required no additional support following reintegration into mainstream class (see Table 3.7). Fifteen percent had additional literacy or numeracy support from the SENCo. Other children returned to their mainstream class but had further outreach support for SEBD or for learning (10%), and a further 7% received support from a classroom assistant. Ten percent of the sample did not return fully to mainstream class; some pupils were transferred to a special unit within the school (4%) or external special units (4%) on a temporary basis, while 2% transferred permanently to a special school.

Table 3.7. Need for additional support following reintegration (reported by school)

	%
No additional support required	37%
In-school literacy/numeracy support from SENCo	15%
Support from classroom assistant	7%
Placement in special unit/small group setting within school[1]	4%
Outreach support	
Outreach support for EBD[2]	7%
Outreach support for learning	3%
External placements	
Temporary placement in special unit	4%
Permanent placement in Special School/unit	2%

[1]For example, Learning Support Centre or Social Communication Centre
[2]includes ASCETs 'Cool Kids' provision, Barnardo's counselling

Speech and language development

Data on pupil speech and language development was taken from the Annual School Census, which records at the pupil-level whether speech and language difficulties are registered as a special educational need.

Pre-intervention speech and language difficulties were identified by examination of SEN type in the year prior to nurture group attendance. This identified a total of 53 pupils with prior speech and language difficulties (16% of the 331 pupils with available data). By 2014/15 (by which stage, all pupils had reintegrated back into mainstream class), approximately half of these pupils (n=27) no longer had registered speech and language difficulties (Table 3.8).

Table 3.8. Numbers of pupils on the SEN Code of Practice for Speech and Language concerns, at pre-intervention and in 2014/15

Speech and language difficulties		Pre intervention		Total
		No	Yes	
2014/15 School Census	No	264	27	291
	Yes	14	26	40
	Total	278	53	331

Academic progress

Standardised scores for literacy (Progress in English, GL Assessment) are available for 55 at pre-intervention and 150 pupils at post-intervention. Standardised scores for numeracy (Progress in Maths, GL Assessment) are available for 56 pupils at pre-intervention and 140 pupils at post-intervention (scores based on all available data are presented in Table 3.9). Use of age-standardised test scores (as opposed to raw scores) allows for comparison with a large, nationally representative, sample (on which the tests were piloted by the test developers). A standardised score of 100 represents the average, and two thirds of pupils will score between 85 and 115.

Table 3.9. Literacy and numeracy standardised scores (all available data)

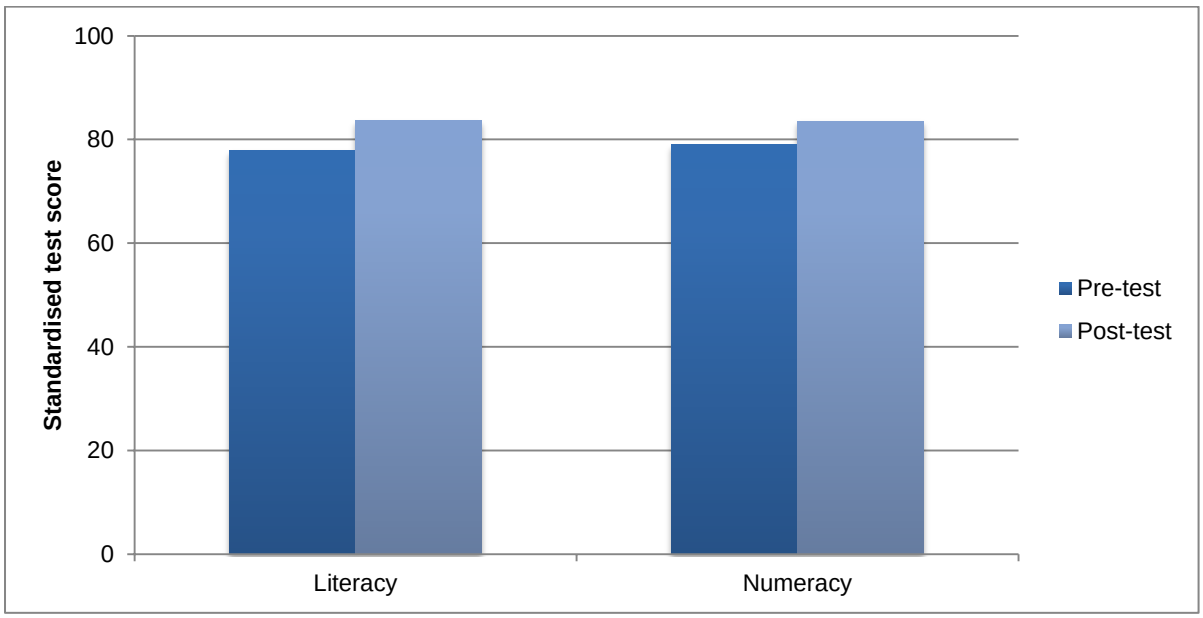
		Pre test	Post test
Literacy	Mean (sd)	77.4 (9.46)	87.45 (12.54)
	Min-max	69 - 100	69 - 126
Numeracy	Mean (sd)	79.04 (11.48)	87.46 (12.97)
	Min-max	16 - 114	69 - 117

Complete (pre- and post-intervention) literacy and numeracy scores are available for 52 and 50 pupils, respectively. For both literacy and numeracy, attainment increased between pre-intervention and post-intervention (Table 3.10 and Figure 3.3).

Table 3.10. Literacy and numeracy standardised scores (sub-sample of pupils with both pre- and post-intervention data)

	Pre test	Post test	Sig.	Size of change (Cohen's *d*)
	Mean (sd)			
Literacy	77.87 (9.52)	83.77 (12.08)	$p<0.001$	+0.61
Numeracy	79.06 (11.30)	83.56 (11.82)	$p=0.001$	+0.40

Figure 3.3. Change in literacy and numeracy standardised scores from pre- to post-test



School attendance

Pupil-level data on attendance and suspensions are available from the 2007/08 census up to the 2013/14 census. Data were cross-referenced with the year each pupil attended the nurture group, in order to identify the relevant pre- and post-intervention statistics (therefore pre-intervention data are not available for any pupils who began in the NG before 2007/08, or for pupils who attended the NG during Year 1 of primary school). Data from the 2013/14 census was used as the post-intervention attendance/suspension measure.

The average school attendance for pupils (n=108) at pre-intervention was 90.6%, compared to 92.3% in 2013/14. This change is too small to draw any definitive conclusions from.

Suspensions

Pre-intervention suspension data are available for 339 pupils; 99% had not been suspended prior to attending nurture group and 1% of the sample had been suspended (amounting to a total of 93 days suspended).

Post-intervention suspension data are available for 317 pupils; 94% of pupils had no incidences of suspension during any of the post-intervention years. The remaining 5% (n=19 pupils) had been suspended for between 2 and 46 days (amounting to a total of 214 days suspended). However, it should be noted that any significant change in suspension statistics is unlikely to be evident, as pupils at Key Stage 1 are less likely to be suspended.

Looking specifically at the 2013/14 census year, post-intervention suspension statistics are available for 252 pupils in the sample. Of these, 95% (n=240 pupils) had no incidences of suspension. The remaining 5% (n=12 pupils) had a total number of 106 individual suspensions (ranging from 2 to 38 suspensions per pupil). (however, it should be noted that any significant change is unlikely to be evident, as pupils at Key Stage 1 are less likely to be suspended).

3.7 Whole School Impacts

Based on the 10 established units, the impact of nurture provision on overall levels of attendance and SEN statements was examined using published school-level statistics.[6] School attendance data are available from 2007/08 to 2013/14. SEN statement data are available from 2009/10 to 2014/15. It was therefore not possible, from these data, to identify baseline (i.e. pre-nurture provision) statistics for all schools; instead, the data represent change in whole school attendance between 2007/08 and 2013/14, and change in number of pupils with a statement between 2009/10 and 2014/15.

[6] Attendance data available at: deni.gov.uk/index/facts-and-figures-new/education-statistics/32_statistics_and_research_-_statistics_on_education-pupil_attendance.htm. Numbers of statemented pupils available at: deni.gov.uk/index/facts-and-figures-new/education-statistics/32_statistics_and_research-numbersofschoolsandpupils_pg/32_statistics_and_research-schoolleveldata_pg.htm.

In order to draw appropriate comparisons, data were also extracted on a sample of 16 schools identified as having a similar profile[7], as well as for the general population (all primary schools).

Attendance (whole-school)

In the general primary school population, the attendance rate for 2013/14 was 95.6% of total half days. All schools remain below the Northern Ireland average for attendance, with attendance rates remaining relatively stable over time: 92% in 2007/08 and 93% in 2013/14 (Table 3.11).

Table 3.11. Change in whole-school attendance rate between 2007/08 and 2013/14

School	% attendance		Change in %
	2007/08	2013/14	
Funded units (n=10 schools)	92.15	93.22	1.07
Comparison sample (n=16 schools)	95.00	95.80	0.80
All primary schools	94.80	95.60	0.80

Proportion of statements (whole-school)

Across the 10 funded units, the proportion of pupils with a statement of Special Educational Needs in 2010 was, on average, 6.97%, and 5.64% in 2014/15 (Table 3.12). Over the same time period in the comparison sample of 16 similar primary schools, the percentage of pupils with a statement was 9.81% and 9.14% respectively. In comparison, and across all primary schools in Northern Ireland, the percentage of pupils per school with a statement was 3.30% in 2010 and 3.37% in 2014/15.

Table 3.12. Change in proportion of pupils with a statement (from total school enrolment) between 2009/10 to 2014/15

	% of pupils with a SEN statement		Change in %
	2009/10	2014/15	
Funded units (n=10 schools)	6.97	5.64	-1.33
Comparison sample (n=16 schools)	9.81	9.14	-0.67
All primary schools	3.30	3.37	0.07

[7]Based on schools that met the selection criteria used by DENI to allocate Signature Project funding, i.e. schools with above average FSM entitlement, above average numbers of pupils with SEN statements, below average attendance rate and below average achievement at Key Stage 1 and 2.

3.8 Summary

This element of the evaluation reports on the progress, in terms of social, emotional and behavioural development, made by a sample of 529 past pupils who attended a Nurture Group in 30 schools across Northern Ireland. Overall, pupils made consistent and relatively large progress on all scales of the Boxall Profile between the baseline assessment and final assessment completed on reintegration. Progress was generally the same for different groups of children, however there was some indication that some groups may be making more progress, for example: those attending on a full time basis; looked after children; and those not eligible for free school meals. These findings in relation to overall social, emotional and behavioural progress are broadly consistent with other studies from across the UK.

Available data also indicates a small, but significant, positive change in literacy and numeracy attainment. Over a third of the sample reintegrated back into mainstream class following nurture provision and required no additional support. In terms of whole-school impact, the changes in whole-school attendance rates and also the proportion of pupils with SEN statements were not notably different to those for the general primary school population. A significant limitation of this analysis is the lack of a suitable 'control group' with which to compare progression rates and other outcomes. Without a control group, it is not possible to say whether these pupils may have made similar gains without attending nurture group, as a result of a range of other external factors include standard practice in schools in relation to pupil wellbeing.

Having said this, the size of the developmental gains documented in this section remain noteworthy and are relatively large. This is particularly so, given that it would be unlikely for such gains to be made by pupils with this level of need, over what is a relatively short period of time. As such, it is not unreasonable to conclude that at least some of these positive gains may well have been as a result of nurture provision. However, more conclusive claims can only be made by drawing comparisons with a control group, which would tell us about the likely outcomes for pupils *in the absence of* nurture provision. This is addressed in the next chapter, which reports the findings of a quasi-experimental study which tracked pupils attending nurture groups during the school year 2014/15, and a control group of pupils who have a similar level of need from schools without nurture provision.

4. Stage 2: Findings from Quasi-Experimental Trial

4.1 Pre-Test Comparisons

The quasi-experimental trial involved 384 pupils from 30 primary schools with Nurture Group provision (20 Signature Project schools and 10 additional Nurture Group schools) and 14 matched schools acting as a control group. As illustrated in Table 4.1 there were some differences between the intervention and control groups in terms of core characteristics at baseline. A higher proportion of pupils in the intervention group were eligible for free school meals, were known to social services, were on the child protection register and were also on the SEN code of practice. In contrast, a higher proportion of pupils in the control group were from minority ethnic backgrounds and had English as an additional language.

Table 4.1. Profile of pupils in the sample by group

Pupils		Intervention	Control	Sig.
Male		64%	70%	.359
% eligible for FSM		87%	66%	<.001
% EAL		3%	15%	<.001
% non-white		5%	22%	<.001
% looked after		8%	3%	.185
% known to social services		36%	16%	<.001
% on Child Protection Register		9%	2%	.043
Special Educational Needs stage	Not on SEN register	3%	29%	<.001
	Stage 1	12%	19%	
	Stage 2	54%	17%	
	Stage 3	26%	24%	
	Stage 4-5	4%	5%	

Similarly, there were also differences between the intervention and control groups at pre-test in relation to scores on the outcome measures used. As illustrated in Table 4.2, pupils in the intervention group were rated higher by teachers on the Organisation of Experience cluster and slightly lower on the Self-limiting features cluster. Also, pupils in the control group had

lower scores for Emotional symptoms, peer problems and hyperactivity at baseline, and also rated their own enjoyment of school higher than pupils in the intervention group at baseline.

Random allocation of schools to the intervention or control group may have ruled out some of these differences and resulted in two equivalent groups. However it was not feasible to randomly assign schools in this evaluation. Whilst schools in the control group were chosen so that they met the same criteria as the intervention group, the fact that Signature Project funding was allocated to schools with the highest proportion of free school meals would seem to have led to these differences. These differences, in turn, mean that a degree of caution is needed in relation to interpreting any differences found at post-test. As such, these pre-test differences may result in any comparable effects found being slightly exaggerated.

Table 4.2. Comparison of scores on outcome measures at baseline by group

Pupils	Intervention	Control	Sig.
	Mean (sd)		
Boxall Profile			
Developmental Strand	**75.06 (19.56)**	**83.53 (24.56)**	**.001**
Diagnostic Profile	53.91 (25.63)	48.28 (29.62)	.085
Organisation of experience	38.23 (11.79)	44.78 (13.49)	<.001
Internalisation of controls	26.83 (10.43)	38.76 (13.09)	.157
Self-limiting features	12.38 (5.12)	9.52 (5.43)	<.001
Undeveloped behaviours	13.19 (8.28)	11.24 (8.30)	.055
Unsupported development	28.33 (17.00)	27.51 (18.95)	.702
Strengths and Difficulties Questionnaire			
Total difficulties	19.91 (5.63)	17.80 (6.93)	.005
Conduct problems	3.45 (2.62)	3.23 (2.60)	.495
Emotional symptoms	4.89 (3.02)	4.06 (3.61)	.036
Peer problems	3.97 (2.24)	3.00 (2.18)	<.001
Hyperactivity	7.51 (2.68)	7.59 (2.51)	.005
Prosocial behaviour	4.45 (2.76)	4.90 (2.77)	.200
Enjoyment of school	42.08 (7.28)	44.77 (9.32)	.022
Attendance	90.97 (8.21)	90.71 (8.21)	.833
Academic outcomes			
Literacy	84.20 (12.11)	88.42 (20.03)	.068
Numeracy	82.38 (12.73)	79.69 (9.59)	.351

4.2 Duration of Nurture Group Placement

As explained in the previous section, pupils are placed in a Nurture Group in the expectation that they will make sufficient gains within a year (three terms), or four terms at the most. Placement in Nurture Group is usually between two and four terms, depending on the progress and needs of the pupil. It is recommended that the Boxall Profile is completed each term, and this, together with an assessment of the pupil's curriculum work and overall progress, indicates how long the pupil will stay in the Nurture Group.

Out of the 232 pupils who were included in the 20 Signature Project Nurture Groups, by June 2015, 136 pupils had reintegrated back to their mainstream class on a full time basis, and a further 34 were in the process of reintegration (phased returned). Almost all (99.5%) reintegrated within 4 terms (9% reintegrated after 2 terms, and a further 31% after 3 terms). Out of the 66 pupils attending the ten established Nurture Groups in 2014/15, 28% were ready to reintegrate after 2 terms; 37% after 3 terms, and 9% after 4 terms. Ninety-five per cent had reintegrated within 5 terms.

4.3 Raw Change by Group

As previously described, the Boxall Profile was used to measure pupil progress over time. Its two sections are the Developmental Strand (which describes developmental process that lay the foundations for being able to engage with and function in school) and the Diagnostic Profile (which describes behaviours that act as barriers to full and satisfactory participation in school). Scores on these two main sections of the Boxall Profile can range from 0 to a maximum of 136. The SDQ also measures pupil social, emotional and behavioural functioning, and includes four subscales that make up the total difficulties scale (which can range from 0 to 40). Further details on both instruments, including their scoring, can be found in Appendix A. Details of the mean pre-test and post-test scores for the Boxall Profile, SDQ, enjoyment of school and school attendance rate for pupils in the three groups of schools are also provided in Appendix C. Whilst there were statistically significant and large changes for pupils in the Nurture Groups in relation to all of the outcome measures, no notable or significant changes were found amongst the control group.

These scores show a significant, positive change in the Developmental Strand and the Diagnostic Profile (and their associated clusters), for the intervention group, but no

significant change for the control group (see Figures 4.1 and 4.2). Moreover, and in terms of the Strengths and Difficulties Questionnaire, the intervention group showed a decrease in conduct problems, hyperactivity, peer problems and emotional symptoms, and an increase in prosocial behaviour whilst no significant differences in these outcomes were found for the control group. The only exception to this was in relation to hyperactivity for which there was a small decrease in the control group. Enjoyment of school and attendance increased for the intervention group, but not for the control group.

Figure 4.1. Mean scores on the Developmental Strand (and associated clusters) for the intervention and control groups at pre- and post-test

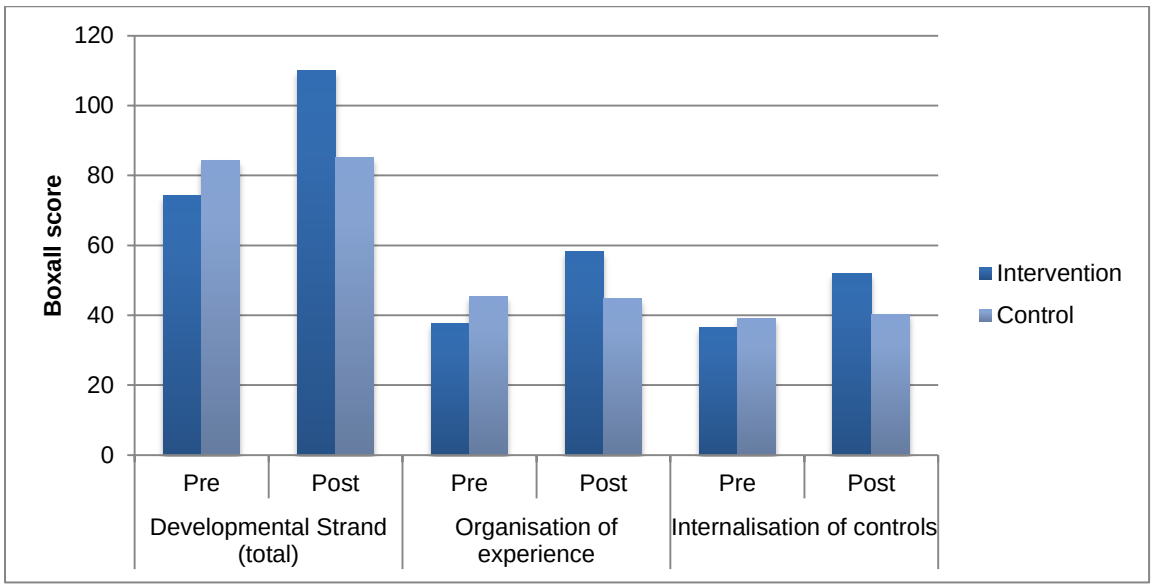
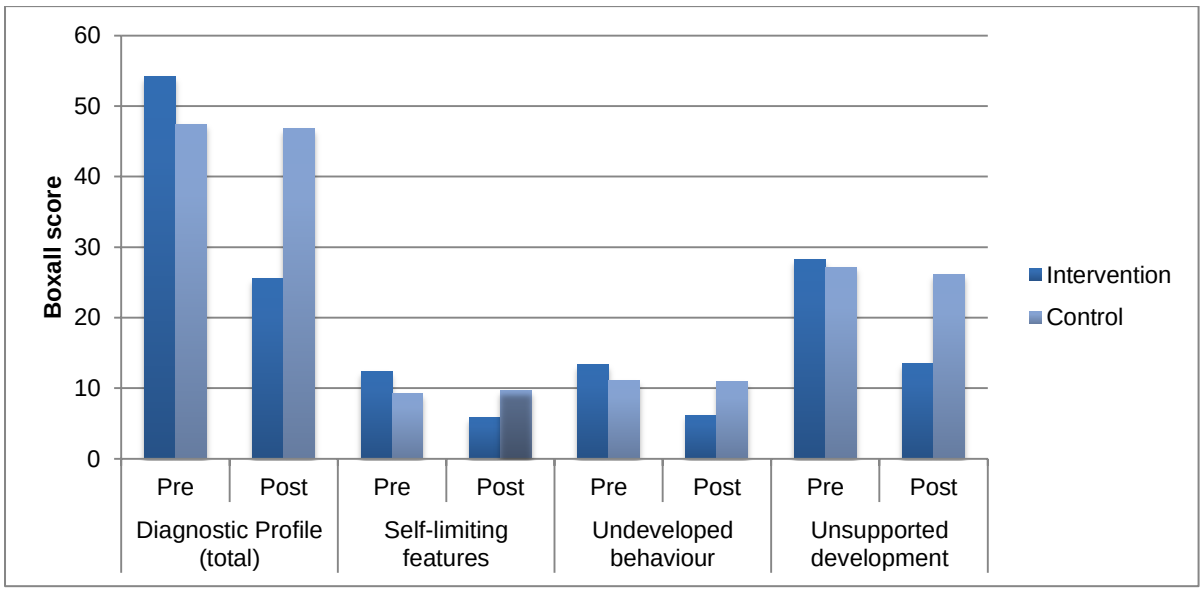


Figure 4.2. Mean scores on the Diagnostic Profile (and associated clusters) for the intervention and control groups at pre- and post-test



Another, possibly more meaningful, way of analysing the data from the SDQ is to classify the scores as normal, borderline and abnormal using published cut-off scores. As shown in Table 4.3, at baseline, 78% of pupils in the intervention group presented clinical levels of emotional and behavioural problems (defined as SDQ Total Difficulties score of 16 or above), compared with 63% in the control group (at the population level, 8% of children aged 5-10 reach this level; Meltzer et al. 2000). At post-test, this had reduced to 21% in the intervention group, with no change in the control group (62%).

Table 4.3 Proportion of Pupils with Clinically Significant Emotional and Behavioural Issues at Pre-Test and Post-Test (by Group)

SDQ clinical categories	Intervention		Control	
	Pre	Post	Pre	Post
Total Difficulties				
Normal/borderline	22.4%	79.4%	37.2%	38.1%
Abnormal	77.7%	20.6%	62.8%	61.9%
Conduct problems				
Normal/borderline	52.7%	82.3%	58.1%	52.3%
Abnormal	47.3%	17.7%	41.9%	47.6%
Emotional symptoms				
Normal/borderline	54.9%	90.4%	64.0%	69.1%
Abnormal	45.1%	9.6%	36.0%	30.9%
Peer problems				
Normal/borderline	58.7%	84.2%	77.9%	73.8%
Abnormal	41.3%	15.8%	22.1%	26.2%
Hyperactivity				
Normal/borderline	30.3%	73.7%	36.1%	48.8%
Abnormal	69.7%	26.3%	63.9%	51.2%
Prosocial behaviour				
Normal/borderline	45.5%	86.1%	47.7%	63.1%
Abnormal	54.5%	13.9%	52.3%	36.9%

4.4 Main Analysis

While it is illuminating to note the changes in the raw mean scores from pre- and post-test across the two groups, it is important to remember that we are not comparing like-with-like as described earlier in relation to the differences found between the two groups at pre-test. It is with this in mind that a more robust comparison is required that seeks to control for these pre-test differences. This was achieved by fitting a number of multilevel regression models to the data for each of the following outcomes:

- Boxall profile scores;
- Strengths and Difficulties Questionnaire scores;
- Pupil-rated enjoyment of school;
- Pupil attendance rate;
- Academic outcomes in literacy and numeracy.

For each model, the post-test score was the dependent variable and the independent variables were the pre-test score, the group variable (i.e. intervention group or control group) and a number of variables representing pupils' core characteristic. Details of the full models fitted are detailed in Appendix C. The post-test means shown in the table are 'adjusted' to take into account and control for any differences between the two groups at baseline. Also displayed are the effect sizes (representing the size of the difference between the two groups) and whether these differences are statistically significant ($p<.05$).

As can be seen from Figures 4.3 to 4.5, and at post-test, pupils attending a Nurture Group were rated notably better by teachers on both measures of social, emotional and behavioural functioning. These pupils also rated their own enjoyment of school higher. Most of these effects can be considered very large (with standardised effect sizes of magnitudes exceeding 1.0).

Figure 4.3. Adjusted post-test means for Developmental Strand (and associated clusters)

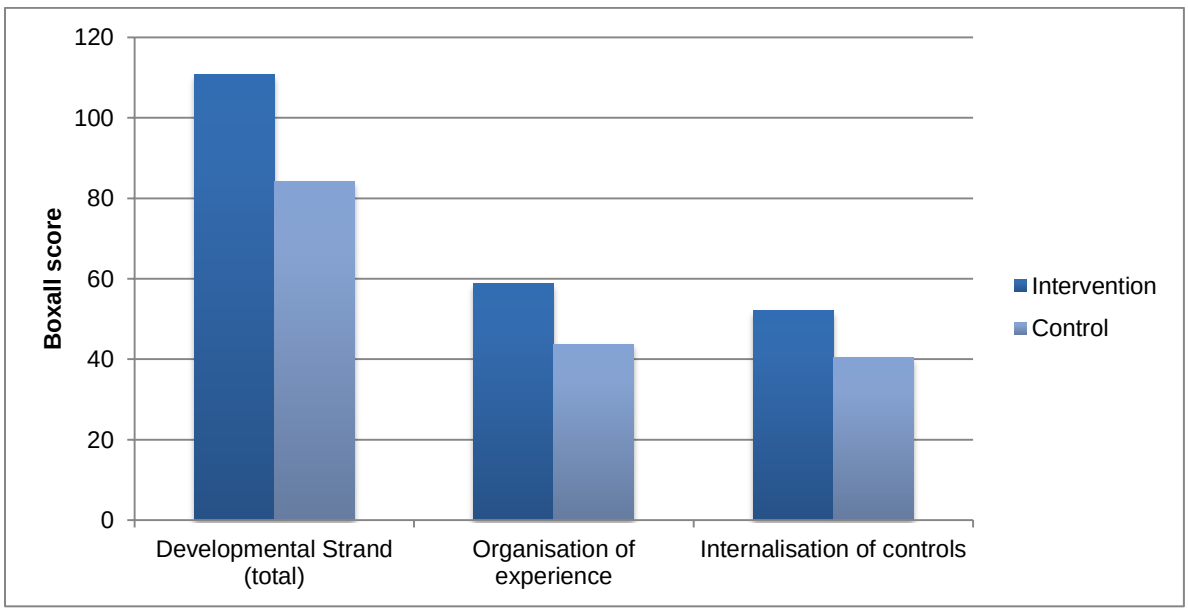


Figure 4.4. Adjusted post-test means for Diagnostic Profile (and associated clusters)

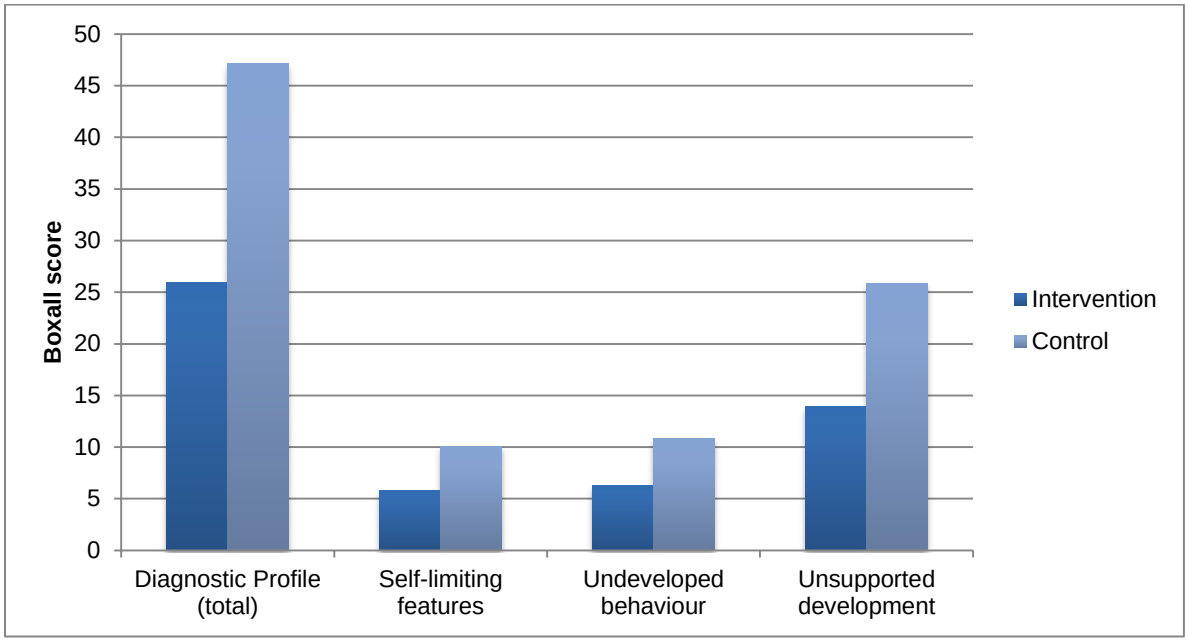
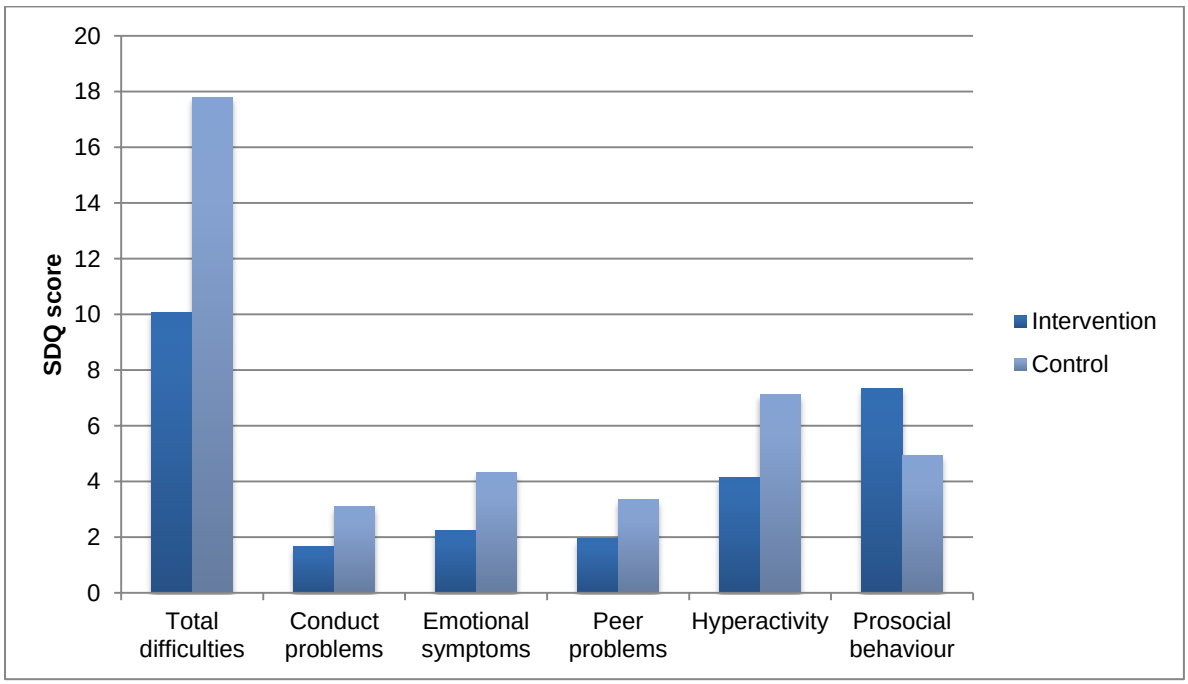


Figure 4.5. Adjusted post-test means for the Strengths and Difficulties Questionnaire



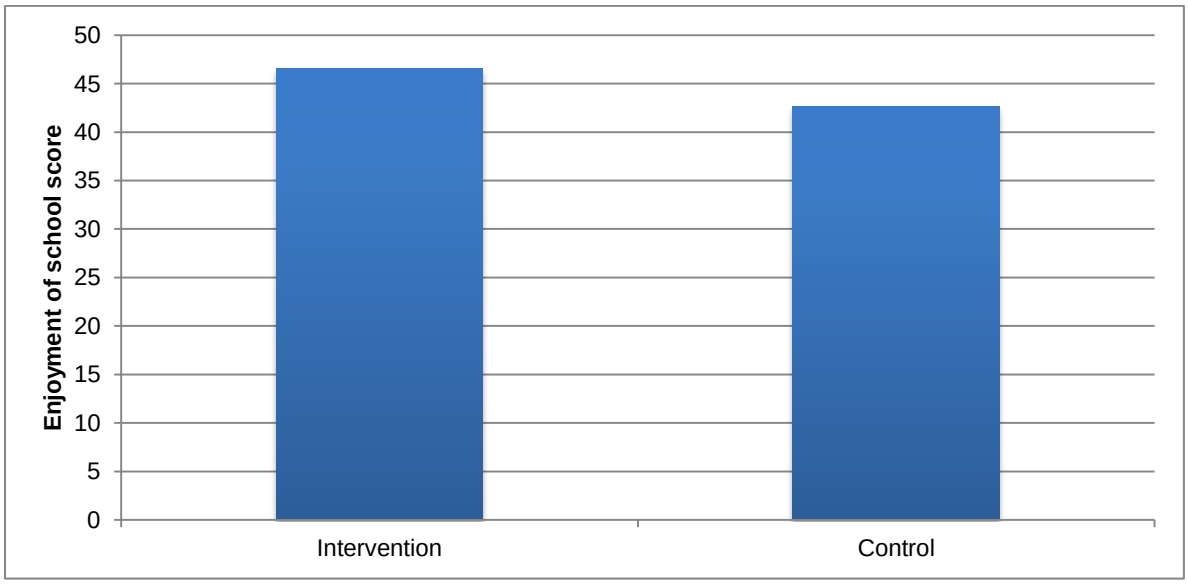
One final element to note is the effect of Nurture Group provision on children on the Special Education Needs (SEN) register. As shown in Table 4.4, whilst no children in the control group schools showed improvements by moving down the Code of Practice from pre-test to post-test, nearly one in five children attending Nurture Groups (19.5%) did.

Table 4.4. Effects of Nurture Provision on Children on the Special Educational Needs Register

Movement Between Levels of the Code of Practice	Intervention		Control	
	n	%	n	%
Moved up	43	14.7	15	18.1
No change	192	65.7	68	81.9
Moved down	57	19.5	0	-

In contrast, there was no evidence that Nurture Groups were having an effect on attendance or academic outcomes compared to those attending control schools. However, and in relation to this finding, it should be noted that Nurture Group pupils reported significantly greater enjoyment of school compared to pupils in the control group (see Figure 4.6). Therefore it is possible that improvements in academic attainment may be medium to longer-term outcomes of nurture provision that follow once engagement with learning and school in general is achieved.

Figure 4.6. Adjusted post-test means for the pupil self-rated enjoyment of school



4.5 Exploratory Sub-Group Analyses

Beyond the above main analysis of the overall effects of Nurture Group provision, exploratory analyses were also undertaken to assess whether there is any evidence that Nurture Groups work differently for different groups of schools or pupils. This was done by

extending the main multilevel regression models[8] by adding interaction terms between the variables of interest and group membership.

Results from these exploratory analyses should be interpreted with caution, however, as some of the subgroups explored within these interaction models were very small, thus limiting the reliable detection of group differences at this level. Further, given the large number of multiple comparisons made, some statistically significant results can be expected to occur randomly. It is with this in mind that it is advisable only to take note of findings that are consistent across a number of outcomes variables.

School-level characteristics

Exploratory analyses considered whether Nurture Groups were having differential effects in relation to schools with:

- Differing proportions of pupils eligible for free school meals;
- Differing proportions of pupils with special educational needs;
- Differing levels of multiple deprivation;
- Differing sizes (i.e. total number of pupils Years 1-7 enrolled).

The findings of these exploratory analyses are summarised in Table 4.5 that indicates which subgroup effects were found to be statistically significant (i.e. where $p<.05$). As can be seen, there was no evidence that Nurture Groups operated differently in relation to the first three factors listed above.

However, and in relation to schools size, whilst all schools demonstrated positive progress, there was an inverse relationship between school size and amount of progress, meaning that pupils in larger schools made less progress compared to those in smaller schools. In terms of the Peer problems subscale of the SDQ, Nurture Group pupils in larger schools tended to have more peer problems at post-test compared to the control group, whereas Nurture Group pupils in smaller or medium schools tended to have fewer peer problems compared to the control group.

[8] As previously highlighted, subgroup analyses were conducted for all outcomes apart from academic attainment as this data was available for only a small proportion of the sample.

Table 4.5 Summary of Evidence of Differential Effects of Nurture Groups in Relation to School-Level Variables (Statistical Significance of Interaction Terms)

Outcome	Interaction Effects Explored			
	School %FSM	School %SEN	School deprivation	School size
Boxall Profile				
Developmental	.682	.141	.266	**.005**
Diagnostic	.897	.182	.775	**.023**
Strengths and Difficulties Questionnaire				
Total difficulties	.911	**.048**	.499	**.049**
Conduct Problems	.873	.202	.650	.388
Emotional Symptoms	.580	.051	.495	.181
Peer Problems	.298	.585	.181	**<.001**
Hyperactivity	.765	.057	.476	**.046**
Prosocial Behaviour	.664	.864	.627	.990
Enjoyment of School	.529	.572	.878	.959
Attendance	.302	.187	.208	.317

Pupil-level characteristics

The following pupil-level characteristics were examined at the subgroup level:

- Boys compared to girls;
- Pupils in different year groups;
- Pupils with English as an Additional Language;
- Pupils from areas with differing levels of deprivation;
- Looked after children;
- Pupils from families with social services involvement;
- Pupils at different stage of the SEN Code of Practice;
- Pupils with differing scores on the outcome variable at baseline.

As above, the key findings are summarised in relation to these in Table 4.6. As can be seen, and in relation to most of these pupil-level variables, there was no evidence that Nurture Groups had differential effects. In other words, Nurture Groups had similar positive effects for pupils, on average, regardless of their individual characteristics.

Table 4.6 Summary of Evidence of Differential Effects of Nurture Groups in Relation to Pupil-Level Variables (Statistical Significance of Interaction Terms)

Outcome	Interaction Effects Explored							
	Boys vs Girls	Year group	EAL	Deprivation	LAC	Known to SS	SEN Stage	Baseline score
Boxall Profile								
Developmental Strand	.528	.087	.606	.294	.391	.352	.948	**<.001**
Diagnostic Profile	.198	.977	.663	.953	.449	.287	.727	**.006**
Strengths and Difficulties Questionnaire								
Total Difficulties	**.013**	.528	.990	.928	.360	.979	.929	.118
Conduct problems	.513	.673	.956	.213	.499	.057	.151	**<.001**
Emotional symptoms	**<.001**	.617	.605	.061	.429	.603	.484	**<.001**
Peer problems	**.008**	.184	.278	.940	.129	.887	.640	**.049**
Hyperactivity	.346	.796	.537	.702	.822	.575	.988	.236
Prosocial behaviour	.149	.110	.769	.174	.802	.996	.656	**.002**
Enjoyment of School	.563	.834	.508	.811	.354	.259	.096	.146
Attendance	.936	.538	.647	.114	.710	.445	.825	**.024**

The main exception to this was in relation to baseline score. Whilst pupils were likely to make positive progress regardless of their baseline score, the evidence suggests that, for most outcomes, pupils with lower scores at baseline made more progress compared to those with higher scores. While overall the impact of nurture provision on attendance was not significant, the significant interaction with baseline score indicates that attendance improved for pupils had the lowest attendance rates prior to Nurture Group placement.

In addition, there is perhaps some evidence to suggest that Nurture Groups were having some differential effects for boys and girls. In particular, the exploratory analysis suggested that whilst Nurture Groups were having a positive effect for boys and girls, it may be having a larger effect in terms of the reduction of total difficulties for girls compared to boys. Within this, the difference seems to be explained largely in terms of gender differences in emotional symptoms and peer problems.

Nurture Group characteristics

Finally, analyses were also undertaken within the intervention group to explore the effects of Nurture Group characteristics and, in particular, whether there were differential effects in relation to:

- Full-time compared to part-time provision;
- Length of time the Nurture Group has been running;
- Nurture group size (i.e. number of pupils);
- Signature Project Nurture Group compared to existing Nurture Groups.

As summarised in Table 4.7, no evidence was found that any of the above characteristics were having differential effects on the impact of Nurture Group provision. In other words, pupils made similar progress across outcomes independent of whether they attended full-time or part-time or in relation to the length of time the Nurture Group had been running or whether it was part of the Signature Project or an existing Group.

Table 4.7 Nurture group characteristics (statistical significance of interaction terms)

Outcome	Nurture group characteristics explored			
	Full time	Years NG running	NG size	Signature Project NG
Boxall Profile				
Developmental Strand	.605	.859	.275	.874
Diagnostic Profile	.770	.932	.807	.604
Strengths and Difficulties Questionnaire				
Total Difficulties	.613	.166	.450	.983
Conduct problems	.250	.278	.100	.774
Emotional symptoms	.098	.436	.847	.498
Peer problems	.682	.792	.066	.329
Hyperactivity	.914	.103	.107	.753
Prosocial behaviour	.946	.354	.162	.931
Enjoyment of School	.214	.890	.331	.633
Attendance	.500	.588	.644	.349

4.6 Comparison with findings from other research

This section compares the findings of the current research with other studies which have employed a similar design, i.e. non-randomised, quasi-experimental approach in which the outcomes for nurture group pupils are compared with outcomes for similar pupils who are not attending a nurture group. To date, five studies have taken this approach (Cooper and Whitebread, 2007; Reynolds et al., 2009; Sanders 2007; Scott and Lee 2009; Seth-Smith et al., 2010).

The largest of these studies is that by Cooper and Whitebread (2007), who compared the progress of 284 pupils attending nurture groups in 23 schools in England, to different control groups: 64 pupils with social, emotional and behavioural difficulties attending the same mainstream schools, and 31 pupils with social, emotional and behavioural difficulties attending mainstream schools without NGs. However, only the Strengths and Difficulties Questionnaire was administered with both the intervention and control groups (the Boxall Profile was not completed for pupils in the control group). There was a significant improvement in SDQ scores for nurture group pupils, while control group pupils in schools with no nurture groups declined in terms of their behaviour (with significantly more pupils moving into the 'abnormal' category in the control group from pre- to post-test). Interestingly, a similar improvement in terms of the SDQ was observed for control group pupils attending the *same* school, which the authors suggest could reflect the 'added value' of Nurture Groups in terms of developing a 'nurturing school' ethos.

The study by Reynolds et al. (2009) involved 179 pupils aged 5-7 years with SEBD attending 32 primary schools in Glasgow. Approximately half of the sample attended a Nurture Group (16 schools); the remaining pupils attending 16 schools with no nurture provision acted as the control group. Pupils in Nurture Groups made significant gains in self-image, self-esteem, emotional maturity and attainment in literacy compared to the control group.

Other published evaluations including a control group had much smaller sample sizes. Sanders (2007) reported the findings from a nurture group pilot study in England which involved 29 pupils from 2 schools with part-time Nurture Groups, and a control group of 9 pupils from a school with no nurture provision. They found a significant difference in the progress in both sections of the Boxall Profile made by pupils attending Nurture Groups compared to the control group. Academic progress was also rated by teachers (albeit for nurture group pupils only), who reported academic gains for two-thirds of pupils as well as a reduction in permanent exclusions and improved attendance where this was a concern.

Scott and Lee (2009) compared the progress of 25 pupils attending part-time nurture groups in 4 schools in Scotland, drawing comparisons with a control group of 25 pupils attending the same 4 schools. Nurture Groups pupils made significantly more progress on both sections of the Boxall Profile compared to the control group.

Seth-Smith et al. (2010) compared the progress of 41 pupils in nurture groups in 10 schools to a control group of 36 pupils in 5 schools without nurture provision. Pupils in nurture

groups significantly improved on the 'peer problems', 'pro-social behaviour' and 'hyperactivity' subscales of the SDQ (based on teacher ratings), but not the 'conduct difficulties' or 'emotional difficulties' subscales. Nurture Groups pupils also made more consistent progress in terms of academic progress, however this was based on teacher perception and thus should be interpreted with caution.

No other study has included a measure of pupil self-rated enjoyment or engagement with school, although the findings from the current study in relation to increased enjoyment of school are consistent with other studies that have employed different methods. For example, Cooper et al. (2001) asked parents (n=89) of pupils attending nurture groups about their perceptions of their child's enjoyment of school; half of parents (54%) felt their child's enjoyment of school had increased (with 4% rating enjoyment as worse, and no change for 26% of parents). In other qualitative research, pupils, parents and teachers report an increase in pupil enjoyment of school, improved attitude to school and learning, increased attendance and improvements in friendships (Cooper et al., 2001; Cooper and Tiknaz, 2005; Sanders, 2007; Billington et al., 2012; Kourmoulaki, 2013; Shaver & McClatchey, 2013; Syrnyk, 2014; Pyle & Rae, 2015).

Overall, the findings from the current study are consistent with other quasi-experimental studies that have also found significant improvements in pupil social, emotional and behavioural functioning. Findings in relation to academic attainment are mixed, however, and limited by use of teacher-report as opposed to direct measurement. Also, while there were no significant differences in literacy and numeracy results in the short term, it could be argued that a necessary first step in increasing academic attainment among underachieving pupils with attachment-related SEBD is improving enjoyment and engagement with school.

4.7 Summary

In summary, the analyses have provided clear evidence of the positive, and large, effects of Nurture Group provision on pupils' social, emotional and behavioural outcomes. Pupils also reported an increase in their own enjoyment of school, compared to the control group. Progress was consistent across different models of Nurture Group provision and was generally the same across a number of school characteristics. Within this, pupils seemed to make more progress in Nurture Groups located in smaller schools and there was some possible evidence that Nurture Groups had greater effects in relation to reducing difficult behaviour for girls than boys.

However, it is important to interpret these findings with some caution. In this respect two key points need to be born in mind. The first, as noted earlier, is that we are not strictly comparing like-with-like because of the non-random selection of schools for the intervention and control groups. As found, whilst the two groups of schools were well matched in that the control schools were selected from a list of schools that met the original criteria for Signature Project funding, those in the intervention group still tended to have more complex profiles with poorer initial outcomes at pre-test compared to those in the control group. Whilst efforts were made to control for these differences in the analysis, there is still a possibility that the size of the effects found may be slightly exaggerated as a result.

Secondly, it is important to bear in mind that the main outcome measures relied upon teacher ratings of the pupils. As it was not possible for teachers to rate children blind to their group membership (i.e. not knowing whether they were part of the intervention or control groups), the findings should be interpreted with caution.

For both reasons above, it is therefore possible that the size of the effects found for Nurture Groups may be exaggerated. Further research involving a proper randomised controlled trial design is therefore recommended in order to assess whether this is the case.

Finally, and in terms of differing models of delivery, no evidence was found in this present trial that the effectiveness of Nurture Groups varied between full and part-time provision; length of time the Nurture Group has been running; Nurture Group size; or whether the Groups were part of the new Signature Project or within schools already providing Nurture Groups. This latter point is important as Signature Project schools were required to run their Nurture Groups in line with the classic model of delivery, whereas the existing schools were able to continue providing Nurture Groups in more variable ways. These points should be treated with caution, however, given that the trial was not sufficiently large to test the effects of these different models of provision. Further research would be required with a larger sample of schools to be able to draw more definitive conclusions.

5. Cost-Effectiveness Analysis and Economic Review

5.1 Nurture Group Unit Cost Per Pupil

Table 5.1 provides details of the components of resource use, unit costs and sources of data collected alongside the quasi-experimental study.

Table 5.1 Resource Use, Unit Costs and Source of Data

Resource	Unit cost	Source
Nurture provision set up costs (relevant to 20 new Signature Project units)		
Refurbishment of classroom	£10,000	DENI
Cost of furniture and equipment	£10,000	DENI
Training nurture teacher and classroom assistant	£1,100	DENI
Cost of Boxall Handbook	£40	DENI
Nurture provision operational costs (relevant to the 20 'Signature Project units and the 10 established units)		
Staff salary	£70,000	DENI
Training of back-up nurture teacher	£550	DENI
Cost of Boxall Profile packs	£20	DENI
Mainstream schooling		
Delivery of one year of mainstream schooling	£3,266	DENI
Additional service use (mean cost per contact, unless stated otherwise)		
Educational Psychologist	£41.00	PPSRU 2014 pg.156
Education welfare officer	£27.00	PSSRU 2014 pg.155
Classroom assistant	£8.60	Mid-spine point of Scale 3 of NJC Payscale
SENCo	£16.92	Teacher pay scale
Counsellor	£81.00	PPSRU 2014
Outreach learning support (average cost per year)	£3,000	DENI
Outreach behaviour support (average cost per year)	£3,000	DENI
School nurse	£63.00	PPSRU 2014
Health visitor	£50.00	PPSRU 2014
GP	£46.00	PPSRU 2014
Paediatrician	£189	PPSRU 2014
Child Development Clinic	£310	PPSRU 2014
Psychiatrist	£228	NHS Reference costs 2013/14
Speech and language therapist	£89.00	PSSRU 2014
Hearing specialist	£189	PPSRU 2014
Occupational therapy	£113.00	PSSRU 2014
Family therapy	£106.00	PPSRU 2014
Individual therapy	£81.00	PPSRU 2014
Social worker	£57.00	PSSRU 2014

The unit cost sourced for the delivery of one year of mainstream schooling was a best estimate. This represents the core element of school funding for teacher and support staff salaries, school running costs and non-pay items, such as books and equipment. It does not include a range of additional funding elements and costs, such as capital costs, school meals, transport and other programme and initiative funding. As a result, the best estimate unit cost is likely to be an underestimate, particularly for those schools situated in areas of deprivation. Further, in relation to Table 5.1, unit costs for two resources were unavailable: outreach learning support and behaviour support. However, the Education Authority was able to provide the average costs for a pupil receiving learning or behaviour support sessions from an outreach team for one school year. As a result, the average costs were included if the pupil had any contact recorded for these resources.

Resource data collected in relation to pupils' use of other public services, namely those items relating to health and social care services, were very limited and, therefore, deemed unreliable. As a result, the cost-effectiveness analysis was conducted from a payer (Department for Education) perspective alone.

Pupil level data were used to calculate the individual cost to the education system for the duration of the study. These pupil level estimates were used in the cost-effectiveness analysis. Table 5.2 provides summary details of the estimated average annual cost per pupil receiving nurture provision and per pupil receiving standard school provision for each educational resource, as well as the total mean difference in cost per pupil to the education sector.

It should be noted that the mean cost per pupil for delivery of nurture provision in the intervention group of £10,396 (SD £3,581) reflects differences across the study sites. Established nurture units did not incur start-up costs during the study period and, therefore, reported a lower average cost per pupil for delivery of nurture provision (mean £6,898; SD £2981) than the signature units (mean £12,415; SD £1,950).

Table 5.2 Mean Cost per Pupil (£ UK 2014 prices)

Educational resource	Intervention		Control		Difference in cost (95% CI)
	Mean	SD	Mean	SD	
Delivery of schooling	10,396.46	3,581.38	3,226.00	-	+7,170.46 (6,537.55, 7,803.38)
Educational Psychologist	8.50	38.37	11.50	40.03	-3.00 (-15.65, 9.65)
Education welfare officer	0.77	4.98	3.33	17.16	-2.57 (-7.22, 2.09)
Classroom assistant	55.38	426.07	555.54	1,795.67	-500.17 (-984.98, -15.35)
SENCo	10.83	86.00	63.82	244.48	-52.99 (-119.94, 13.97)
Counsellor	50.71	222.53	24.00	176.36	+26.71 (-34.61, 88.02)
Outreach learning support	146.34	648.87	388.89	1,017.15	-242.55 (-537.08, 51.98)
Outreach behaviour support	170.73	697.86	333.33	951.66	-162.6 (-444.80, 119.60)
School nurse	18.44	28.78	12.83	28.39	+5.61 (-3.52, 14.73)

5.2 Incremental Cost-Effectiveness Ratio (ICER)

The cost-effectiveness analysis reports the cost-effectiveness of Nurture Group provision compared to mainstream schooling in terms of cost per reduced case of difficult behaviour from the payer (Department for Education) perspective. The differences in cost (incremental cost) and differences in effect (incremental effectiveness) between nurture provision and mainstream schooling, are presented in Table 5.3. As can be seen, the estimated cost of standard education a year per pupil is £4,617.75 and for Nurture Group provision a year per pupil is £10,858.16, giving an incremental additional cost associated with Nurture Group provision of £6,240.41 per pupil (bootstrapped 95% Confidence Interval (CI) £5,067.68-£7,49.57).

Table 5.3 Incremental Cost-Effectiveness Ratio (ICER)

	Cost (C)	Incremental Cost	Effectiveness (E)	Incremental Effectiveness	ICER (ΔC/ΔE)
Standard Education	£4,617.75		0.37		
Nurture Group Provision	£10,858.16	£6,240.41	0.85	0.48	£12,912.41

The effectiveness of standard education and Nurture Group provision was calculated using the SDQ total difficulties score at post-test. These scores were used to categorise each pupil as either being within the normal range (coded "1") or having behavioural difficulties (coded "0"). Following accepted conventions (Goodman, 1997), pupils scoring 0-15 on the total difficulties score were categorised in the former and those scoring 16 and above were categorised as the latter. The effectiveness scores reported in Table 5.3 represent the mean score for both groups on this re-categorised variable at post-test. What the figures show is that whilst 37% of those in standard education were categorised in the normal range at post-test, this rose to 85% of those in the Nurture Groups.

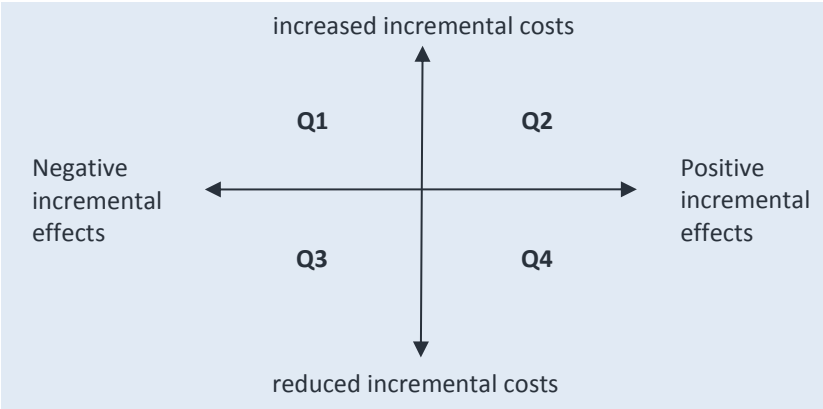
As also shown in Table 5.3, the incremental effectiveness of Nurture Groups compared to standard school provision is therefore the difference between these two figures (0.48; bootstrapped 95% CI 0.31-0.65). Subsequently, and as also shown in Table 5.3, the cost per reduced case of difficult behaviour was £12,912.41 (bootstrapped 95% CI £8,773.56-£21,353.67). Most simply, this figure represents the average cost it takes to improve one child currently defined as having behavioural difficulties on the SDQ to being in the normal behavioural range. Thus, for example, if a school had 10 pupils with difficult behaviour this figure estimates that the total cost involved in improving all 10 pupils would be £129,124.10. The bootstrapped 95% Confidence Intervals represent, in part, fluctuations in costs incurred by established and signature nurture units during the study period. Established nurture units did not incur start-up costs and, therefore, the lower 95% Confidence Interval of £8,773.56 per reduced case of difficult behaviour may be more reflective for this group.

5.3 Uncertainty Around the ICER Estimate

There is a level of uncertainty surrounding this estimate of the ICER. This uncertainty is partly related to variations in the cost associated with Nurture Group provision as well as variations in the impact of the Nurture Group on each individual pupil. To illustrate the level of uncertainty around the estimate, the data from the trial can be used to run a number of

simulations (using bootstrapping) to illustrate the range of potential values of incremental costs versus incremental effects. For the present data this simulation was run 1,000 times. The values are then plotted on what is called a cost-effectiveness plane (Fenwick et al., 2006) as illustrated by Figure 5.1.

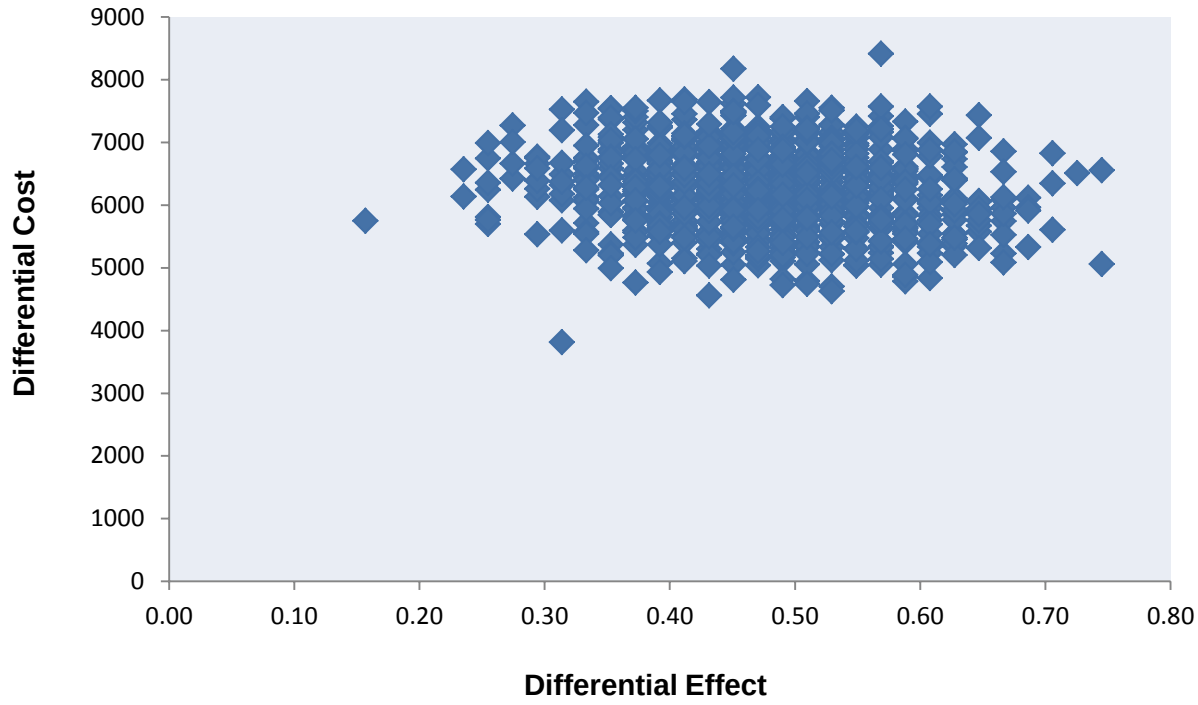
Figure 5.1 Example of Cost-Effectiveness Plane



If all the values fall within the fourth quadrant (Q4) then the programme will always be considered to be cost-effective regardless of how much a policy-maker is willing to pay. This is because the programme is having a positive effect and is also actually cheaper than current provision. Similarly, if all of the values fall in the first quadrant (Q1) then the programme would always be considered as not cost-effective as it is associated with negative effects and yet is costing more than current provision.

In relation to the current simulation of the Nurture Group data, the values plotted on the cost-effectiveness plane are illustrated in Figure 5.2. It can be seen that, in this case, all of the potential values fall in the second quadrant (Q2) where there is a positive differential effect but also an associated increased differential cost. This suggests that there is no clear-cut finding regarding whether Nurture Group is cost-effective or not (as would have been the case in relation to the other scenarios explained above). Rather, and in this case, there is a trade-off to be considered by policy-makers in relation to the additional amount of investment willing to be paid and the estimated positive effects associated with this.

Figure 5.2 Cost-Effectiveness Plane

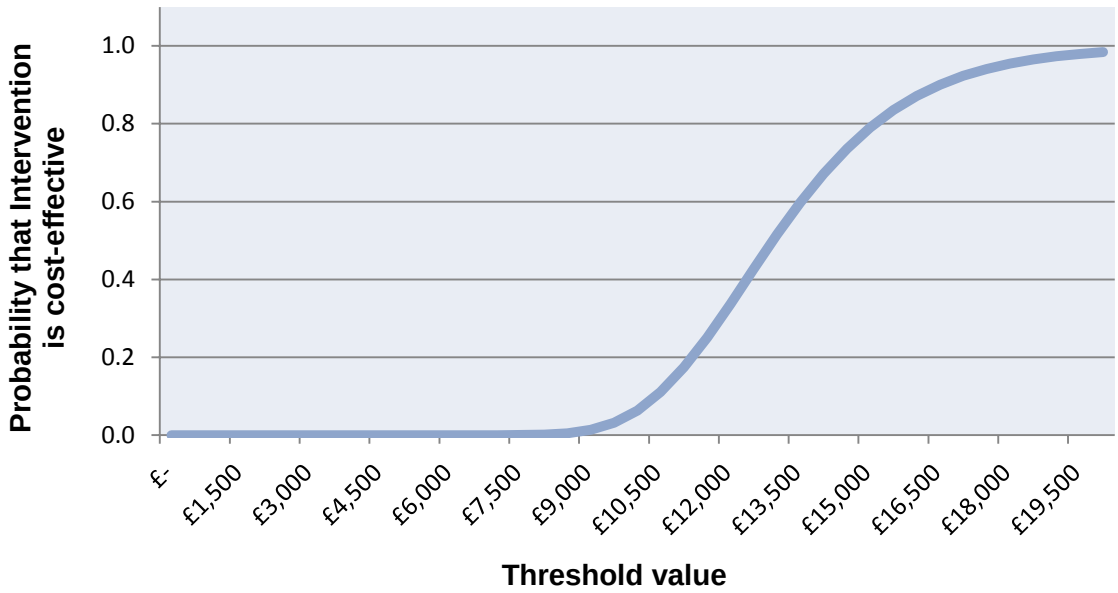


5.4 Cost-Effectiveness Acceptability Curve

Ultimately, the decision regarding whether a programme is cost-effective is a subjective decision and depends on how much a policy-maker is willing to pay. From before it will be remembered that the incremental cost-effectiveness ratio (ICER) for Nurture Group provision has been estimated as £12,912.41. This is the average cost required to improve each pupil from a position where they are diagnosed as having difficult behaviour (using the SDQ) to one where they fall within the normal range. If a policy-maker is willing to pay £13,000 per pupil to improve their behaviour in this way then this figure suggests that the Nurture Group is cost-effective. However, if the policy-maker is only willing to pay £10,000 per pupil then the figure suggests that it may not be cost-effective.

To help inform decisions made by policy-makers, the data from the simulation displayed in Figure 5.2 can be used to generate a cost-effectiveness acceptability curve as shown in Figure 5.3. What this curve shows is the likely probability that Nurture Group provision will be cost-effective for differing amounts per pupil that a policy-maker would be willing to pay (the 'threshold values'). For any particular threshold that is willing to be paid per pupil, the curve can be used to read off the probability that the additional cost involved in achieving the positive change in behaviour will be at or below that threshold.

Figure 5.3 Cost-Effectiveness Acceptability Curve for Nurture Group Provision

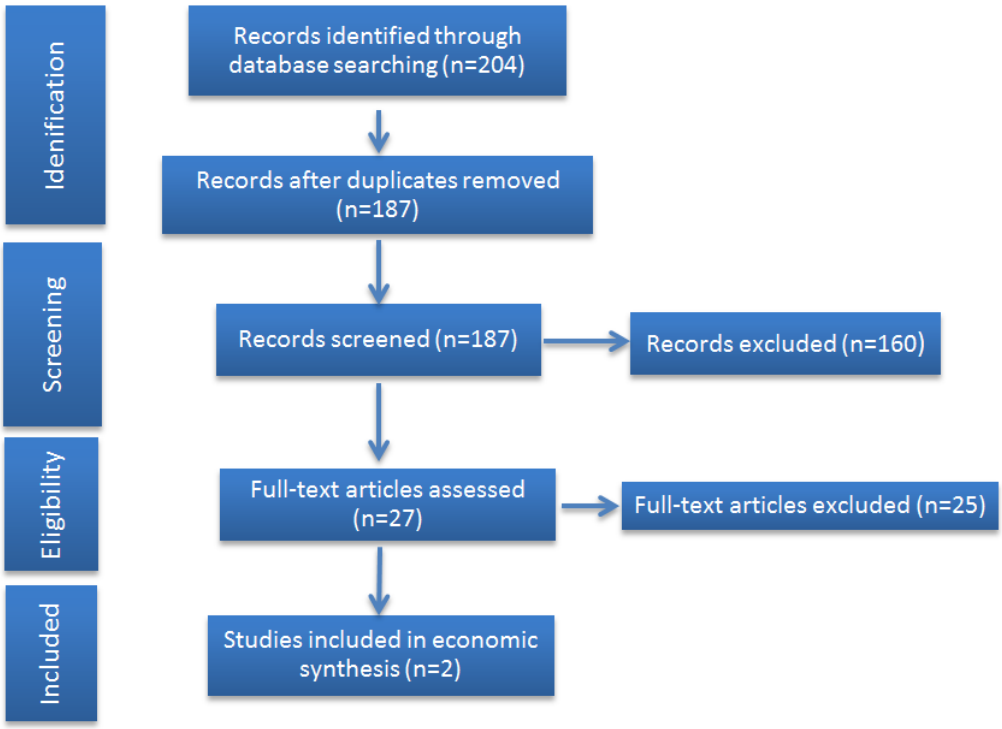


5.5 Economic Review

The aim of the review of economic literature was to provide a comprehensive summary of current evidence pertaining to the costs and benefits of nurture provision in comparison to mainstream schooling and other school-based interventions used to improve outcomes in children with socio-emotional and behavioural difficulties and/or attachment disorders at an early stage of primary school education. In particular, the economic burden on the education system, the range, scope and effect of school-based interventions aimed at supporting these children, and the economic impact of these interventions on education services in terms of costs and effects.

Database searches identified 204 records. Of these, 17 were duplicate records. Title and abstract screening identified 27 studies for full text review. Of these, 25 studies were excluded, as the inclusion/exclusion criteria were not met. Studies were excluded if they did not include an early primary school-based intervention (n=14), did not report an economic evaluation of the intervention (n=10), or reported no outcomes relating to socio-emotional well-being (n=1). Figure 5.4 presents the PRISMA flow diagram for the literature search.

Figure 5.4 PRISMA flow diagram



Economic burden

Evidence on the economic burden for younger children with antisocial behaviour in the UK has previously been assessed and reported (Knapp *et al*., 1999; Romeo *et al*., 2006; Knapp et al., 2011) with estimates ranging from £5,960 to £15,282 a year per child, depending on the perspective adopted. In the longer term, Scott et al. (2001) compared cumulative costs of a range of public services used by individuals with three levels of antisocial behaviour (no problems, conduct problems and conduct disorder) from aged 10 years through to adulthood. The costs were reported for services used over and above basic universal provision, at 1998 prices. Findings showed that, by age 28, costs for individuals with conduct disorder were 10.0 times higher than for those with no problems (bootstrapped 95% CI 3.6 to 20.9) and 3.5 times higher than for those with conduct problems (bootstrapped 95% CI 1.7 to 6.2). Mean individual total costs were £70,019 for the conduct disorder group and £24,324 for the conduct problem group, compared with £7,423 for the no problem group. It should be noted that these costs are considered to be conservative estimates, as they exclude private, voluntary agency, indirect, and personal costs.

Stabile and Allin (2012) recognise that many calculations of the societal economic impact represent an underestimate of the true economic burden and conclude that expensive

interventions to improve behaviours are likely to be justified. It follows that the potential for cost savings by alleviating the socio-emotional and behavioural difficulties experienced by these children reflects this burden. Administering early school-based interventions that are delivered by trained educators provides an important opportunity; while assessing their effectiveness and cost-effectiveness is paramount to ensuring the routine delivery of interventions within or alongside mainstream education that can realise some of these cost savings in the short, medium and long term.

Economic evidence of early years' school-based interventions

Of the two studies included in the review, one reported a partial economic evaluation in the form of a cost analysis, while the second provided a full economic evaluation, in the form of a cost-effectiveness analysis comparing an intervention administered alongside mainstream education to mainstream education alone. None of the studies reported the costs or benefits of these interventions beyond one year of follow up. Neither of the studies provided an economic evaluation of nurture provision. Table 5.5 presents summary characteristics for each study that reported evidence relating to the costs of early school-based interventions.

While previous systematic reviews attest to the effectiveness of early years' school-based interventions, including Nurture Groups (Hughes & Schlösser, 2014), the evidence on the economic impact of these interventions on education services is limited. A previous systematic review on the cost-effectiveness of such interventions identified no studies to include (McCabe, 2007a). The quality of the evidence provided by the two included studies was poor, due to the limited time horizon, the perspective taken and the scope of the evaluation. No evidence was found relating to either the short- or long-term cost-effectiveness of nurture provision in comparison to mainstream education. However, evidence relating to the potential cost savings from assessments of the economic burden of a child living with impaired socio-emotional well-being, attachment and conduct disorders suggests the likelihood of early effective intervention being cost-effective.

Taking a lifetime approach in relation to the costs of conduct disorder, Friedli and Parsonage (2007) estimated that preventing conduct disorders would save £150,000 per case averted. While the theory and evidence of effect would support the use of nurture provision, quantifying the ongoing costs alongside the benefits to the education system, alongside other public services and to society, would be needed. Routine collection of this data would allow for a full economic evaluation using decision analytic techniques and a lifetime approach to model the cost-effectiveness of Nurture Groups.

In terms of the economic burden to the education system reported previously, Knapp et al. (1999) calculated that 31% of the mean annual costs were borne by the education system. Scott et al. (2001), in their longer term approach into adulthood, reported that the second greatest cost incurred was for extra educational provision, with the first being crime. Mean total costs, by individuals from the age of 10, to the education system were identified as £12,478 for those with conduct disorder, £7,524 for conduct problems and £1,508 for no problems. Scott et al. (2001) conclude that antisocial behaviour in childhood is a major predictor of future costs to society, that costs are high and fall to many public service agencies. They recommend a well-coordinated, multi-agency approach to prevention strategies, as evidence-based effective interventions could reduce these costs considerably.

Estimated savings associated with Nurture Group provision in Northern Ireland

Finally, and for the purposes of this study, estimated average costs were obtained for a range of additional educational resources that are provided to a child with recognised social and emotional difficulties. Considering that a child may require this additional provision during each of their compulsory school years, we have calculated the estimated average costs to the education sector (see Table 5.4).

These costs reflect the financial economic burden to the education sector of supporting a child with a range of special educational needs, at 2015 prices. It provides clear evidence of the potential cost savings that could be made by Nurture Group provision. If a child receives Nurture provision in Year 2 and is successfully integrated back into mainstream schooling in year 3 with behavioural difficulties reported to be in the 'normal' range, there will be reduced costs associated with not having to invest in additional support services from the start of year 3 through to year 12. For example, the provision of outreach behaviour support will cost the education system £13,545 per child between school years 3-7. If the ICER estimated at £12,910.41 holds true, then there would be a pay-off to the education system by the time the child finished their primary school education, just in relation to this resource alone.

Table 5.4 Estimated costs of education provision for a child who fails to make progress in school, is disruptive and/or disaffected, at 2015 prices *

Educational resource	Mean annual cost (£)	Years 3 7 (£)	Years 8 12 (£)	Years 3 12 (£)
Outreach Learning	3,000	13,545	11,405	**24,950**
Outreach Behaviour	3,000	13,545	11,405	**24,950**
Peripatetic Service	4,000	18,060	15,206	**33,266**
Part-time Pupil Referral Unit	5,000	22,575	19,008	**41,583**
Full-time Education Other than at School/Alternative Education Provision	20,000 (KS1&2) 13,000 (KS3&4)	90,301	49,420	**139,721**
Home Tuition	6,000	27,090	22,809	**49,900**
Annual Review	350	1,580	1,331	**2,911**
Stage 3 Educational Psychologist's Assessment	4,000	0 – 4,000	0 – 3,368	**0 – 4,000**
Statutory Assessment	6,000	0 – 6,000	0 – 5,052	**0 – 6,000**
Maintaining a statement	10,000 (KS1&2) 7,000 (KS3&4)	0 - 45,151	4,962 - 26,611	**4,962 - 45,151**
Learning Support Coordinator	8,000	36,120	30,412	**66,533**
Special School	25,000	112,876	95,039	**207,915**

*Future costs discounted at an annual rate of 3.5%

Unfortunately, it is not possible to provide an overall average cost per pupil to the education system of providing the additional services required in relation to supporting those with behavioural difficulties. Typically, children will only draw upon a selection of the services listed in Table 5.4. Without further data on usage patterns for individual children, it is not possible to estimate an overall average cost.

However, it is worth noting that, barring the costs associated with three type of assessment listed (annual review, Stage 3 assessment and statutory assessment), the cost of effective Nurture Group provision (£12,912) would clearly be recouped by the savings made in terms of a pupil drawing upon even one of the additional resources listed.

5.6 Summary

Overall, an analysis of cost effectiveness is complex and, in this case, hindered by the lack of existing reliable evidence in relation to the costs and benefits of school-based socio-emotional and behavioural programmes like Nurture Groups. The estimated average cost of £12,912 associated with Nurture Group provision reducing one case of difficult behaviour may well be higher if the overall effect of Nurture Group provision on children's behaviour, as estimated in the previous section, is an overestimate because of potential biases associated with the trial. However, many of the estimated costs of difficult behaviour quoted above are likely to be underestimates of the true cost to society because they tend to only include estimates from a limited number of sources. Further, it should be noted that the estimated costs of Nurture Group provision included the set up costs of £20k allocated to each of the 20 Signature Project units. The overall estimates of the costs may differ in future years because of the changing number of units requiring start-up costs. The lower bootstrapped 95% Confidence Interval around the mean ICER of £8,773.56 per reduced case of difficult behaviour may be more reflective for established nurture units, who did not incur start-up costs during the study period.

However, whilst a degree of caution is required in assessing the figures reported above, they do tend to indicate that Nurture Group provision is likely to be cost-effective. As the findings from Scott et al. (2001) suggest, for example, the additional costs to families and educational and social services of children with antisocial behaviour range from £5,960 to £15,282 per year. This, in turn, would suggest that the estimated cost of £12,912 associated with Nurture Group reducing one case of difficult behaviour to within the normal range is likely to pay for itself within two years.

More specifically, and reflecting on the estimated average costs incurred by Education Authorities in Northern Ireland in providing additional support services for children with behavioural difficulties over the course of their compulsory school years would also suggest much higher returns for the education system. In particular, the cost of a pupil with behavioural difficulties being provided with just one of the additional educational resources

during their school careers (from Year 3 to Year 12) is at least twice as much as the cost of effectively addressing those difficulties through effective Nurture Group provision.

Finally, the above calculations are only based upon the cost of education-related services. Scott et al.'s (2001) estimate that the cumulative additional costs to public services more generally for someone with conduct disorder is £62,596 and £16,901 for those with conduct problems. When taking a lifetime approach, this additional cost associated with those with conduct disorder is estimated to rise to £150,000 (Friedli and Parsonage, 2007). Notwithstanding the uncertainty associated with all of these estimates, it does seem legitimate to conclude that the investment in Nurture Group provision is likely to be cost-effective and has the potential to represent a significant return for society in the longer-term.

Table 5.5 Summary of Included Studies

Study, Year	Population and setting	Intervention and comparator	Outcomes and length of follow up	Type of economic evaluation	Results	Longer term outcomes modelled
McCabe, 2007b and McCabe, 2008	Unclear. Classes of 30 children in primary school years 3 to 5. UK	A combined parent and universal classroom-based intervention vs no intervention. Intervention based on PATH, a social and emotional learning programme, with three 20min sessions per week for each class for three years	Effects: emotional functioning on the HUI2 used to estimate quality-adjusted life years. Costs: Cost of intervention. Cost per QALY estimated Follow up immediately post-intervention	Cost-utility analysis	Effects: Mean utility post-intervention is 0.84 Costs: £132 per child per year (2009 prices) ICER: £10,594 per QALY	No
Strayhorn and Bickel, 2003	Elementary school children selected for reading and behaviour problems. USA	High frequency tutoring (one 45min session every 1.6 days) or low frequency tutoring (one 45min session every 8.3 days) Individual tutoring vs control	Effects: Reading progress, verbal ability. Costs: Cost of intervention Follow up immediately post-intervention	Cost analysis	Intervention cost an average of $1,156 per student per year at 2003 prices	No

6. Contextual Factors

6.1 Introduction

These next three sections present the findings from the qualitative process evaluation that was undertaken to explore the implementation of Nurture Group provision in primary schools in Northern Ireland. All data used in this section of the report has been anonymised and the names of people and places that do appear are all pseudonyms.

The purpose of the process evaluation is to identify how and why these effects have occurred. It seeks to understand which programme components are critical, how they work and interact within the constraints of real-world settings determine and whether the implementation process was fully adhered to or not.

This section will focus on the contextual factors that affect the setting up and delivery of the Nurture Group programme. These factors include: whether the Nurture Group provision is established or part of the Signature Project initiative; demographic characteristics and locality; school leadership; the process of applying to run Nurture Group provision; and funding. Each is considered in turn.

6.2 Established or Signature Project Provision

The Nurture Unit Signature Project is one of six Signature Projects announced by the First Minister and Deputy First Minister in October 2012, funded as part of the Delivering Social Change (DSC) Programme. The DSC programme aims to tackle multi-generational poverty and to improve children's health, wellbeing, educational and life opportunities.

The programme has been taken forward by the Department for Social Development (DSD) along with the Department of Education, resulting in nurture units being set up in 20 schools across Northern Ireland from the beginning of the 2013/14 school year, or shortly thereafter. These Units have been initially funded to run until the end of the 2014/15 school year.

In addition to the 20 new Nurture Units established under the Signature Project, the Department of Education (DE) has funded existing Nurture Units in a further 10 schools where funding had ceased or would be due to cease during the life of the Signature Project. Most of the 10 existing Nurture Units, referred to in this report as established nurture provision, have been operational for several years.

Primary schools who have established Nurture Group provision are generally of the view that they have fought long and hard to get Nurture Group provision set up and maintained within their schools, sometimes with little outside interest. This is indicated in the quote from one of the school Principal's below:

> "The idea of starting up the first Nurture Group began [along while ago] and we actually […] got the book, the theory and the practice and we launched in to it […] with no support from anybody really".

There is some evidence that those with established Nurture Group provision have adapted it to suit the needs of their children and so do not offer the 'classic model' (which typically involves delivering nurture provision to 6-8 children for two terms once the children have been assessed and careful consideration to group composition has been given). This is indicated in the quote from a school Principal below:

> "I think we need to realise that where we were classic at the beginning because you don't know any better and you have to be classic […] Now the nurturing principles are still there […] but it may not be what you would class as a classic Nurture Group".

Having said this there was also evidence that other established Groups maintain adherence more closely to the model and that they take pride in meeting the standards of implementation. This is particularly the case where schools are seeking endorsement of their provision through applying for the Nurture Network Marjorie Boxall Award.

Similar themes were noted in Nurture Group provision set up as part of the Signature Project in terms of how closely they adhered to the classic model of provision and how well engaged they were with the broader infrastructure of support offered through the nurture network for example.

One might assume that it is easy to distinguish between the new Nurture Groups established under the Signature Programme and established Nurture Group provision on the basis that, for example, newer groups are more likely to adhere to the classic Nurture Group model but the study seemed to highlight quite a lot of variety within the new and the established provision rather than between the types.

An important factor to bear in mind here when considering established and Signature Projects side by side is that the Signature Project Nurture Groups were given specific guidance and support by DENI and the Boards to run the classic model, whereas established Nurture Groups were able to continue running their groups in their own way, but with the requirement that the nurture group was staffed by a suitably qualified teacher and classroom assistant who should have completed the accredited nurture training programme and adhere to the principles and practice of nurture group provision.

6.3 School Locality and Demographic Characteristics

Whether an established Nurture Group or a Signature Project Nurture Group, a common characteristic is that all provision has been set up in areas experiencing significant social issues. Most principals interviewed had been in their current setting for between 10 and over 35 years and had a detailed knowledge of these local social issues, including high levels of alcohol and drug abuse, and the influence within some communities of paramilitary organisations.

The impact of these issues can be seen on the child population in schools as indicated in the quote from a school Principal below:

> "We have [many] children on free school meals. […] We have [a lot of] our children who would be on the SEN Register […] Children experience problems like] attachment or domestic violence, separation, divorce, low self-esteem, low confidence".

Locality, demographic characteristics and the presenting needs of young children form an important contextual consideration to the setting up of a nurture group. Another important contextual consideration are the leadership skills and qualities of the Principals.

6.4 School Leadership

The interviews with principals revealed that a combination of years of experience, a 'heart for the community', extensive reciprocal networks with the department, local politicians, community groups and an energy to push for change were important attributes leading to the start of Nurture Group provision in their school setting.

The interviews revealed that although there were different pathways and approaches between the Signature Project and the established Nurture Groups to setting up nurture provision, this does not appear to have adversely affected outcomes. Some principals had little prior knowledge of Nurture Group provision while others knew about nurture and saw the potential for change as indicated below:

> "I feel we'd always been a nurturing school and […] we had seen the importance and the effect it has. […] So at the thought of a chance of getting it out, I jumped at the chance".

6.5 Applying to offer nurture provision

The process of applying to become a Nurture Group provider is another important contextual consideration. Established Groups were more likely to highlight the fact that they had to make a special case in order to receive funding whereas those providing nurture as part of the Signature Project highlighted the relative ease of securing funding, as these schools had been selected by the Department of Education (through the use of objective criteria) to participate in the Project.

Established Nurture Group providers highlighted activities such as lobbying and 'making the case' for extra funds as indicated by a school Principal below:

> "So we formed what was like a local schools initiative. And we devised a business plan. Well, before we did that, we looked at what we needed. So we got together; we did a lot of research; we lobbied people".

6.6 Funding

The study revealed that finances for nurture provision came from different sources depending on whether the Nurture Group provision was established or offered under the Signature Project.

Despite nurture provision being secured through differing means, both types of provision experienced a similar range of perspectives about the funding which included: gratitude; concerns regarding sporadic funding; and concerns regarding no long term funding all of which will inevitably impact on provision.

Concerns regarding security of long term funding

A further concern is that funding will be withdrawn completely as indicated in quotes from the following Principal:

> "I mean without the funding we couldn't do it. We just could not do it because we are a small school and most schools are in this same position".

6.7 Summary

This chapter has considered the broader contextual factors that impact on the implementation of nurture provision namely: type of nurture provision (established or Signature Project); demographic characteristics and school locality; leadership; applying to offer nurture provision; and funding.

Overall it has been noted that factors such as the length of provision, the locality in which the provision is situated, the quality of school leadership, and the means by which nurture provision is funded can work together to have an impact on the implementation process. The significance of each of these contextual factors is difficult to measure.

7. Stakeholder Perspectives

7.1 Introduction

This section focuses on the teacher perspectives on short and longer term benefits of Nurture Groups, parental perspectives on Nurture Group provision and its benefits and the children's own perspectives.

7.2 Teacher Perspectives on Nurture Provision (From Interviews)

Teacher perspective's focus on the perceived short and longer term benefits of children attending nurture provision; which children are in greatest need; which children appear to benefit most; what impact the provision of nurture has made to teaching; and constraints and barriers to delivery.

Benefits

The overwhelming majority of the key stakeholders reported experiencing positive benefits and outcomes for the pupils attending nurture provision. Some of the positive benefits for children, according to the teachers, included improved behaviour, attendance and many children showing an improvement in academic attainment:

> "Punctuality at school, attendance at school, following the rules, because in every organisation throughout life there's rules. If you do help your child to achieve those then your child will succeed because many –most things are predicated on that".

The majority of school staff involved in this study felt that individual children had made positive progress in their social, emotional and behavioural functioning. Children were identified as being better in articulating their feelings, as being more able to self-manage their frustration and being better in becoming calmer.

Some teachers also reported that children appeared to enjoy school, have more friendships and be more independent compared to how they were before they joined the Nurture Group:

> "Socially one child just flourished completely […] Another little boy would have been unable to deal with his emotions now he's much, much happier coming to school".

Whole school impacts

On a general level there was anecdotal evidence of whole school impacts with principals talking about their school adopting a whole school nurture approach that was impacting positively on children, child/teacher relationships, teacher/parent relationships and the school's relationship with the wider community as captured in the quote below:

> "For our school bringing in the nurture group class has been like saving us from the direction that we were going in (which was nowhere fast) to the point where it has had an effect that is like ripples in a pond. Beginning with the children we have seen their behaviour calm down, then we have seen the children's parents, some of whom were really difficult, now engaged with the school where we can actually have a laugh and joke together. In the local community the local church, that didn't want anything to do with us, has now come on board and helps run clubs and we have a great Board of Governors too who are behind us all the way. So it's been like creating ripples in a pond both within the school and beyond it and we are at the centre all of those ripples because we introduced nurture groups".

More specifically, some school staff also made reference to the wider benefits of nurture provision for both the mainstream class and the whole school. A teacher articulated how she observed positive benefits for the mainstream class:

> "I suppose I can't deny the fact that having a class of 31, whenever 10 are removed that is a good thing, it's a good thing for the 21 who are left behind, and it's a good thing for the 10 who have come here […] and that has a knock-on effect on absolutely everybody".

Overall there was a strong and consistent perception expressed by school staff that the principles underpinning nurture provision had a number of influences beyond the children attending nurture groups.

Children in the greatest need

Mainstream teachers were able to identify that those in the greatest need are children whose personal skills are very underdeveloped and who are therefore not in a position to be able to learn:

> "It's more social skills for them really, because they weren't at a place in their heads when they can learn".

Another mainstream teacher describes nurture as best for children who are quiet, withdrawn, clingy and lack good verbal and nonverbal skills:

> "One child [didn't like] physical contact, she didn't like looking at you even when she was speaking […] And [another child] he wouldn't have spoken to you he'd have just cried all the time and look despondent and just want to go home or whatever".

Children for whom nurture provision worked best for

Teachers suggested the pupils that they feel that nurture provision works best for are those that would otherwise loose out because they are not defined as having special needs, they do not qualify for additional support and yet they can easily become marginalized and overlooked within the system as indicated in the nurture teacher quotes below:

> "I think that children who, the children who will benefit most will be those children who do not qualify for support and classroom assistance in the class".

Impact of Nurture Group provision on teaching

There are both some concerns and perceived benefits regarding the provision of Nurture Groups. On the positive side mainstream teachers reported that the provision of nurture had freed up them up to deliver the curriculum in a way that they had not been able to because their attention had been directed towards supporting the most needy children in the classroom setting:

> "With one child, I would say we had our 'Eureka' moment about two weeks ago. They would have [demanded] attention all of the time and […] tried to

> get it from me in the classroom. [With the support of nurture] they did the whole test and [got it] right".

On the other hand, because pupils remain on the roll of their mainstream class, their class teacher is ultimately responsible for their academic progress. This initially presented as an issue and caused anxiety for some mainstream teachers who were worried about the amount of instruction their pupils would be getting in the Nurture Group. The Education Authority Nurture advisors were cognisant of this, and emphasized to mainstream teachers that the whole point of nurture is to develop the social and emotional skills so that learning can follow.

An important consideration was planning across the two classrooms so that the teaching in the Nurture Group mirrored the mainstream class to an extent. This was seen as important for making sure the child could return to the mainstream class without feeling at odds with what was going on.

7.3 Teacher Perspectives on Nurture Provision (Questionnaire Responses)

In addition to discussing the benefits of nurture provision for pupils through interviews, teachers also reported on the impact of nurture provision for each pupil, through the pupil questionnaires.

The main themes emerging from this data were: impact on emotional and behavioural development; impact on social skills and social communication skills; impact on attention, listening and concentration skills; impact on enjoyment of school and attendance; impact on learning and academic achievements; and impact on speech and language development.

Impact on emotional and behavioural development

Teachers reported that many of the pupils appeared more 'settled' into school life, had developed in terms of 'emotional literacy' and experienced less anxiety as indicated in the quotes below:

> "General attitude is more settled, she is accessing the curriculum […] She is using coping skills from the Nurture Group in her classroom and outside environment".

Teachers reported that they had seen pupils grow in confidence during their time in the Nurture Group. As a result of increased confidence, pupils were more willing to 'give it a go' in terms of school work and were becoming more able to work independently.

Teachers felt the increased confidence also meant pupils were more able to ask for help when needed, as opposed to either acting out or withdrawing as indicated below:

> "Increase in confidence, meaning pupil more willing to interact with both peers and adults."

> "Self-esteem has increased, he will now make eye contact, talk to peers and is happy to come to school".

Teachers also reported how, for many pupils the Nurture Group offered a 'sanctuary' which enabled them to develop their social and emotional skills to a point where they were able to meet with social and academic demands of school life. One of the ways in which this manifested was through improvements in behaviour:

> "A very happy member of the group. Has met all his Nurture Group behavioural targets […]. He transfers life skills from the Nurture Group to other situations. Angry outbursts have virtually disappeared".

Impact on social skills and social communication skills

Teachers felt that the small group setting greatly facilitated the development of social skills and social interaction skills. Some pupils had been 'lost' or 'isolated' in the mainstream class and many struggled to interact with peers and adults.

> "Before nurture, [pupil] was becoming more and more isolated and always looked sad and lost. […] Self-persecuting daily. […] She now has a group of friends and can chat to teachers".

Impact on concentration, attention and listening skills

Teachers noted how concentration, attention and listening skills developed once social and emotional skills competencies were met:

> “He still has the same difficulties engaging with the curriculum - these haven't been resolved however the small group environment has had a huge impact on his ability to talk and listen”.

Impact on enjoyment of school and attendance

Improved attendance was noted for several of pupils, perhaps reflecting the improvements reported in terms of increased engagement with and enjoyment of school:

> “He is engaging more with peers. He can sound out simple words now, attendance has improved and he enjoys school more”.

Impact on learning and academic achievements

Following on from improvements in social, emotional and behavioural functioning, engagement with school and attendance, teachers also reported the benefits of nurture provision on pupil’s learning and academic achievements:

> “He has become more engaged with curriculum activities and school life in general. His confidence has soared. […] He is very keen to make progress in all aspects of the curriculum”.

Impact on speech and language development

While it was not possible to collect quantitative data on pupil speech and language development, teachers reported that these skills had also developed for some pupils, for example:

> “Able to say sounds now when she concentrates which helps her make herself understood”.

There were also a very small number of comments, in the pupil questionnaires, relating to the progress of pupils who had presented with selective or elective mutism as indicated below:

> “Child was selective mute since starting nursery. Since attending the Nurture Group, he has begun to talk”.

Constraints and barriers to delivery

There were common themes regarding the main challenges of implementing nurture provision in some schools and these included: keeping the staff team on board; optimal Nurture Group size; group dynamics; and challenges engaging parents.

Keeping the staff team on board

One challenge in relation to the bigger teaching group is keeping them on board especially in terms of the expectations about the children. This is highlighted below in a quote from a principal:

> "There's work to be done on the whole staff, convincing them of the benefits of nurture because the children who have been reintegrated, it hasn't always been a success story. […] it is to make sure that the staff are fully educated in that it's not going to be the magic bullet but we are doing our very best".

Optimal Nurture Group size

The issue of the size of the group is important in terms of the managing the dynamics and children's presenting needs. It can be tempting to increase the size of the group to match need but for the nurture teachers this can present with problems as indicated below:

> "When I first started in the Nurture Group last year there was only six children and [now we] have eight children […] I think eight is too many".

Group dynamics

The issue of group size is closely followed by managing group dynamics which can take its toll on nurture teacher wellbeing as indicated in the examples from a classroom assistant and nurture teacher respectively:

> "You get dragged down sometimes. [children's needs] were very complex and both myself and the assistant found it quite emotionally draining".

Parental engagement

Initially, during the Signature Project planning stages, there was an anxiety and nervousness amongst about how to approach parents about nurture provision, and then to engage them. At the regional level, it was agreed that while nurture provision was not necessarily a

parenting programme, parental engagement was a key aspect of the programme.

Schools had developed strategies that include inviting parents in for breakfast, stay-and-play sessions and support meetings. There were certain sensitivities with some groups of parents, for example, with looked after children, schools were concerned about who to invite. Preparation was therefore seen as crucial and this includes the development of a contingency plan for children whose parents do not turn up.

Nurture teachers were of the view that there were many occasions where parental engagement had increased in the light of nurture provision as the indicative comment below highlights:

> "I'm educating the parents here as much as I'm educating children and that's the beauty; I have the time to do it […] We have a very open school policy, they don't queue up in the mornings, the bell goes at ten to and the parents come in".

Staff also acknowledged however that some parents whose children attend Nurture Groups are hard to reach and often live under complex and hardship situations in overburdened and fragmented families making it difficult at times for the school to effectively engage with them:

> "We have 'looked after' children [in our Nurture Group. For] one child the social worker is his guardian, even though he is in foster care, so the social worker will attend".

Furthermore, some staff emphasised behavioural and social issues standing in the way of building positive relationships with parents, particularly where alcohol, drug and mental health issues are impacting on families and communities.

Many teachers expressed the view that many parents had poor educational experiences themselves which has created barriers to engagement with the school and the Nurture Group. The Nurture Teachers try to break down such barriers through encouragement and support, and through "small baby steps" aim to alter parents perceptions of the school environment, encouraging their involvement and participation in the Nurture Group activities and their child's education.

7.4 Parental Perspectives

As parental engagement with the Nurture Group teacher is a core element to nurture provision, it is therefore crucial to understand the experience of nurture provision from a parental perspective. In this section we have considered parental perspectives on: prior knowledge of Nurture Group provision; feelings when first approached; their experience of Nurture Group provision once their child had started; perceived benefits to their child.

Prior knowledge of the Nurture Group

The majority of parents interviewed had little knowledge of Nurture Groups before their child was selected to attend. Parents were positive about the clear communication given to them from the school staff on why their children were selected. This is illustrated in the comment below:

> "Actually, I hadn't heard anything about nurture but the teacher told me why it would be good for (child) to attend".

Feelings when first approached

Parents were asked to describe their feelings when first approached by the school about their child joining the Nurture Group. Many parents expressed the view that they felt apprehensive and worried at first due to a lack of knowledge about nurture provision but once they had observed the room and became aware of the benefits for their child they were really pleased.

> "Quite apprehensive, at first […] But then, when it was all explained, I was quite happy because I know it was going to be beneficial for him– and anything that's going to beneficial for him, I'm all for it".

The majority of parents interviewed suggested their experience of visiting the Nurture Group was very positive, that it helped to alleviate any worries or concerns about their child being selected to attend. Some parents suggested the advantages for their child and themselves included having better contact with the teacher:

> "Absolutely fantastic, a really great experience, really lovely. You have far more contact with the teachers, because you can go in at any time".

Experience of Nurture Group provision once their child had started

Parents shared experiences about their relationships with the Nurture Group staff. Overall, the majority of the parents interviewed referred to the staff being very approachable with an 'open door' policy which parents spoke favourably about, meaning less formal meetings:

> "Well, they're really approachable […] I just go, and say can I have a word with the teacher" – and they'll say, "Yes", usually, or, "Give me two minutes and…" They're really good that way".

Perceived benefits to their child

When the parents were asked if they noticed any difference in their child since they began attending the Nurture Group, all of the parents interviewed reported positive changes in their children. Parents noticed the greatest change in their child's enjoyment of school, educational progress, and perceived improvement in behaviour.

Parents described children's enjoyment of the Nurture Group had influenced their child's attitude towards school. Some of the children had been reluctant to attend school before the Nurture Group started, but showed increased positivity towards school following the intervention:

> "In the morning she is more positive about getting ready and going to school".

Several of the parents commented that they had noticed improvements in their children's academic attainment, especially reading:

> "The main benefit for my son has been he was away behind with his reading – and I mean really, really behind […] where, now, he is well up on reading and he absolutely loves to read now. He finds it a real joy to read".

Other parents described the benefits being associated with improved home learning environment:

> "She's more confident at learning at home […] she just steadily wants to learn and she knows she can do the things now. It's helped".

Some parents recognised that the benefits their children had gained as a result of attending the Nurture Group were linked to social, emotional and behavioural outcomes. These included improved peer relationships and improved parent/family relationships. Parents made comments such as:

> "In so many ways, I can get her to school which is a plus. Even interacting with her peers now she didn't really do that before […] and now she's got a great circle of friends".

Upon joining the Nurture Group, many of the parents commented that their children presented with behaviours that impact on family life such as fussy eating patterns. They felt that it was the skills that they had been taught in the Nurture Group had allowed them to behave better at home. This is illustrated in the points below:

> "I just feel really proud of her now […] She wouldn't eat breakfast in the morning but now I know that she's coming in here and she's getting her breakfast as well. She's eating something, anywhere else at home she wouldn't".

Parental perceptions of engagement in their child's education

In interviews parents reflected on their experiences of being involved with nurture group provision. One theme that emerged was how the link with nurture group provision had improved their own relationship with the school as indicated in the comments below:

> Interviewer: Do you come in every day?
>
> Female: [Oh yes] the teacher would meet you every day; she'd meet you at the door and she'd greet the kids […] and she's always there if you need her for anything. [You're used to] seeing people when they think you're in trouble.
>
> Interviewer: Is this experience is a bit different that you're not just called in for bad things?
>
> Female: No, it's wonderful.

Others parents commented on their own increased engagement with all aspects of their education by continuing with the learning from the Nurture Group within the home, and

becoming more involved with the child's homework.

7.5 Pupil Perspectives

All children interviewed said they enjoyed being part of the Nurture Group with the overwhelming majority enthusiastically made reference to the social context of "playing" as being their favourite part. Play opportunities are part of the daily Nurture Group routine; through play, children learn how to use toys and utilize them to express their feelings and how to cooperatively play with other children. The children were enthusiastic and most of them were able to recall the name of their favourite play activity in the nurture Group:

The children spontaneously linked being in the Nurture Group to the concept of 'fun' and the feeling of 'happiness' and were keen to convey their enthusiasm for the Nurture Group. For example:

"It makes me happy".

"I like everything".

A few children linked the Nurture group with making new friends. This important point is illustrated in the comments below:

"I love having all my friends here".

"Making friends. I just talk to my friends".

Children reported that being in the Nurture group has helped them to feel 'more involved' in their lessons than before, and this had positive benefits in terms of, for example: improved concentration, and capacity to work harder. Children acknowledged some of these benefits below:

"They show me how to do numbers".

"Because I can sit now and so I can learn. I do... numbers, I do, words".

The meal times and break times are considered to be particularly important because of the social and emotional learning takes place. These periods of social contact between Nurture

Group staff and pupils provide opportunities for pupils to talk to each other, share and take turns. All Nurture Group children made positive references to meal times:

> “Make me grow and with health food”.
>
> “I love breakfast time and setting the table”.
>
> “Baking and doing the dishes”.

The majority of children reported that taking part in the Nurture group had an impact upon their behaviour. Children noted that they were more confident, calmer, more peaceful and less aggressive and this enabled them to enjoy school more and engage more with learning. The importance of this is found in the comments below:

> “It helps me cope in school. A few days ago there I was a bit upset because someone is very ill in my family. I wasn’t in the mood for my school work. The teacher noticed. I went to the Nurture Group and got some help and now I can do my work again. The pod pass means that I can go to the pod room when I need to”.
>
> ‘Before in P2 I felt shy. I was not happy. I didn’t want to come to school. I hated it so much. It’s got out of my head now. I feel good about it’!
>
> “The Nurture Room helped me calm down. It helped me concentrate and be peaceful. The friends are nice. They come and ask do you want to come and play”.

The children were asked if there was anything they disliked about the Nurture Group and the overwhelming majority of the children were very positive with the exception of one boy who shared his dislike below:

> “Times tables”!

7.6 Summary

This section has considered the perspectives of teachers, parents and children. It is clear that there is overwhelmingly positive support for the nurture provision and that teachers and parents all report positive changes in children's social and emotional wellbeing which then, in turn, has a positive impact on academic performance. Children themselves reported positively on their experience of Nurture Group provision, were aware of the reasons they attended and the differences it had made to them personally.

8. The Implementation Process

8.1 Introduction

The detailed exploration of the core components of the implementation process that follows will cover the following areas: identification of Nurture Group teacher; training; membership of nurture cluster and/or nurture network; identification of pupils for Nurture Group provision; what is delivered in the Nurture Group; whole school approach; relationship with parents; reintegration of children back into the mainstream setting. Each area is considered in turn.

8.2 Identification of the Nurture Group Teacher

The selection of the most suitable person to deliver nurture provision is a core component of the implementation process in terms of who was selected, how they were selected and on the basis of what criteria. It appears that there were different approaches to identifying the Nurture Group teacher.

Some Principals had in their mind their ideal candidate from their existing staff compliment and others did engage in an advertising process for either the teacher and/or the assistants. Despite the differing routes there was a common emphasis on the core characteristics, qualities and skills required for the job which appear to involve a combination of firmness, fairness, compassion, empathy, energy and enthusiasm.

Interestingly in the study most of the teachers identified as suitable to be the Nurture Group teacher were given reading material to consider. This suggests that teachers with reflective skills and a personal congruence with the theoretical underpinnings and practical leanings of Nurture Group provision were best suited to this role.

8.3 Training the Nurture Group Teacher/Assistant

Apart from the careful selection of the Nurture Group teachers their access to training was also a fundamental prerequisite to undertaking the job. Training for those providing nurture

as part of the Signature Project involved attending a formal, accredited training course, delivered by the Nurture Group Network (a two day block training following by a follow up day of further training three months later, and completion of an assignment) in Northern Ireland; whereas some of those involved in established provision had previously had the opportunity to undertake visits to England to see and talk with providers there. All teachers and classroom assistants in Nurture Groups receiving funding from the Department of Education are required to have completed the NGN accredited training. Most of those who attended the training spoke very positively about it.

The nurture teachers and classroom assistants highlighted that the training helped to give a more detailed understanding of the developmental stages that all children go through and helped them contemplate the attachment theory behind the nurture approach, and address how this may be applied in practice.

One nurture teacher further noted that practitioners support each other in terms of their own emotional wellbeing was important:

> "The support really comes from other practitioners at these cluster meetings and I think they're very good at refreshing your enthusiasm because you can get dragged down sometimes".

Only a few teachers and classroom assistants felt that the training did not fully prepare them for the 'real life setting' of working in the Nurture Group. A few teachers reported that the training could have included more information and learning on behaviour management strategies. This is reflected in the comment below:

> "I honestly feel that we need strategies to help us to know how to cope with some of the issues that children are facing".

Lastly some felt that the Boxall training should have been offered on day one and that there should be more follow up training on this.

8.4 Engagement in Wider Support Networks

From the outset, support and networking opportunities have been provided to the 20 Signature Project Nurture Group schools, mainly through cluster support and training provided by the Education Authority Nurture advisors and/or Educational Psychologists. The established Nurture Groups had previously formed their own network for supporting each other, called the NI Nurture Group Network.

In relation to the support and networking opportunities provided by staff from the Education Authority, which included the training opportunities identified earlier in the report, there were positive comments typified in the comments of a Principal below:

> "The Principals got together who were involved in the Nurture Group with [named staff from the Education Authority] and it was amazing. I got to know other people who were in the Network, we were able to share ideas, difficulties; it was amazing […] fantastic support, you can ring [named staff], at any stage".

Although not all of the 10 established Nurture Groups are members of the NI Nurture Group Network, it was reported that those nurture teachers and Principals involved found great benefits from the support offered.

8.5 Process of Identifying Children for the Nurture Group

Whether an established or Signature Project provider the process of identifying children for the Nurture Group involved several stages which schools appeared to adhere well to. The stages in the process (which may vary to an extent across schools) include: setting up a Nurture Group room; observing children when they start school; completion of the Boxall and SDQ; meeting with a steering committee to discuss and identify the most appropriate children; discussion with parent; introducing the pupils to the Nurture Group in preparation for placement. Each of these is explored in turn.

Setting up a Nurture Group room

Central to the delivery of the nurture approach is the nurture room. Characteristically this is a room located in the heart of the school, comprising a fully functional kitchen area with dining table, chairs; a living/learning area combining desk space and more informal living area.

For some there is a separate ‘quite room’, ‘pod room’ or ‘sensory room’ which is equipped with soft furnishings including sensory lights, bean bags, a cosy settee, and blankets. The room is designed for children to use when they need time out and/or are particularly distressed, and can be used by other children within the school when needed.

The nurture space, as a whole, is based on a ‘home-from-home’ approach and designed to feel homely, safe, snug, secure, warm, bright and colourful.

Observing the children and completing screening assessments

Another core component to the implementation of nurture provision is the identification of the most suitable children. Children are observed in their mainstream setting over a period of time.

There are variations on this process. In one school the Nurture Group teacher asks the nursery school teacher to complete a Boxall profile before the child comes into the P1 class, to ensure it is carried out by someone who knows the child well.

In another school a detailed process involves the Nurture Group teacher completing her own bespoke baseline ‘screening tool’ on all children as they enter P1 before beginning the Nurture Group assessment process. Most schools use the Goodman’s Strength and Difficulties Questionnaire as an initial screening tool before completion of the Boxall Profile.

Choosing the right mix and the right children for the Nurture Group

Although there are variations in how child observations are undertaken, the common theme from all the interviews is that the process of identifying suitable children for the Nurture Group is taken very seriously and completed very thoroughly.

Some schools, although not all, have a steering group committee where the results of the observations and the compilation of the Nurture Group is discussed and agreed.

In interviews with principals and Nurture Group teachers all were clear that the discussion about the composition of the Nurture Group was extremely important. They highlighted how they had learned by mistake where they had either too many children in the group, too many children with the same types of need and that this had resulted in difficulties for the Nurture Group teacher.

A school Principal explained that:

> "It would be very much explaining to the staff, 'We will be considering new children for the Nurture Group – but this is not a dumping ground for children with behaviour difficulties'. Really setting out our criteria […] so whilst a member of staff may put forward a child, we will make a decision based on the composition of the whole group".

The Principal, in the quote above, highlights the possibility of tension between the mainstream teachers and the nurture teacher in terms of the children who do get selected.

It can be the case that more children get put forward than there are places for and the decision regarding the most suitable children may not always concur with the mainstream teachers own views. In drawing out what an appropriate group composition is, this Principal was able to identify that:

> "I think we have a lovely combination this year […] we have two children who would have sort of quite challenging behaviour. We have a couple of children who are very quiet, very shy, poor concentration, no eye contact, very low self-esteem. We have another child who has ASD and we have another child who […] just rules the roost! So it's a great combination".

Having outlined the process by which children are identified another important aspect of the implementation process is to consider what is actually delivered in the Nurture Group setting.

8.6 What is Actually Delivered in Nurture Groups?

The structure of the delivery

The process evaluation revealed a range of different models of Nurture Group provision. For some it involved 5 day-a-week provision with the child starting off in their mainstream class,

being brought into the nurture room after registration and then spending the day in the group until nearly the end of each day, returning at points during the day, such as break time and lunch time.

For others it was 4 days per week of nurture with each Friday left over for the Nurture Group teacher to complete paperwork and for others it was a combination of nurture provision but shared activities with the mainstream class including PE, lunchtimes and end of school day routines.

Typically, what was also emphasised was that although there is a structured approach there is room for a lot of flexibility to respond to the needs of particular children on particular days.

The Nurture Group ethos

At the heart of nurture principles is giving the child a voice, ensuring they know how to seek help and feel safe to do so. This is achieved through the close relationship that develops between the nurture staff and pupils.

Importantly, nurture involves recognising that "all behaviour is communication." This means understanding and appreciating that behavioural issues are the outward expression that something is wrong; and that the child is communicating this in the only way they know how. This ethos is captured in the quote below by a Nurture Group teacher:

> "It's about […] a step back and think about the behaviours, try and understand why and where they are from rather than just responding to what you see. We can give them ways of coping and ways of dealing with their feelings".

Focus on attachment relationships

Nurture Group provision focuses on the development of good quality attachment relationships that are predictable, safe, secure and nourishing; the development of self-esteem, social skills, practical skills and confidence:

> "I think it's – for me it's about – you're not going to go anywhere until you form a bond with that child and - it's about the attachment relationship. And it's – and being able to share a joke, finding out about their family and sharing a bit about my family too".

Focus on self esteem

Many of the Nurture Group teachers and Principals expressed their concern about the number of young children who come into school with low levels of self-esteem. They related this to children's difficult experiences at home, to their experiences of not being listened to and not being given opportunities where they could develop a strong sense of self.

Within Nurture Groups, building self-esteem involves providing children with opportunities to take responsibility for particular tasks – such as laying the table, taking the orders, and clearing away the plates.

Nurture teachers highlighted how the provision of small opportunities like this, tailored to the competencies of each child, helps build confidence over a period of time. An example is outlined by another Nurture Group teacher below:

> "We try to instil the idea of "Let them work at their own level and really boost their confidence and their self-esteem". Because if they feel good in themselves, they'll want to try new challenges".

Focus on social skills

In terms of social skills, a particular issue highlighted by Nurture Group teachers is the support they need to offer children to help them listen, take turns and articulate their feelings and their needs without shouting:

> "They're listening, they're waiting their turn, absolutely – learning to talk out loud, have a bit of eye contact while you're doing it. […] We role play out scenarios and behaviours in front of the children, like turning taking, manners, what to do if someone is upset, cross and it is fantastic".

Focus on the child – having a child-centred focus

The flexibility that nurture provision offers allows for the development of a focus on the child. This is further captured below by a Nurture Group teacher:

> "You [can't have that flexibility in mainstream] you have to follow your timetable and the majority would rule and that child would be in the corner sulking or under the table because their needs aren't being met".

A key message that emerges from the delivery of Nurture Group provision is the fact that its focus is not on the Curriculum but the development of skills that will enable children to engage with the Curriculum in meaningful and rewarding ways and that will empower them to reach their academic potential.

Getting this message across to the rest of the school is therefore critical and relies on the Nurture Group teacher establishing meaningful relationships with mainstream class teachers and vice versa. This 'whole school' approach is another key component to the implementation process and is explored further below.

8.7 Whole School Approach

The development of a whole school approach to support the delivery of nurture provision includes: ensuring mainstream teachers have full understanding of the principles and ethos of Nurture Group provision; having good relationships with mainstream teachers through regular communication, advice giving and support in relation to particular children. These themes are explored further below.

Ensuring mainstream teachers understand principles of Nurture Group provision

Many of the Nurture Group teachers spoke of the importance of having whole school training and information sessions with mainstream teachers at the start of term to remind them about the Nurture Group approach. For others this was followed up by regular updates in staff meetings. As previously stated in this report, all schools have at least one teacher fully trained to act as the back up nurture teacher, and many schools have additional teachers and classroom assistants fully trained in the theory and practice of nurture provision, thereby building capacity and embedding the nurture principles and approaches throughout the school.

Good relationships with mainstream teachers

In terms of establishing and maintaining good relationships with mainstream teachers several strategies were found to be helpful including the development of mutually supportive relationships based on sharing of information, ideas and challenges and respecting each other's contribution to the child as a whole.

Practical techniques to strengthen relationships with mainstream teachers include asking them to visit the nurture room.

Other techniques have also included sharing written information on observations of the child, giving updates, setting targets for the child in collaboration with the mainstream teacher and working together with the parents and sharing successes.

Good relationship between the Nurture Group teacher and the classroom assistant

An important aspect to the delivery of nurture principles is modelling of appropriate social norms and behaviours. This relies on the nurture teacher and the classroom assistant having a close, positive working relationship with each other:

> "One day I was sick and I said 'I feel dreadful'. And […] the children made me tea in the house and brought it over to me. One of them put a rug – a throw… over me [and then] somebody started talking and the others are going, 'Shh! She's not well' […] and then we did the same [with a child] and yeah it's talking, it's listening, it's having time for them".

Relationships with parents is another critical component to the implementation process connected with Nurture Group provision. This is further explored next.

8.8 Relationship with Parents

Building up strong, positive relationships with parents is viewed by teachers as important in terms of developing a better understanding of the needs of the children. Teachers engage with parents in a number of ways including: inviting them to come and see the nurture room; attending activities where they can play, eat and make things with their children; attending coffee mornings with other parents where they can seek support; ensuring there is daily contact with the parent to share positive progress. Some of these examples are outlined below by a Nurture Group teacher:

> "I had the parents up for craft one day, and we made cards together and talked. So we were able to stand back, we were serving tea and coffee, we were able to have a chat with the children and their parents and relax. It was fantastic. And then the parents copy some of these things at home

> and then you get to hear from the parents that these things make a big difference".

In another example the Nurture Group teacher highlights that parents see the differences in their children at home and become hungry to learn more about what they could do differently as seen below:

> "[Parents] realise very quickly the things you're doing with the children are beneficial to them and they do see the changes at home and then will start to query, "Well what is he doing in school? What could I be trying -?" you try to say, "Well try this at home, this works really well".

8.9 Transitioning Back into Mainstream

Having established strong, meaningful relationships with parents and children can present challenges for the teachers, parents and children in terms of the transition back into the mainstream setting. However, with careful planning and management, and continuing to involve parents, this process does not have to be as daunting as it might at first seem. These issues are highlighted below:

> "Most [parents] are horrified [at the idea of their child returning to mainstream] and they just say, "He/she loves coming to school, he/she loves it" [but] I've invited them back at Halloween and at Christmas [and] that's really like a family thing".

8.10 Summary

The detailed exploration of the core components of the implementation process has covered the following areas: identification of Nurture Group teacher; training; membership of nurture cluster and/or nurture network; identification of pupils for Nurture Group provision; what is delivered in the Nurture Group; whole school approach; relationship with parents; reintegration of children back into the mainstream setting. It is clear that while all components have to be fully attended to in order to maximize the potential for impact variation occurs but does not appear to impact on outcomes.

9. Summary and Recommendations

9.1 Introduction

Nurture Groups are short-term and focused interventions, provided by primary schools located in some of the most socially and economically deprived areas of Northern Ireland. They are typically targeted at children in the first few years of school and seek to address the barriers to learning that some face arising from social, emotional and/or behavioural difficulties. Many of these difficulties arise from unmet attachment needs that, themselves, are associated with the adverse and multiple impacts of deprivation experienced by parents, but may also result from trauma, bereavement, periods of illness and/or hospitalisation, resulting in the parent not being 'present' for their child.

The structured and predictable nature of the Nurture Group setting provides an important opportunity for strengthening the attachment relationship between teacher and child and thus building trust and improving the child's confidence and self-esteem. Moreover, it is hoped that this positive experience of the Nurture Group helps the children to see the classroom as a safe place, one where behaviour management is positive and consistent, and thus where the child can develop feelings of security and control. Through focusing on developing the children's social, emotional and behavioural skills, it is hoped that they become able to reintegrate back into mainstream classes; typically after between two to four terms in the Nurture Group.

9.2 Impact of Nurture Group Provision

This evaluation has found clear evidence that Nurture Group provision in Northern Ireland is highly successful in its primary aim of achieving significant and large improvements in the social, emotional and behavioural skills of children from deprived areas exhibiting significant difficulties.

Stage 1 of the evaluation involved the analysis of data gathered on 529 children who had previously attended Nurture Groups across 30 primary schools and showed that, on average, they had made consistently large gains in their Boxall Profiles, both in terms of

improvements in the developmental strand scale (effect size, d = +1.64) and reductions in the diagnostic profile scale (d = -1.02). There were also smaller, but significant improvements found in relation to academic attainment in literacy and numeracy (d= +.61 and +.40 respectively), although no notable change was found in relation to school attendance or suspension patterns.

Moreover, these levels of improvement were found to occur for all groups of children, regardless of gender, age, whether there has been social services involvement or the particular stage of the Special Education Needs Code of Practice a child is at on entry to Nurture Group. However, whilst progress was found amongst children from all subgroups identified, there was some evidence that greater progress was being made by: those attending on a full-time basis; looked after children; and by those not eligible for free school meals.

Whilst these findings are very encouraging, they needed to be treated with some caution given that they are not based upon a comparison with a control group of similar children not attending Nurture Groups. As such, it is not possible to be determine how much of these gains made were due to Nurture Group provision and how much would have happened in any case.

It is with this in mind that the evaluation also undertook a quasi-experimental trial (Stage 2) involving 384 pupils and comparing the progress made by those in 30 schools currently attending Nurture Groups during 2014/15 with the progress of similar children attending 14 other matched primary schools not offering Nurture provision.

The level of progress made by children attending Nurture Groups in the trial was found to be very similar, on average, to that found from the analysis of data on past pupils. Most notably, whilst such Nurture Group children were experiencing large gains in social, emotional and behavioural skills, there was no evidence of any change found amongst similar children attending the matched control schools. Thus, for example, whilst 77.7% of children who entered Nurture Groups as part of the trial were exhibiting difficult behaviour (as measured by the SDQ total difficulties score), this reduced to just 20.6% at post-test. However, and for those children in the control schools, 62.8% of children exhibited difficult behaviour at the start of the year and this remained largely unchanged at post-test (61.9%).

Moreover, when analysing the data from the trial more formally, and controlling for pre-test differences, the gains made by the children attending Nurture Groups remained large and

similar in order to those found from the earlier analysis of past pupil data. In relation to the Boxall profile, for example, the children made large improvements in the developmental strand scale (d = +1.35) and similarly large reductions in the diagnostic profile (d = -.90). Similarly, and with regard to the SDQ, they also made notable gains in relation to prosocial behaviour (d = .93) and reductions in total difficulties scores (d = -1.30). This time, however, there was no evidence found of improvements in academic attainment in literacy or numeracy. However, and in relation to this latter finding, it should be noted that Nurture Group pupils reported significantly greater enjoyment of school compared to pupils in the control group. Therefore it is possible that improvements in academic attainment may be medium to longer-term outcomes of nurture provision that follow once engagement with learning and school in general is achieved.

As before, and for the most part, Nurture Groups tended to be equally likely to lead to positive gains regardless of variations in the school's characteristics or the characteristics of the pupils. One exception to this was school size, where an inverse relationship was found between school size and amount of progress, such that pupils in smaller schools tended to make greater gains. The other main exception was in relation to the children's pretest scores, whereby those exhibiting higher levels of social, emotional and behavioural difficulties when entering Nurture Group were more likely to make the greatest gains.

For the most part, the findings from both the analysis of past pupil data (Stage 1) and also that gained from the quasi-experimental trial (Stage 2) were largely consistent with existing evidence reported from evaluations of Nurture Groups elsewhere. The one slight area of divergence was in relation to the effects of Nurture Group provision on academic outcomes where the findings were mixed. However, it could be argued that these are to be more appropriately regarded as medium to long-term outcomes of Nurture Group provision and likely to follow improvements in social, emotional and behavioural outcomes and engagement with learning and school in general.

One final element to note is the effect of Nurture Group provision on children on the Special Education Needs (SEN) register. Whilst no children in the control group schools showed improvements by moving down the Code of Practice from pre-test to post-test, nearly one in five children attending Nurture Groups (19.5%) did.

Overall, whilst the trial included a control group, a degree of caution is still required in relation to interpreting the findings. Because the selection and allocation of schools was not

random, there is always the possibility that we may not be comparing like-with-like. This risk was significantly mitigated by selecting control schools from a list of schools that met the original criteria for Signature Project funding. As such, the schools were very well matched. However, as Signature Project funding was allocated strictly to schools with the highest proportion of pupils eligible for free school meals, this could still have introduced some differences. Indeed, comparisons of data at pre-test between the two groups of schools does indicate some differences, with the Nurture schools having more complex profiles. Whilst efforts have been made to control for these differences in the statistical analysis, there remains the possibility that these initial differences may have still introduced some level of bias into the trial.

In addition, the main outcome measures rely upon teacher ratings of the pupils as it was not possible to conduct these blind to the child's membership of the intervention and control group. This, too, may therefore have introduced some bias to the trial. Further research involving a proper randomised controlled trial design is therefore recommended in order to gain a more robust and accurate estimate of the actual size of the effects of Nurture Group provision.

Finally, and in terms of differing models of delivery, no evidence was found in this present trial that the effectiveness of Nurture Groups varied between full and part-time provision; length of time the Nurture Group has been running; Nurture Group size; or whether the Groups were part of the new Signature Project or within schools already providing Nurture Groups. This latter point is important as Signature Project schools were required to run their Nurture Groups in line with the classic model of delivery, whereas the existing schools were able to continue providing Nurture Groups in more variable ways. These points should be treated with caution, however, given that the trial was not sufficiently large to test the effects of these different models of provision. Further research would be required with a larger sample of schools to be able to draw more definitive conclusions.

9.3 Cost Effectiveness

The estimated cost per year of reducing one child who is defined as having behavioural difficulties (as measured by the SDQ) to within the normal range is £12,912.41 (known as the incremental cost-effectiveness ratio). This estimate suggests that, for example, if a school has 10 children with behavioural difficulties, it would cost £129,124.10 to improve all of these to within the normal range.

As noted, general estimates of the additional costs to families and educational and social services of children with antisocial behaviour range from £5,960 to £15,282 per year. Whilst it is important to treat these estimates with some caution, they do suggest that the investment in Nurture Group provision is likely to pay for itself after just two years for each child whose problem behaviour is reduced to the normal range. This is particularly the case given that these estimated costs of anti-social behaviour are likely to be an underestimate of the true cost to society.

More specifically, and reflecting on the estimated average costs incurred by Education Authorities in Northern Ireland in providing additional support services for children with behavioural difficulties over the course of their compulsory school years would also suggest much higher returns for the education system. In particular, the cost of a pupil with behavioural difficulties being provided with just one of the additional educational resources during their school careers (from Year 3 to Year 12) is at least twice as much as the cost of effectively addressing those difficulties through effective Nurture Group provision, and may be considerably higher than this if the child has to avail of alternative full-time education provision and/or attend a special school.

Finally, the above calculations are only based upon the cost of education-related services. Scott et al.'s (2001) estimate that the cumulative additional costs to public services more generally for someone with conduct disorder is £62,596 and £16,901 for those with conduct problems. When taking a lifetime approach, this additional cost associated with those with conduct disorder is estimated to rise to £150,000 (Friedli and Parsonage, 2007). Notwithstanding the uncertainty associated with all of these estimates, it does seem legitimate to conclude that the investment in Nurture Group provision is likely to be cost-effective and has the potential to represent a significant return for society in the longer-term.

9.4 Stakeholder Perspectives

Interviews with school principals, teachers and parents from Nurture Group schools confirmed that they have largely been established in local areas facing significant social problems, including poverty, social exclusion, mental health issues and alcohol abuse, domestic violence and, in a number of areas, ongoing sectarianism and communal violence. As also noted by interviewees, such a context is also likely to impact upon children, with higher proportions of children on the special educational needs registers and exhibiting

emotional and behavioural difficulties, with much of this arising from attachment difficulties within the family. This broader picture is certainly reflected in the baseline trial data, where a large majority (88%) of children attending Nurture Groups in the Signature Project schools were eligible for free school meals and over a third (36%) were known to social services.

Overall, the process evaluation found that Nurture Group provision was very positively regarded and well received by school principals and teachers and by parents and children. Teachers, for example, felt that they could see clear improvements in the children in relation to punctuality, increased attendance and ability to engage with the curriculum, and significant reductions in social, emotional and behavioural difficulties. Parents tended to find that Nurture Group staff were very approachable and clearly appreciated the 'open door policies' that schools tended to operate. Moreover, they also felt that they could see positive benefits for their children. As for the children, they found the Nurture Group much more fun than the mainstream classroom and noted how they had more opportunities to play and make new friends. Some also reported that it made them feel more involved in their lessons and that it had impacted on their behaviour; noting how they tended to feel more confident, calmer and less aggressive.

The introduction of Nurture Groups was not without its challenges however. For example, teachers noted: the difficulties, at times, engaging some of the parents; the struggles of keeping the wider staff group on board; and the fact that whilst they found working in Nurture Groups highly rewarding, it was also challenging at times and emotionally draining. Similarly, some parents explained how they were initially anxious when they were first approached regarding their child attending Nurture Group and were concerned about how this might be perceived negatively by others.

9.5 Key Components of Successful Delivery

Through interviews, ten key components were identified in relation to the successful establishment and delivery of Nurture Group provision:

1. ***School leadership:*** The importance of leadership, especially in relation to the pivotal role of the school principal. Successful principals tended to be in post for a number of years, have an affinity and significant relationships with the local community and an absolute commitment to bringing about positive change through their schools.

2. ***Recruitment of Nurture Group teachers:*** The importance of looking beyond qualifications and identifying a range of key personal characteristics aligned with the goals of Nurture Group provision, including: firmness, fairness, compassion, empathy, energy, enthusiasm and ability to establish good relationships with other teachers in the school.
3. ***Training:*** The importance of attending the initial training days and the follow-up recall day and how these were valued by teachers not only in relation to the content covered but also the opportunities they provided for networking.
4. ***Identification of children:*** The importance of not just drawing upon baseline assessments but also the expertise from the interdisciplinary Steering Group Committees in identifying children most in need and also most able to benefit from Nurture Group provision. Also noted in this respect was the importance of creating a mixed group of children so that they were not over-represented with particular types of difficulties.
5. ***Careful planning:*** The importance of being clear about what is to be delivered; particularly in terms of spending sufficient time planning and developing an environment and set of activities that align with the Nurture Group ethos i.e. a structured, predictable and safe approach based around plan and activities that focus on developing social skills and self-esteem such as turn-taking, learning how to listen and eating together. This includes building in sufficient time for liaison between the nurture teacher and mainstream teachers, to ensure that planning in the nurture group was, where possible, in line with mainstream class activities.
6. ***Whole-school approach:*** The importance of ensuring that all school staff understand the Nurture Group approach and are on board to enable effective transition for children between the Nurture Group, mainstream class and wider school environment. One particular method for facilitating this has been the training of additional teachers and classroom assistants to act as back up.
7. ***Managing transitions*****:** The importance of planning carefully, and putting in place, the necessary processes for ensuring the effect transition for children from Nurture Groups back to mainstream classes. This needs to be done in an open and phased way, involving the Nurture Group teacher, mainstream classroom teacher and parents.
8. ***Relationships with parents.*** The importance of making sustained efforts to engage parents and maintain effective relationships with them. The more that parents are encouraged to visit the Nurture Group, attend coffee mornings, come and play, cook

and eat with the children, the more that it is hoped that attachment relationships can be modelled out.

9. ***Engagement in wider Nurture Group networks:*** The importance of teachers engaging in the support provided by the Education Authority and the wider Northern Ireland Nurture Group Network as effective mechanisms for gaining support and encouragement, sharing best practice and learning about new ideas.
10. ***Funding:*** The importance of providing a consistent funding framework to ensure that schools are able to develop Nurture Group provision and plan effectively.

9.6 Recommendations

Overall, there is clear and convincing evidence that Nurture Groups are:

- well received by schools, parents and children and that they can be successfully developed and delivered across a wide range of schools;
- having a consistent, significant and large effect in improving social, emotional and behavioural outcomes among children from some of the most deprived areas and demonstrating high levels of difficulty;
- cost effective and have the potential to result in a significant saving to the education system and an even greater return to society by preventing the cumulative additional costs to the family, public services and the voluntary sector associated with anti-social behaviour and conduct problems.

It is therefore recommended strongly that the Department of Education continue to support Nurture Group provision in Northern Ireland. However, this presents a number of challenges and therefore it is also recommended that the Department of Education ensures that:

1. A sustainable funding model is put in place to ensure the longer-term viability of Nurture Group provision and its further expansion across Northern Ireland.
2. Appropriate training is provided that addresses the ten issues identified above, along with a wider mechanism for enabling Nurture Group schools to effectively network and collaborate to support one another and share best practice.
3. Until further research is available on the effectiveness of different models of delivery, it would be wise for the Department of Education to continue to target the provision of Nurture Groups in schools in the most deprived areas (as measured, for example, by

the Multiple Deprivation Measure) and to continue to promote adherence to the classic model of Nurture Group delivery.

4. The development and roll-out of Nurture Group provision is planned in such a way as to enable further research into its implementation and effectiveness, particularly in relation to facilitating the use of randomised controlled trials to ensure the creation of the most robust and unbiased evidence base to inform future planning and decision-making. This should include research with a larger sample of schools to be able to test, more robustly, the possible effects of different modes of delivery and possibly to pilot test different models such as those proposed by MacKay (2015). This could involve a four-level tiered approach to nurture provision, based on level of need and ranging from universal to targeted and supplemented nurture provision (MacKay, 2015). The universal, whole-school model of provision involves mainstream classes provided a nurturing environment, which may be a cost-effective option in schools with fewer or less severe issues. At the next level, where a classic nurture group may not be feasible, MacKay (2015) proposes other nurturing structures (such as nurture corners or quiet places) can be put in place to allow schools to cater for pupils with needs that cannot be met in through a nurturing mainstream class. The third level of provision is the nurture group, and the forth level is nurture groups supplemented with additional therapeutic support (such as psychological input and mental health interventions) for the most vulnerable children.

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Appendices

Appendix A: Description of the Boxall Profile and Strength and Difficulties Questionnaire

Table A1 Description of the Boxall Profile and Strength and Difficulties Questionnaire

Boxall Profile (Bennathan & Boxall, 1998): a teacher questionnaire designed specifically for use with nurture provision			
Scales	**Description**	**Scoring**	
Developmental Strand	Consists of 34 items describing aspects of the developmental process in the early years that lays the foundation for being able to function socially, emotionally, behaviourally and academically in school. Items are organised under two clusters: • Organisation of experience • Internalisation of controls	'yes, or usually' (4) 'at times' (3) 'to some extent' (2) 'not really, or virtually never' (1) 'does not arise, not relevant' (0)	Scores can range from 0 to 136 *Increasing* scores reflect positive progress over time
Diagnostic Profile	Contains 34 items describing behaviours that act as barriers to the child's full and satisfactory participation in school. Items are organised under three clusters: • Self-limiting features • Undeveloped behaviour • Unsupported development	'like this to a marked extent' (4) 'like this at times' (3) 'like this to some extent' (2) 'only slightly or occasionally like this' (1) 'not like this' (0)	Scores can range from 0 to 136. *Decreasing* scores reflect positive progress over time
Strengths and Difficulties Questionnaire (Goodman, 1997): a well validated and widely used measure of social, emotional and behavioural functioning			
Scales	**Description**	**Scoring**	
Total difficulties	Consists of 20 statements describing negative behaviours, which can be summed to give a 'total difficulties' score and also broken down into the following subscales (which each contain 5 items): • Conduct problems (e.g. 'often has temper tantrums') • Emotional symptoms (e.g. 'often unhappy') • Hyperactivity (e.g. 'constantly fidgeting') • Peer problems (e.g. 'rather solitary, tends to play alone')	'not true' (0) 'somewhat true' (1) 'certainly true' (2)	Scores for 'total difficulties' can range from 0 to 40, and for each subscale, can range from 0 to 10 *Decreasing* scores reflect positive progress over time
Prosocial behaviour	Consists of 5 statements reflecting prosocial behaviours (e.g.' shares readily with other children' and 'often volunteers to help others')	'not true' (0) 'somewhat true' (1) 'certainly true' (2)	Scores can range from 0 to 10 *Increasing* scores reflect positive progress over time

Appendix B: Boxall Profile Total, Cluster and Sub-cluster mean scores

Table B1. Boxall Profile Total, Cluster and Sub-cluster mean scores (all pupils)[1]

	Pre test	Post test	Size of change
	Mean (sd)		(Cohen's *d*)
Developmental Strand total	76.74 (20.59)	110.42 (18.89)	+1.64
Diagnostic Profile total	52.90 (26.33)	25.96 (20.73)	-1.02
Clusters			
Organisation of experience	38.84 (12.47)	57.52 (11.48)	+1.50
Internalisation of controls	37.91 (10.95)	52.87 (9.15)	+1.37
Self-limiting features	11.48 (5.28)	5.71 (4.39)	-1.09
Undeveloped behaviour	13.48 (8.27)	6.13 (5.88)	-0.89
Unsupported development	27.92 (17.50)	14.12 (13.29)	-0.79
Sub-clusters			
A gives purposeful attention	12.44 (3.66)	17.12 (2.84)	+1.28
B participates constructively	5.80 (2.51)	9.11 (2.33)	+1.32
C connects up experiences	6.05 (2.75)	9.27 (2.45)	+1.17
D shows insightful involvement	10.15 (4.14)	15.51 (3.93)	+1.30
E engages cognitively with peers	4.38 (1.75)	6.50 (1.54)	+1.21
F is emotionally secure	7.84 (2.63)	10.73 (1.68)	+1.10
G is biddable, accepts constraints	9.44 (3.64)	13.00 (2.84)	+0.97
H accommodates to others	11.69 (3.91)	16.34 (3.26)	+1.19
I responds constructively to others	4.04 (1.89)	6.09 (1.63)	+1.08
J maintains internalised standards	4.91 (1.94)	6.68 (1.49)	+0.91
Q disengaged	6.23 (3.43)	2.75 (2.87)	-1.00
R self-negating	5.27 (3.43)	2.96 (2.61)	-0.67
S undifferentiated attachments	2.97 (2.90)	1.12 (1.82)	-0.64
T inconsequential behaviour	7.58 (5.01)	3.35 (3.56)	-0.84
U craves attachment, reassurance	2.94 (2.75)	1.66 (2.00)	-0.46
V avoids/rejects attachment	5.84 (4.03)	2.42 (2.74)	-0.85
W insecure sense of self	6.49 (4.22)	3.67 (3.37)	-0.67
X negativism towards self	5.51 (4.65)	2.65 (3.23)	-0.62
Y negativism towards others	6.32 (5.92)	3.26 (4.19)	-0.52
Z wants, grabs, disregarding others	3.75 (2.95)	2.12 (2.19)	-0.55

[1]Difference between pre- and post-test scores significant at $p<0.001$ for all outcomes.

Appendix C: Details of Statistical Models For Analysis of Trial Data

Table C1. Comparison of Mean Pre-Test and Post-Test Scores by Group

	Intervention Mean (sd)		Effect size (d) [sig]	Control Mean (sd)		Effect size (d) [Sig]
	Pre	Post		Pre	Post	
Boxall Profile						
Developmental Strand	74.11 (19.78)	110.05 (18.41)	+1.817 [p<.001]	84.29 (24.35)	85.04 (23.35)	-.031 [p=.686]
Diagnostic Profile	54.13 (25.36)	25.53 (21.91)	-1.128 [p<.001]	47.43 (29.44)	46.76 (27.44)	-.023 [p=.746]
Organisation of experience	37.65 (12.10)	58.10 (11.02)	+1.690 [p<.001]	45.27 (13.26)	44.72 (12.73)	-.041 [p=625]
Internalisation of controls	36.50 (10.41)	52.00 (10.16)	+1.489 [p<.001]	39.01 (13.14)	40.31 (12.05)	+.099 [p=.157]
Self-limiting features	12.31 (5.15)	5.87 (4.60)	-1.250 [p<.001]	9.20 (5.07)	9.68 (5.66)	+.094 [p=.292]
Undeveloped behaviours	13.30 (8.15)	6.18 (6.43)	-.873 [p<.001]	11.06 (8.31)	10.95 (7.58)	-.013 [p=.874]
Unsupported development	28.17 (17.01)	13.48 (13.42)	-.884 [p<.001]	27.17 (16.60)	26.13 (17.70)	-.054 [p=.418]
Strengths and Difficulties Questionnaire						
Total Difficulties	19.64 (5.75)	10.30 (6.08)	-1.622 [p<.001]	17.54 (6.79)	17.65 (5.64)	+.018 [p=.815]
Conduct problems	3.42 (2.59)	1.67 (2.14)	-.681 [p<.001]	3.26 (2.63)	3.33 (2.65)	+.027 [p=.627]
Emotional symptoms	4.64 (3.00)	2.20 (2.16)	-.813 [p<.001]	3.92 (3.53)	4.25 (2.97)	+.094 [p=.236]
Peer problems	3.95 (2.26)	2.20 (2.10)	-.852 [p<.001]	2.90 (2.11)	3.24 (2.12)	.158 [p=.126]
Hyperactivity	7.62 (2.56)	4.41 (2.88)	-1.256 [p<.001]	7.45 (2.69)	6.83 (2.25)	-.230 [p=.003]
Prosocial behaviour	4.28 (2.74)	7.03 (2.53)	+1.008 [p<.001]	5.01 (2.69)	5.11 (2.78)	+.035 [p=.675]
Enjoyment of school	42.26 (9.41)	45.45 (7.83)	+.338 [p<.001]	44.61 (7.51)	43.29 (7.89)	-.211 [p=.103]
Attendance	90.39 (8.91)	93.08 (5.69)	+.303 [p<.001]	89.06 (13.43)	90.85 (8.79)	+.134 [p=.122]
Academic outcomes						
Literacy	80.19 (9.96)	82.85 (9.34)	+.267 [p=.054]	82.00 (7.78)	78.50 (9.15)	-.450 [p=.001]
Numeracy	82.74 (12.34)	87.00 (11.05)	+.345 (p=.077)	78.57 (9.89)	79.00 (10.80)	.043 [p=.890]

Table C2. Multilevel regression models showing significant predictors for each outcome

Outcomes	Predictor Variables in the Model (Coefficients with standard errors)									
	Pre test Score	Intervention	Boy	Year	Terms	EAL	Looked After	Known to SS	Deprivation	Constant
Boxall Profile										
Developmental Strand	.402 (.042)	26.669 (3.789)	-4.956 (1.758)	2.051 (1.514)	4.596 (1.257)	-7.095 (3.464)	-1.215 (3.464)	2.184 (1.949)	-.116 (.074)	84.036 (3.081)
Diagnostic Profile	.532 (.040)	-21.196 (4.147)	3.705 (2.111)	-2.326 (1.750)	-3.949 (1.466)	2.483 (4.099)	-2.588 (4.271)	-.163 (2.328)	-.049 (.085)	47.134 (3.377)
Organisation of experience	.383 (.041)	14.958 (2.325)	-2.234 (1.023)	1.276 (.897)	2.387 (.741)	-3.345 (2.026)	-1.607 (2.099)	2.258 (1.143)	-.065 (.044)	43.743 (1.890)
Internalisation of controls	.449 (.040)	11.633 (1.658)	-2.535 (.917)	.646 (.741)	2.223 (.630)	-3.603 (1.787)	.362 (1.851)	-.104 (1.009)	-.045 (.036)	40.396 (1.352)
Self-limiting features	.386 (.044)	-4.302 (1.070)	.566 (.460)	-.186 (.404)	-.740 (.331)	1.272 (.908)	-.333 (.948)	-1.083 (.515)	.004 (.020)	10.089 (.870)
Undeveloped behaviours	.467 (.039)	-4.618 (1.087)	.680 (.639)	-.792 (.503)	-1.069 (.434)	.455 (1.239)	-.713 (1.296)	-.968 (.707)	-.014 (.024)	10.857 (.889)
Unsupported development	.512 (.037)	-11.965 (2.311)	2.794 (1.323)	-.854 (1.055)	-2.112 (.900)	1.189 (2.256)	-1.888 (2.683)	2.010 (1.462)	-.022 (.050)	25.843 (1.887)
Strengths and Difficulties Questionnaire										
Total difficulties	.456 (.051)	-7.736 (1.191)	.775 (.622)	.339 (.539)	-1.070 (.487)	.209 (1.191)	.139 (1.250)	-.922 (.722)	.015 (.025)	17.804 (.920)
Conduct problems	.503 (.042)	-1.405 (.324)	.606 (.227)	.005 (.171)	-.199 (.161)	.606 (.426)	.028 (.452)	.157 (.259)	-.004 (.008)	3.087 (.254)
Emotional symptoms	.315 (.041)	-2.082 (.462)	-.469 (.268)	.498 (.221)	-.673 (.200)	-.608 (.505)	.358 (.530)	-.405 (.303)	.007 (.010)	4.326 (.358)
Peer problems	.372 (.052)	-1.395 (.410)	-.241 (.240)	.268 (.197)	-.150 (.181)	.025 (.454)	.098 (.477)	-.492 (.272)	-.004 (.009)	3.349 (.318)
Hyperactivity	.488 (.054)	-2.974 (.489)	.591 (.295)	-.102 (.240)	.001 (.220)	.229 (.558)	-.204 (.587)	.049 (.335)	.026 (.011)	7.122 (.379)
Prosocial behaviour	.345 (.050)	2.406 (.471)	-1.221 (.290)	.096 (.233)	.203 (.214)	-.233 (.548)	-.633 (.577)	.410 (.327)	-.017 (.011)	4.922 (.365)
Enjoyment of School	.414 (.052)	3.923 (1.248)	-1.981 (.941)	-.260 (.774)	.619 (.662)	1.939 (1.776)	-2.577 (2.075)	-.560 (1.027)	-.023 (.033)	42.618 (.999)
Attendance (mean %)	.472 (.035)	1.840 (1.123)	-1.376 (.705)	-.267 (.635)	.472 (.472)	2.188 (1.353)	2.461 (.691)	-1.817 (.744)	-.008 (.027)	91.180 (.869)
Academic outcomes										
Literacy	.620 (.089)	6.793 (5.663)	-3.559 (1.932)	-.854 (1.484)	.737 (1.413)	-7.697 (3.379)	2.968 (3.824)	-4.902 (1.928)	-.147 (.086)	80.744 (4.777)
Numeracy	.524 (.118)	-1.506 (6.675)	1.873 (3.699)	-.708 (2.301)	-1.132 (3.183)	-1.608 (3.183)	9.119 (7.611)	4.515 (3.423)	.383 (,128)	86.937 (4.967)

Table C3. Main effects (Intervention compared to Control Group)

Outcome	Adjusted post test means (standard deviation)		Sig.	Effect size (Hedges' g) [95% CI]
	Intervention	Control		
Boxall Profile				
Developmental Strand	110.70 (18.46)	84.04 (23.35)	<.001	+1.352 [+.098, +1.728]
Diagnostic Profile	25.94 (21.97)	47.13 (27.67)	<.001	-.904 [-1.251, -.557]
Organisation of experience	58.70 (11.03)	43.74 (12.73)	<.001	+1.306 [+.913, +1.708]
Internalisation of controls	52.03 (9.19)	40.40 (12.05)	<.001	+1.170 [+.843, +1.497]
Self-limiting features	5.79 (4.61)	10.09 (5.66)	<.001	-.882 [-1.312, -.452]
Undeveloped behaviours	6.24 (6.46)	10.86 (7.58)	<.001	-.685 [-1.002, -.369]
Unsupported development	13.88 (13.44)	25.84 (17.70)	<.001	-.821 [-1.133, -.511]
Strength and Difficulties Questionnaire				
Total difficulties	10.07 (6.05)	17.80 (5.64)	<.001	-1.303 [-1.696, -.909]
Conduct Problems	1.68 (2.00)	3.09 (2.65)	<.001	-.638 [-.926, -.350]
Emotional Symptoms	2.24 (2.15)	4.33 (2.97)	<.001	-.865 [-1.242, -.489]
Peer Problems	1.95 (2.10)	3.35 (2.12)	<.001	-.663 [-1.045, -.281]
Hyperactivity	4.15 (2.88)	7.12 (2.25)	<.001	-1.093 [-1.445, -.740]
Prosocial Behaviour	7.33 (2.53)	4.92 (2.78)	<.001	+.926 [+.571, +.1.281]
Enjoyment of School	46.54 (7.44)	42.62 (7.42)	.002	+.528 [+.199, +.857]
Attendance rate	93.02 (5.72)	91.18 (6.52)	.101	+.308 [-.060, +.675]
Academic outcomes				
Literacy	87.54 (11.39)	80.74 (17.41)	.230	+.559 [-.354, 1.472]
Numeracy	85.43 (12,15)	86.94 (13.70)	.822	-.119 [-1.154, .915]

Appendix D: Search Strategy for Systematic Review of Economic Evidence

Review question

1. Are nurture groups cost-effective in improving outcomes of children with social, emotional and behavioural difficulties?
2. What is the evidence for the long term costs and benefits of nurture groups?

Objectives

Identify the potential long term costs and benefits of nurture groups in comparison to mainstream schooling and relevant alternative school-based interventions. The literature search will focus on:

i. the economic burden to the education system
ii. the range, scope and cost-effectiveness of school-based interventions
iii. the long term economic impact of these interventions

Inclusion criteria

Population

Children with social, emotional and behavioural difficulties and/or attachment disorders

Intervention

School-based nurture group or nurture unit provision or an alternative, comparable school-based intervention

Comparator

Standard education provision or an alternative, comparable school-based intervention

Outcomes

- Costs, Cost-effectiveness, cost-benefit or cost-utility
- Effects relating to
    - Behaviour (internalising and externalising)
    - Social and emotional well-being
    - Quality of life
- Any long-term impacts reported

Search Limits

Language

English language only

Publication type

Full and partial economic evaluations, including,

- Cost analyses
- Cost-minimisation analyses
- Cost-effectiveness analyses
- Cost-utility analyses
- Cost-benefit analyses
- Cost-outcome description

Dates

No limitation related to date of publication

Databases

1. PEDE http://pede.ccb.sickkids.ca/pede/search.jsp
2. EconLit hosted by EBSCO
3. NHS EED hosted by The Cochrane Library (in search limits, tick Economic Evaluations)
4. HEED hosted by The Cochrane Collaboration
5. ERIC[1] hosted by EBSCO
6. British Education Index[1] hosted by EBSCO
7. Education Source[1] hosted by EBSCO

Search terms

Child -OR- children

-AND-

Social difficult* -OR- emotional difficult* -OR- behavio?ral difficult* -OR- SEBD -OR- attachment -OR- parent-child attachment

-AND-

School -OR- education -OR- classroom

-AND-

Nurture group* -OR- nurture unit* -OR- nurture room -OR- nurture provision

-AND-

1	Cost/
2	Cost benefit analysis/
3	Cost effectiveness analysis/
4	Cost control/
5	Economic aspect/
6	Financial management/
7	(fiscal or financial or finance or funding).tw.
8	Cost minimization analysis/
9	(cost adj estimate$).mp.
10	(cost adj variable$).mp.
11	(unit adj cost$).mp.
12	Or/1-11

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