Evaluation of the Effectiveness of the Childhood Development Initiative's *Doodle Den* Literacy Programme

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Belfast

2012

CHILDHOOD DEVELOPMENT INITIATIVE

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CDI
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Meeting needs, making changes, improving outcomes

How to cite this report

Any citation of this report should use the following reference:

Biggart, A., Kerr, K., O'Hare, L. and Connolly, P. (2012) *Evaluation of the Effectiveness of the Childhood Development Initiative's Doodle Den Literacy Programme*. Dublin: Childhood Development Initiative (CDI).

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FOREWORD

by Laureate na nÓg
Niamh Sharkey

There is no doubt that literacy is a matter of key concern in today's society. Often described as being a gateway subject, literacy opens many doors that allow a person to achieve their full potential. Whether it is in terms of education, work or day-to-day life, literacy skills are fundamental in ensuring people have full access to and engagement with the various opportunities within their communities. Conversely, the lack of opportunity to develop literacy skills can close many doors and have a huge impact on not only a person's education, but also their overall well-being.

We must therefore begin to look at ways of supporting literacy development, particularly those that target the domain of literacy development in the early years. Working with young children, early in their literacy development is important in giving them the fundamental literacy skills that they need to be successful. What is more is the need to evaluate the programmes we implement. Ensuring that we continue to deliver the best services to children and families is crucial, as is ensuring that the programmes we chose are meeting their aims and bringing about positive change.

The following report focuses on one such intervention. *Doodle Den* was implemented by the Childhood Development Initiative (CDI) in Tallaght West Dublin in 2008. It was brought about through an extensive consultation process in which the community of Tallaght West identified the need to support children's literacy. The *Doodle Den* programme was then developed by those with expertise in terms of literacy development and the Irish education system. An after-school programme that focuses on fun activities and learning opportunities was developed. Since then, over 300 children living in Tallaght West have participated in *Doodle Den*.

As you read through the report, you will be struck not only by the level of rigour with which the programme was evaluated, but also with the results. *Doodle Den* has been shown through the evaluation process to make a real change in the children's overall literacy levels. Furthermore, this literacy programme has also shown gains for children in terms of their behaviour, with children showing an increase in concentration levels, reduction in disruptive behaviours and reduction in bullying. The evaluators also found an increase in home reading and family library activity.

As Laureate na nÓg, it is inspirational to see how the *Doodle Den* programme has boosted children's confidence and their love of reading in such a positive way. This unique and proactive initiative is to be applauded; it has made an intrinsic and positive impact on the lives of the children who took part.

Niamh Sharkey

CDI Response to the Evaluation of the *Doodle Den* Literacy Programme

On behalf of the Board of the Childhood Development Initiative (CDI), I am delighted to receive, endorse and welcome this report.

CDI is one of three projects that constitute the Prevention and Early Intervention Programme (PEIP), a joint initiative of the Department of Children and Youth Affairs (DCYA) and The Atlantic Philanthropies. The three projects (CDI, Young Ballymun and Preparing for Life) were set up with the objective of 'testing innovative ways of delivering services and early interventions for children and young people, including the wider family and community settings' (DCYA, 2011).

Based in Tallaght West, CDI is the result of the professionalism, passion and persistence of a group of 23 concerned individuals and organisations living and working in the community who had a vision of a better place for children. Through innovative partnerships, they brought together an approach which drew on both the science and the spirit of best practice in order to meet the identified needs of children and families. A partnership was agreed between the Government and The Atlantic Philanthropies, and the consortium's first piece of work was a needs analysis entitled *How Are Our Kids?* (CDI, 2004). A number of priorities were agreed based on this research, one of which was to establish and incorporate CDI. This was completed in 2007 and following this a range of programmes has been designed, delivered and independently evaluated.

CDI's programmes are the Early Years Programme; the *Mate-Tricks* Pro-Social Behaviour Programme; the Healthy Schools Programme; Early Intervention Speech and Language Therapy; Community Safety Initiative; Safe and Healthy Place Initiative; Restorative Practice; the Quality Enhancement Programme; and, of course, the *Doodle Den* Literacy Programme, which is the focus of this evaluation report.

All CDI programmes are evidence-informed and incorporate elements for children, families and the practitioners working with them, and are delivered through existing services and structures. CDI has a core role in promoting quality, capacity and value for money. All elements of our work are rigorously and independently evaluated and we are committed to sharing the learning and experiences from Tallaght West in order to inform and shape future policy, practice, training and curriculum development. This report is one strand in a comprehensive dissemination process aimed at doing just that.

The *Doodle Den* Programme offers an intensive, multimedia and highly interactive opportunity for 5 and 6 year-old children, aimed at improving a range of literacy skills. We are delighted that the independent evaluation of this programme has found very positive results in relation to these primary objectives. However, it is possibly even more important that the children participating in *Doodle Den* also began to demonstrate improved parent – child relationships; more regularity of reading at home and library visits; their parents created more positive home learning environments, and there was a reduction in bullying and problematic behaviours in the classroom. In terms of a childs' trajectory, their future path and journey, these are incredibly important findings. It was always our vision that children in Tallaght West would develop a love of learning, that a trip to the library would become a positive and fun family event, and that bedtime stories would become a regular feature. How heartening to know that this is in fact the case, because we believe, and evidence tells us, that these experiences can fundamentally shift a child's expectations for their future, and perhaps more importantly, our expectations of them.

Since completion of the randomised control trial, CDI has been able to continue the delivery of *Doodle Den* in the seven participating schools in Tallaght West. The passion and determination of the school principals to ensure that their children continue to receive this programme is testament to the value placed on it. More recently, *Doodle Den* is being delivered in three schools in Limerick and in all other areas of the country, it is being directly overseen by the School Completion Programme.

This current phase of integrating a proven programme into mainstream services is part of CDI's overall strategic plan, and exit strategy, whereby we aim to provide supports and capacity-building to those structures that can naturally and appropriately take on the oversight and quality assurance role necessary to ensure that evidence-based programmes are delivered as intended. We welcome and appreciate the support and enthusiasm of all those who have enabled us to reach this point on a complex journey and look forward to the challenges, opportunities and learning from the next phase.

Joe Horan
Chair
CDI Board

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Executive Summary

Introduction

This report presents the findings of an independent evaluation, undertaken by the Centre for Effective Education at Queen's University Belfast, of the *Doodle Den* after-school programme. The evaluation took the form of a randomised control trial and a qualitative process evaluation focusing on implementation. This report presents the key findings of the evaluation. The evaluation team is indebted to the children, parents, teachers, service providers, facilitators and schools who participated in the study. The team would also like to acknowledge the support and advice provided by the staff at the Childhood Development Initiative (CDI) and the Expert Advisory Committee, as well as The Atlantic Philanthropies and the Department of Children and Youth Affairs whose generous support made the evaluation possible.

Doodle Den

Doodle Den is an after-school programme that was designed to promote young children's literacy in Tallaght West (Dublin). Tallaght West has been designated as an area of particular social and economic disadvantage, with high levels of unemployment. It is comprised of four communities – Brookfield, Fettercairn, Jobstown and Killinarden. The area has over 23, 312 residents (Census, 2006). *Doodle Den* was a newly developed programme, which targeted 5 and 6 year-old children (Senior Infants class), and involved them in attending 3 after-school sessions each week, each lasting 1½ hours. It aimed to improve children's literacy through targeting the following literacy domains through a balanced literacy framework: writing, text comprehension, phonics, sight vocabulary, independent reading and fluency. It operated throughout the normal school year, over a 36-week period.

The stated aims of the *Doodle Den* programme were to achieve moderate improvements in the children's literacy (O'Rourke *et al*, 2008), with specific outcomes sought as:

- improvements in children's regular school attendance;

- improvements in the children's broader engagement in learning outside the school through improved literacy, increasing confidence and improved home environment relating to literacy;

- enhancing relationships between the child, their family and peers, for example, through increasing parent/carer involvement in supporting their child's literacy development and increasing family use of library services.

Methodology

A rigorous evaluation of the effects of the programme was completed by the Centre for Effective Education at Queen's University Belfast, which included a randomised controlled trial (RCT) to measure the effects of the programme on child outcomes and a process evaluation that investigated its implementation.

The current study utilised a 3-year rolling cohort design. The effectiveness of the intervention was not assessed until all cohorts had completed the intervention and the results reported were pooled from all three successive cohorts. In *Doodle Den*, children completed pre-tests at the beginning of the programme in September and post-tests at the end of the programme in June. A rolling cohort design also ensures that the impact of *Doodle Den* was looked at longitudinally (i.e. over the three successive cohorts) and provided a sufficient sample size for statistical comparisons and effect size calculations.

In total, 623 children were randomly assigned to intervention and control groups over the three cohorts. 464 children, 472 teacher child assessments and 197 parents completed both pre- and post-test questionnaires. The evidence indicated that the randomisation procedure worked well. There were no significant differences on pre-test mean scores between the intervention and control groups on any of the variables, with the two groups being equivalent and suitable for outcome evaluation.

The study focused on three primary outcomes and seven secondary outcomes, utilising a combination of child, parent and teacher responses. The primary outcomes comprised: a direct measure of the children's overall literacy ability, a teachers' rating of general literacy ability and a children's writing ability item. The secondary outcomes included: school attendance; literacy activity; library activity; children's reading activities at home; concentration and behaviour in class; children's attitudes to literacy; and parental attitudes to reading.

Alongside the analysis of the main effects, a series of exploratory analyses were also undertaken to assess whether there was any evidence that the programme was having differential effects for differing subgroups of children. More specifically, the exploratory analyses considered: the child's gender; which of the three cohorts the child participated in; the ethnicity of the child; the level of family affluence/poverty; and the number of sessions attended by the child.

Findings

The findings of the randomised control trial provided strong and robust evidence that the programme met its original aim of making moderate improvements in the children's literacy. This was evidenced not only through standardised measures of the children's overall literacy (d=+0.17), but is also confirmed through teachers' assessment of the children's literacy ability (d=+0.28). The subscales of the direct measures of children's literacy showed *Doodle Den* children particularly improved in relation to the comprehension items of word choice (d=+0.26) and sentence structure (d=+0.30), and also in relation to word recognition (d=+0.17).

Not only did the programme improve children's overall literacy ability, but there was evidence to suggest that it also had a positive impact on improving concentration and reducing problem behaviours in school (d=-0.18), family library activity (d=+0.39) and the child's reading at home (d=+0.25). All the other measures, such as school attendance, were moving in a positive direction, although failed to reach the required level of statistical significance.

Exploratory analyses suggested that, overall, the programme appeared to benefit boys as much as girls and that there were only minor differences in terms of year cohort, family affluence/poverty and ethnicity. The boys in particular who attended *Doodle Den*, however, appeared to derive some additional benefits in relation to their concentration and behaviour in school lessons, as evidenced through the teachers' reports.

Furthermore, children who attended *Doodle Den* more often had a greater improvement in their literacy abilities and any attempt to increase levels of participation would likely lead to further gains.

The process evaluation showed that *Doodle Den* has received a positive response from a wide variety of stakeholders, including facilitators, school principals, parents and not least the children themselves through the Client Satisfaction Survey. When asked about the benefits of *Doodle Den* for the children involved, the majority of respondents were very positive and responses focused on improvements in children's literacy skills, knowledge and abilities, as well as their enjoyment, improved social skills, enhanced confidence and noticeable differences between those who participated in *Doodle Den* compared to those who did not.

While, overall, the perceptions of the programme were very positive, a number of issues did arise over implementation and fidelity. In particular, there were concerns raised about the overcrowding of activities within the *Doodle Den* curriculum at any given session, which often lead to incomplete delivery, or adaptation to the timings of some of the activities. Sessions were co-facilitated by a qualified teacher and a youth worker or childcare worker. While in many cases this eventually worked well, it did lead to different models of co-facilitation and suggests there should be clarification of the roles of the two groups of professionals. Furthermore, the process evaluation highlighted the different specific training needs of these two groups, in particular, the need for prior training for youth workers in working with this younger age group and with academically orientated training resources.

Recommendations

A number of recommendations are made in light of the findings above.

1. Given the strong evidence presented in this report of the proven effectiveness of *Doodle Den*, CDI should be encouraged to develop, disseminate and promote the expansion of the programme.

2. Given its proven effectiveness, we would caution against radical changes to the nature of the programme. However, evidence from the process evaluation suggests there are a number of issues that should be addressed in taking the programme forward.

3. Careful consideration should be given to the content of sessions and a reduction in the number of activities in any given day. The curriculum outlined in the manual is clearly overcrowded and many activities appear frequently missed due to lack of time.

4. There was a wide variation in attendance at *Doodle Den* and also issues with parents collecting their children early, both of which were impacting on the number of sessions received. CDI should reflect on whether further steps can be taken to improve general attendance, to include parental education on the importance of full attendance and also whether more formalised parental collection procedures need to be adopted.

5. Consideration should be given to whether it would be desirable to standardise the different models of co-facilitation that were apparent and to provide greater clarity on the different roles of the two facilitators.

6. Although the youth worker and teacher combination worked well in many cases, it is recommended that an assessment is made of the training needs in the delivery of the programme for both groups of professionals independently. It may be desirable for some training events to be held separately for each group of professionals.

7. It is suggested that consideration should be given to whether youth workers are best placed to act as co-facilitators, or to identify whether they need additional training prior to working with young children and with an academically orientated curriculum.

8. Ongoing professional training and the regular Communities of Practice meetings have been highlighted as an important component of other successful programmes and this aspect of the programme should not be neglected in future delivery.

9. It is recommended that CDI consider a longitudinal follow-up of the children to see if the literacy gains observed are retained over time and built upon in order to assess the longer term impact of the programme.

Doodle Den is an after-school programme that was designed to promote young children's literacy in Tallaght West (Dublin). Tallaght West has been designated as an area of particular social and economic disadvantage, with high levels of unemployment. It is comprised of four communities – Brookfield, Fettercairn, Jobstown and Killinarden. The area has over 23, 312 residents (Census, 2006). *Doodle Den* is part of a wider 10-year strategy that began in 2003 and was led by the Childhood Development Initiative (CDI) with the aim of improving the health, safety and learning of children, and of increasing their sense of belonging to the community.

Doodle Den aimed to improve children's literacy through targeting the following literacy domains through a balanced literacy framework: writing, text comprehension, phonics, sight vocabulary, independent reading and fluency. It operated throughout the normal school year, over a 36-week period, and was aimed at 5 and 6 year-olds (Senior Infants class). It involved the children attending 3 after-school sessions per week, each lasting 1½ hours. In addition, there were 3 family and 6 parental sessions.

The programme was delivered by two different service providers operating across 7 different settings and involved children from a total of 8 local schools, with a target group of 15 children in each after-school setting. Each child session was facilitated by two staff, a teacher and a youth worker, and involved a range of fun activities for the children aimed at enhancing their literacy skills. Activities included games, drama, music, art and physical activities. Children were also served a healthy snack at the start of the sessions. In addition to the children's sessions, there was also a family component, whereby parents were encouraged to participate in a range of activities including sitting in on child sessions and shared reading activities, whilst a joint family activity was organised by the service providers each term.

As part of the implementation process, a rigorous evaluation of the effects of the programme was completed by the Centre for Effective Education at Queen's University Belfast, which included a randomised controlled trial (RCT) looking at the effects of the programme on child outcomes over three successive year cohorts, combined with a process evaluation that investigated implementation.

Doodle Den was developed by CDI as a new programme with the assistance of St. Patrick's College, Dublin, and the Dartington Social Research Unit.

The stated aims of the *Doodle Den* programme, according to the manual, were to achieve moderate improvements in the children's literacy (O'Rourke *et al*, 2008), with specific outcomes sought as:

- improvements in children's regular school attendance;

- improvements in the children's broader engagement in learning outside the school through improved literacy, increasing confidence and improved home environment relating to literacy;

- enhancing relationships between the child and their family and peers, for example, through increasing parent/carer involvement in supporting their child's literacy development and increasing family use of library services.

The programme had a very structured approach in that each session began with a snack and sign-in routine, followed by various aspects of literacy teaching and activities, and concluded with a 'fun' element (e.g. art, physical education (PE), drama or music). Each element of the programme was given a specified time, within each 1½ hour session.

The *Doodle Den* programme encompassed a balanced literacy framework in the sense that the main elements, within a given session, included a combination of various modalities of literacy instruction: phonics 'mini-lessons', sight vocabulary, shared reading, independent reading, shared writing, independent writing and comprehension. These elements were followed by supporting 'centres' or small group work activities/games. An outline of each element of the programme is given below, with examples and the specified time given in the manual.

Not all sessions had all the elements included. For example, some would have a creative writing element but not a phonics element. However, every session included the snack and sign-in routine, a phonics 'mini-lesson', sight vocabulary, a reading and/or writing exercise, and 'centres'.

Snack and sign in: 10 minutes

The *Doodle Den* manual outlines links between nutrition, behaviour and learning. Therefore, the children sit together to eat a snack (O'Rourke *et al*, 2008). During this time, they were also exposed to environmental print, defined as 'print of the everyday world of the child' which 'allows children to gain an initial level of comfort within the group'. The environmental print suggested in the 'list of resources' were 'labels for environment' and 'pick a partner cards'.

Shared reading (Big Book Reading): 20-30 minutes

This element included sub-sections on 'before reading activities', 'during reading activities', 'after reading activities' and 'reflection' A Big Book was used over several weeks, taking a different focus or revising previous work. Three big books were covered during each of the first three terms and four big books were covered in Term 4.

Shared writing: 10-30 minutes

The time allocated to the shared writing element gradually increased throughout the year. This element is called a 'mini-lesson' throughout the manual and usually included specified focus vocabulary, a list of comprehension skills and guidelines on the 'introduction', 'writing' and 'reflection' sub-sections of the mini-lesson. Examples of the titles given for these mini-lessons include 'sequencing events' (Term 1, Week 3, Day 1) and 'sentence structure' (Term 2, Week 4, Day 1).

Phonics mini-lesson: 10 minutes

The phonics section progressed from the individual sounds letters make to blending two, three and four phoneme words and segmenting two, three and four phoneme words to word families and the 'Magic E' rule. Each mini-lesson had a 'focus sound' with details on the activities to be used. Jolly Phonics Flashcards were used as well as mini whiteboards, magnetic letters, sound pictures, oral segmentation boxes and word family flashcards.

Sight vocabulary: 10 minutes

This mini-lesson focused on whole words and, for example, involved placing them in sentences or on an alphabetical 'word wall' or playing word games/rhymes. Each 'mini-lesson' had a 'focus word' and the words became more difficult as the programme progressed. For example – Focus word: 'and' (Term 1, Week 3, Day 1), Focus word: 'them' (Term 4, Week 11, Day 2).

Reading independently: 10 minutes

During this time, facilitators were directed to listen to two or three children reading independently from an appropriate book within a 'Levelled Text Scheme' – it is outlined that at least two schemes should be used and suggested schemes are 'Storyworlds and Sails Literacy, Oxford Reading Scheme'. Children should also select a book to take home during this element of the session. A record was kept to make sure that children do not take the same book home twice.

Centres: 10-20 minutes

These are small group work activities/games involving combinations of reading, writing, sight vocabulary and phonics work, using a variety of resources, for example: writing materials, magazines, jigsaws, different materials to handwrite (e.g. sand, plasticine), card games, 'read the room pointers', commercial games, word searches. In most sessions, the manual outlines that five different centres should be set up. It suggests that children should be at two centres (over 10 minutes) or four centres (over 20 minutes). For example:

> Centre 1 – Sight Vocabulary 1 (group 3/group 4), Centre 2 – Sight Vocabulary 2
> (group 4/group 1), Centre 3 – Sight Vocabulary 3 (group 1/group 2), Centre 4a – Dictation
> (group 2a/group 3a – Facilitator 1), Centre 4b – Dictation (group 2b/group 3b – Facilitator 2)
> [Term 1, Week 6, Day 3].

Art/Music/Drama/Physical Education (PE) (fun elements): 20-30 minutes depending on the activity

Each of these activities was carried out at least once a week and involved a variety of games/activities. Art and drama were usually related to the Big Book being used. The majority of music elements were used to reinforce sounds and rhymes. PE activities involved games using letters, sounds and words. For example, an art activity which involves 'drawing family portraits' based on the Big Book *We're all going on a bear hunt*, where the manual offers guidance on the discussion and activities (Term 3, Week 2, Day 3). A drama activity based on the Big Book *The Gruffalo* focuses on vocabulary and comprehension skills, with four activities involving role play, group discussion and making 'Wanted Posters' for the Gruffalo. 'Stations' to promote physical activity included a game where the children must move between stations (e.g. running in and around cones, jumping jacks) when the teacher blows a whistle (Term 4, Week 11, Day 1).

As well as encouraging parents to read the books sent home with their children, the *Doodle Den* programme also had a parent/family element which was made up of 6 parent sessions and one family day (visit to the local library, attending plays or story-telling sessions). The parent sessions are entitled: Introduction to *Doodle Den*; Reading is Fun; Making Story Sacks; Picking Books; Using the Library Service; and Writing and Supporting your child after *Doodle Den*. These sessions were designed to inform parents about what their children are doing in *Doodle Den*, information about using the local library and tips for supporting their children's reading and writing at home.

In addition to the programme, training and reflection for facilitators delivering the programme were core components, with regular Communities of Practice meetings and training events held jointly with the teachers and youth workers.

Chapter 2: Literature Review

2.1 Introduction

The importance of the development of early literacy skills has been widely recognised. In the USA, the 'No Child Left Behind' legislation (2001) requires States to ensure that all children acquire proficiency in both reading and mathematics, and are required to take supplementary action for low-income students who are not achieving sufficient progress in school towards this goal. A major review of research in the USA conducted by the National Reading Panel concluded that the best approach to reading instruction is one that incorporates explicit instruction in phonemic awareness, systematic phonics instruction, methods to improve fluency and ways to enhance comprehension (Eunice Kennedy Shriver National Institute of Child Health and Human Development, 2000). A similar emphasis on the importance of children's literacy and numeracy skills has been expressed by governmental bodies in Ireland and is most recently reflected in the Department of Education and Skills' (2011) report entitled *Literacy and Numeracy for Learning and Life: National Strategy to improve Literacy and Numeracy among Children and Young People 2011-2020.*

The importance of the development of children's early literacy skills is very much related to its role as a gateway subject. Literacy skills are widely recognised as an important precursor to general academic achievement, as well as in relation to broader participation in society. Longitudinal studies have also shown that children who fail to gain adequate basic literacy skills at an early stage are unlikely to catch up later (Juel, 1988).

While there is a vast literature in relation to children's literacy, the following brief review focuses primarily on the current evidence from recent meta-analyses or systematic reviews relevant to the *Doodle Den* programme and the wider issues in relation to programme implementation, evaluation and quality. Evaluations of this kind are based on comparisons between a control group and an intervention group, and comparisons made against pre-specified outcomes. These tend to be reported as an effect size, such as Cohen's *d* which is a standardised statistical measure to express difference in the average change between the two groups.

2.2 Effectiveness of literacy programmes

There are a number of existing literacy programmes with evidence of effectiveness. *Reading Recovery* is one of the best known programmes internationally, supplementing classroom teaching with one-to-one tutoring and mostly delivered through pull-out sessions during the normal school day. The programme involves a range of components of reading instruction, including phonemic awareness, phonics, vocabulary, fluency, comprehension, writing motivation, oral language and independence. Of the five studies that met the What Works Clearinghouse (WWC) eligibility criteria, there is evidence for medium to large positive effects for general reading achievement and alphabetics, and potential positive effects for fluency and comprehension (WWC, 2008). Slavin *et al* (2009a), in their recent extensive review of experimental evaluations for beginning readers, categorise literacy interventions for struggling readers into four broad typologies:

- **Reading Curricula:** The use of alternative textbooks and manuals by teachers. These materials often prescribe particular activities for teachers to undertake with children in relation to their literacy. Examples include *Open Court Reading and Reading Street.*

- **Instructional Technology:** Usually refers to reading programmes that use computers, video or individual assessments. Examples include *Waterford, Phonics-based Reading* and *Writing to Read.*

- **Instructional Process Programmes:** Designed to provide teachers with professional development training on delivering a specific instructional method. Examples include cooperative learning and phonological awareness training.

- **Combined Curriculum and Instructional Process Programmes:** Simply a mixed-method programme that provides teachers with an additional curriculum and professional training on how to deliver it. Examples include *Success for All* and *Direct Instruction.*

From the existing evidence that met their criteria, Slavin *et al* (2009b) found that Instructional Process Programmes showed the largest impact, with an average effect size of +0.37, although there was an indication that some of these programmes were more effective than others. Cooperative learning and phonics-focused professional development showed particular promise, with an average effect size of +0.46 and +0.43 respectively. Combined Curriculum and Instructional Process Programmes – under which the *Doodle Den* programme would fall – also indicated promising results, with an average effect size of +0.29. Reading Curricula and Instructional Technology programmes appear less effective, but on average showed positive but less promising results, with average effect sizes of +0.12 and +0.09 respectively.

While some of the effect sizes reported above appear large in magnitude, they are from a range of randomised controlled trials (RCT) and quasi-experimental designs, the latter of which have a tendency to inflate effect sizes (Wilson and Lipsey, 2007). For example, one of the programmes, *Success for All*, which has some of the strongest evidence of effectiveness, has reported average effect sizes of around +0.5 when matched non-RCT designs are used. However, the largest study and only RCT of the programme reports more modest effects, with overall effects sizes of +0.25; +0.22 for Word Identification; +0.33 for Word Attack; and +0.21 for Passage Comprehension (Borman, *et al*, 2007).

Slavin *et al* (2009b) concluded that successful programmes had a number of common elements, which included:

- extensive professional development and follow-up on specific teaching methods for teachers;

- cooperative learning at their core, with children working together on structured activities;

- a strong focus on teaching phonics and phonemic awareness;

- well-developed programmes that integrate curriculum, pedagogy and extensive professional development.

Slavin *et al* (2009b) emphasize that the evidence suggests that it is simply not enough to disseminate best practice such as phonic and phonemic awareness to teaching professionals and suggest that attempts to do so have provided disappointing results (Gamse *et al*, 2008; Moss *et al*, 2008). A meta-analysis for the National Reading Panel in the USA, however, emphasized the strong supporting evidence that phonemic awareness (PA) instruction has over other methods of instruction in helping children acquire reading and spelling skills (Ehri *et al*, 2001).

Although there is evidence of the effectiveness of phonics as an approach to literacy – and it was a component of the *Doodle Den* programme – there are ongoing debates about the use of phonics and which method of phonics teaching is most effective. A systematic review limited to evidence from RCTs conducted for the Department of Education and Skills in England, which built upon two previous reviews in the USA, concluded there was evidence that systematic phonics instruction was more effective than whole language or word approaches. However, while the current evidence base is weak, the study did not find any conclusive evidence as to whether one phonics method (synthetic or analytic) was superior to the other (Torgerson *et al*, 2003).

The studies included in the Slavin *et al* (2009a) review of programmes for beginning readers focused primarily on literacy interventions within the school or classroom context. *Doodle Den* differs in that it was designed specifically as an after-school programme. In reviewing the evidence of the effectiveness of after-school programmes, the results have tended to be inconclusive. However, this is influenced by issues of varying programme quality and the heterogeneity of the programmes, with differing age spans and target outcomes, as well as the limited numbers of studies to date that have used randomised control designs.

A review undertaken by the Campbell Collaboration of after-school programmes, focusing on behavioural, social and emotional, and academic programmes, identified only five studies which met their rigorous inclusion criteria. Among these studies, 84% of outcomes measured showed no effects, and while these were more general after-school interventions

than in the case of *Doodle Den*, the pooled evidence of the two studies that measured reading scores suggested that they had not had an effect on reading achievement. There was, however, some evidence that they may have had a positive impact on student grades, but these were small and insignificant (Zief *et al*, 2006). The national evaluations of the *21st Century Community Learning Centers* in the USA, federally funded after-school programmes, also found no impact on attainment such as reading and mathematics, and highlighted that the opportunities presented for instruction in these core subject areas was often limited within many of the programmes (Dynarski *et al*, 2003 and 2004).

A further meta-analysis of after-school programmes for children deemed at risk focused on interventions with academic outcomes (reading and maths) and provides some more promising evidence. This analysis was not restricted to RCTs, but also included quasi-experimental designs where a control or comparison group was evident (Lauer *et al*, 2006). Of the 30 studies with reading outcomes, effect sizes varied considerably, but an average effect size of +0.05 or +0.13 was reported depending on how it was measured.[1] Overall, the authors found a tendency towards positive effects for after-schools programmes aimed at improved reading outcomes for at-risk students.

2.3 Research evidence underpinning *Doodle Den*

Since *Doodle Den* was developed as a new manualised approach to teaching literacy in after- school settings, this is the first evaluation of the programme. The programme was devised by CDI with the assistance of staff and a postgraduate student in the Department of Education at St. Patrick's College, Dublin, and input from Dartington Social Research Unit. Literacy was defined by the programme as a dynamic process and one that is socially and culturally embedded. For the purposes of the programme, the formal definition used was that adopted by the Department of Education as *'literacy as the integration of reading and writing, listening, speaking and mathematics for everyday life, for communication and learning to learn'* (Department of Education and Science, 2005, p. 34).

The *Doodle Den* manual drew on a broad body of previous literature and staff expertise in the development of the programme. In this respect, the approach taken could be described as evidence-informed rather than specifically evidenced-based in a strict sense, i.e. using an existing programme that had previous evidence of effectiveness. The review that informed the development of the programme identified three significant factors that were deemed important to affect children's literacy development: the parents and home environment, the school environment (including teaching) and child nutrition (O'Rourke *et al*, 2008).

2.4 Moderating factors of effectiveness

A meta-analysis by Lauer *et al* (2006) looked at a range of factors that may moderate results of after-school programmes for at-risk students, focusing on improving reading. This suggested that age was an important factor, with combined effect sizes indicating that most of the effective programmes among primary school-age children were among the younger grades (Lower Elementary in USA). Their analysis also confirms the benefits of one-to-one tutoring, over group tutoring, with a significant pooled effect size of +0.5 and +0.15 respectively. Programme duration suggested that the evidence for programmes with a duration of 44-84 hours and 85-210 hours were more likely to be effective (effect sizes of +0.28 and +0.15 respectively) than longer or shorter programmes. There is also evidence that the level of participation results in greater impact on those who participate more often (Baker and Witt, 1996).

Broader pertinent issues that have emerged in previous studies of after-school programmes through implementation and process evaluations have included the relationship between schools and after-school programmes, whereby the issues have included shared space; aligning the curriculum to the school curriculum; and communication, with an

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[1] 0.05 with a fixed effects model and 0.13 based on a random effects model.

importance placed on building shared trust between school and after-school personnel. Other issues include the need for additional training for after-school staff and the importance of well-qualified staff, in addition to transportation issues when the programme is not delivered on the school site (Scott-Little *et al*, 2002; Lauer *et al*, 2006; Morris *et al*, 1990).

Programme complexity, fidelity, mismatch between school and intervention's mission, lack of teacher training and support, and inadequate staffing represent another set of implementation issues (Dumas *et al*, 2001; Hallfors and Godette, 2002; Hallfors and Van Dorn, 2002; Thaker *et al*, 2008). For example, Hallfors and Godette (2002) reported that only 19% of evidence-based prevention programmes reported fidelity, an essential measure of whether an intervention meets its theoretical goals and that it is conducted in a consistent way with all participants. Low fidelity would directly have an effect on the programme's validity and indirectly affect the study's power (Dumas *et al*, 2001).

The literature also highlights the importance of the development of systems, structures and practices whereby the implementation of the programme can be monitored and reviewed on an ongoing basis (Domitrovich *et al*, 2008). It should be understood that implementation takes time to embed and positive changes may not be immediately apparent (Adelman and Taylor, 2003; Dusenbury and Hansen, 2004).

2.5 Evaluation of interventions

Meta-analyses and systematic reviews have shown experimental influences on reported effects and generally poor study quality correlates with inflated effect sizes (Sukhodolsky *et al*, 2004; Bennet and Gibbons 2000). Other experimental factors such as use of inappropriate outcome measures, contamination effects and collecting follow-up data can introduce bias (Farrell *et al*, 2001). For example, measures should closely match outcomes (specificity matching principle). Also, if measures of key behaviours such as literacy ability have low reliability (internal and external reliability) or validity (content, criterion and construct), then any results would be less meaningful.

Contamination effects can also be problematic if students allocated to a control condition are somehow heavily exposed to elements of the treatment condition. Also, experimental effects such as Placebo, Hawthorne and Pygmalion effects can have an influence. In short, being part of a research project can sometimes lead to beliefs that outcomes are improving. Lastly, most intervention studies do not report follow-up effects for more than a year afterwards. Generally, the effect size at the follow-up is usually less than that measured at the end of the intervention. Follow-up measures are further complicated by high attrition rates (loss of participants over time), which can have negative effects on the results (Farrell and Meyer, 1997).

2.6 Conclusion

While internationally there are many good quality evaluations of literacy and after-school programmes, there are a relatively small number of randomised controlled trials (RCTs) evaluating programmes of a similar nature to *Doodle Den*. The evidence from previous RCTs of after-school programmes found no evidence of effects on many of the measured outcomes and there is also limited evidence of after-school programmes in general impacting on academic outcomes such as reading. However, many of these reviews do not take account of programme quality and duration, and therefore may underestimate the impact of good quality after-school programmes that focus on academic outcomes. While the body of evidence is weak, there is some evidence to suggest that after-school programmes focusing on academic outcomes may achieve moderate improvements in outcomes for at-risk students.

Taking a broader picture of literacy programmes in general, there is good-quality evidence that literacy interventions can have a positive impact on beginning readers, with one-to-one tutoring programmes in particular showing most promise. Some of the common characteristics of previously successful programmes include the professional development

of teachers, cooperative learning with well-structured activities and a strong focus on phonics and phonemic awareness. Overall, implementation studies highlight the importance of a combination of supportive and well-trained staff, the availability of appropriate resources, strong partnerships with schools and ongoing monitoring and review.

The current evaluation therefore makes an important contribution to the limited body of evidence of the effects of well-designed structured after-school programmes focusing on literacy outcomes for beginning readers in an area of socio-economic disadvantage.

Chapter 3: Methodology

This chapter gives a brief outline of the two components of the *Doodle Den* evaluation: the randomised controlled trial (RCT) and the process evaluation. An overview of the outcomes, measures and analyses is presented, starting with a description of the specific outcomes, as agreed with CDI, that were tested and that provided the focus for the present evaluation.

3.1 Outcomes

For the purposes of the present evaluation, an outcome was defined as a real and discernible change in attitudes and/ or behaviour and/or attainment that has occurred as a direct result of receiving *Doodle Den*. This study focused on three primary outcomes and seven secondary outcomes. The primary outcomes are considered to be the main effects of receiving *Doodle Den* and were:

- the children's reading ability (The Drumcondra Test);

- the children's general literacy ability (Teachers' Rating: National Assessment of English ERC 2004, Adapted);

- the children's writing ability.

The secondary outcomes were considered important precursors to change in the primary outcomes and were:

- school attendance;

- frequency of literacy activity (parent report);

- frequency of library activity (parent report);

- frequency of children's reading activities at home (parent report);

- frequency of observations of behaviours associated with ADHD (teacher report);

- children's attitudes to literacy (child report);

- parental attitudes to reading (parent report).

These outcomes reflect the core aims and objectives of the programme and were agreed in conjunction with the CDI team.

3.2 Randomised controlled trial and a rolling cohort design

The randomised controlled trial (RCT) was designed as a multi-school balanced randomisation, open, parallel group study, utilising a 3-year rolling cohort design. In other words, the effectiveness of the intervention was not assessed until all cohorts had completed the intervention and each cohort comprised new participants. In *Doodle Den*, children completed a pre-test at the beginning of the programme (in September) and the post-test assessment at the end of the programme (in June). A rolling cohort design also ensured that the impact of the intervention (*Doodle Den*) was looked at in a longitudinal way (i.e. over the 3 years) and provided a sufficient sample size for statistical comparisons and RCT calculations.

In *Doodle Den*, it was proposed that 210 children would be referred to the programme each year for 3 years, giving a maximum proposed total sample of 630 children. With the rolling cohort design, particular care needed to be taken over potential adverse effects on the evaluation. Therefore the main outcome results – comparison of pre- and post-test scores between the control and intervention groups – were not analysed until the final cohort had completed the

programme. Releasing interim results may have had undesirable and unintentional effects on the delivery of the programme and/or undermine the validity of the evaluation. Also, any interim outcomes would only be tentative or perhaps even misleading. Given that all three cohorts of children have now completed the programme, this report therefore presents descriptive, contextual and comparative data in relation to the measured outcomes. In other words, the main focus of this report is to compare the pre- and post-test scores pooled for all three cohorts according to the outcomes measured.

3.3 Sample

A sample size power calculation was calculated based on: identifying an effect size with a Cohen's *d* in the range of 0.2-0.4; a statistical power level of 0.8; having a minimum of two predictors in the model; and identifying a probability level of 0.05. The desired sample size was calculated to be in the range of n=241-478. The initial child sample for the study was N=623, which exceeded the sample size required. After attrition, the sample still remained within the required range (N=464).

3.3.1 Children

The child evaluation assessed 85% (N=531) of the 623 potential children involved in the *Doodle Den* programme at pre-test, across the three cohorts. In total, 75% (N=464) completed both pre- and post-test questionnaires across the three cohorts (*see Table 3.1*).

Table 3.1: Number of children randomised and pre- and post-testing completed, by school

School	Children completed pre-test (% of total)	Children completed pre- and post-test (% of total)	No. of children referred
School A	135 (74.6)	117 (64.6)	181
School B	62 (81.6)	52 (68.4)	76
School C	79 (88.8)	76 (85.4)	89
School D	73 (90.1)	58 (71.6)	81
School E	84 (91.3)	76 (82.6)	92
School F	86 (95.6)	73 (81.1)	90
School G	12 (85.7)	12 (85.7)	14
Total	531 (84.0)	464 (74.5)	623

3.3.2 Teachers

The response rate for returns of the teacher questionnaires at pre-test was 77% (N=482). In total, 76% (N=472) returned both pre- and post-test questionnaires (*see Table 3.2*).

Table 3.2: Number of children randomised and pre- and post-test questionnaires completed by teachers, by school

School	Teachers providing pre-test data (% of total)	Teachers providing pre- and post-test data (% of total)	No. of children referred
School A	149 (82.3)	146 (80.7)	181
School B	29 (38.2)	29 (38.2)	76
School C	78 (87.6)	77 (86.5)	89
School D	67 (82.7)	63 (77.8)	81
School E	88 (95.7)	86 (93.5)	92
School F	59 (65.6)	59 (65.6)	90
School G	12 (85.7)	12 (85.7)	14
Total	482 (77.4)	472 (75.8)	623

3.3.3 Parents

The return rate for the parent questionnaires was 51% (N=316) at pre-test. In total, 32% (N=197) returned both pre- and post-test questionnaires *(see Table 3.3)*. The parental data was initially collected through postal questionnaire, with a follow-up questionnaire sent to non-respondents. For Cohorts 2 and 3, parental consent was obtained at referral for telephone reminders and non-responders were followed-up firstly with a complete resend and then by telephone. This resulted in a considerable improvement in the response rates.

Table 3.3: Number of children randomised and pre- and post-test questionnaires completed by parents, by school

School	Parents providing pre-test data (% of total)	Parents providing pre- and post-test data (% of total)	No. of children referred
School A	88 (48.6)	52 (28.7)	181
School B	46 (60.5)	27 (35.5)	76
School C	47 (52.8)	33 (37.1)	89
School D	41 (50.6)	22 (27.2)	81
School E	46 (50.0)	30 (32.6)	92
School F	43 (47.8)	28 (31.1)	90
School G	5 (35.7)	5 (35.7)	14
Total	316 (50.7)	197 (31.6)	623

3.3.4 Randomisation

Each year, teachers in 7 schools were asked to refer children to the *Doodle Den* programme subsequent to CDI describing the components and activities of the programme. In total, 206 children were referred in Cohort 1, 205 were referred in Cohort 2 and 212 children were referred in Cohort 3. The names of all children, for the relevant cohort, were then forwarded to the evaluation team for random allocation to *Doodle Den*. Control group children remained in the evaluation and were offered a place at a 2-week literacy summer scheme following the completion of *Doodle Den* delivery to the intervention group at the end of the school year.

The children were selected using a simple random allocation process through a raffle procedure, whereby individual children at each school were randomly selected to the intervention or control group. In total, 6 sites ran the *Doodle Den* programme. There were 15 places available in the programme for 5 settings and 30 places available in one setting. So ideally 30 children were referred for each of the 5 sites offering 15 places and 60 children were referred for the site with 30 places available. This process was conducted at the CDI office under the supervision of an independent observer from the local education authority. As a result, 310 children were randomly allocated to the control group across the three cohorts and 311 children were allocated to the intervention group.

Figure 3.1 shows that there was some attrition during the various stages of testing. The major reason for this was that children were absent from school on the day of testing or left the school after referral was made. However, the pattern of attrition was similar in both the intervention and control groups, with similar numbers leaving the study at the various stages. Also, the final numbers in the analysis (76% intervention group and 73% control group) were similar.

Figure 3.1: Flow diagram showing total number of questionnaires completed by CHILDREN at each stage of the trial
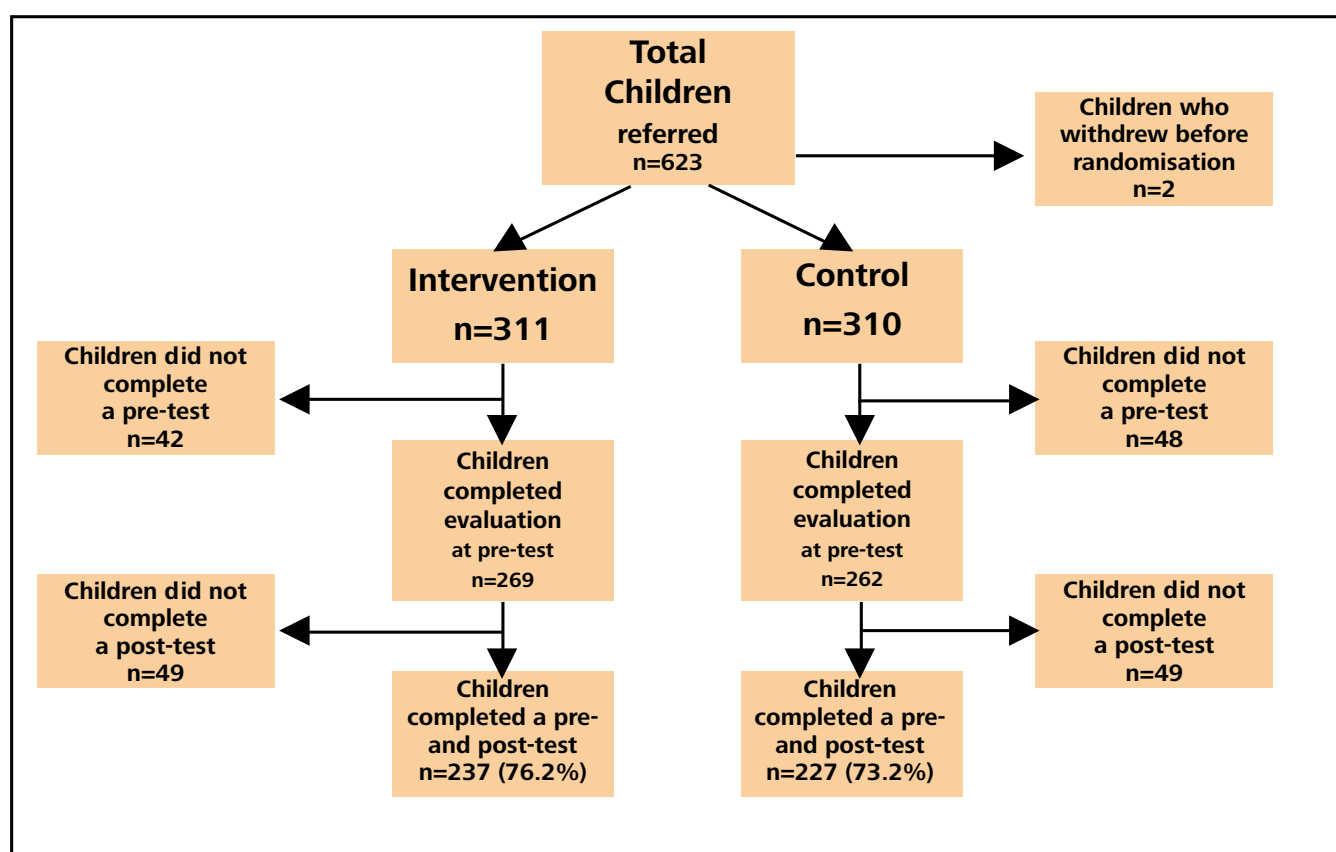
Figure 3.2 presents a flow diagram showing the number of teachers who returned questionnaires for children in the intervention and control groups and details on the attrition. There was some attrition in teacher responses during the various stages of testing. The major reason for this was non-return of questionnaires, despite repeated reminders, telephone calls and collection times at schools. However, the pattern of attrition was similar in both the intervention and control groups, with similar numbers leaving the study at the various stages. Also, the final numbers in the analysis (79% intervention group and 73% control group) were similar. One school completed the child assessments on the children's literacy, but the head teacher requested the removal of the demographic questions relating to the child's ethnicity and whether or not they had been assessed as having a Special Educational Need.

Figure 3.2: Flow diagram showing total number of questionnaires completed by TEACHERS at each stage of the trial
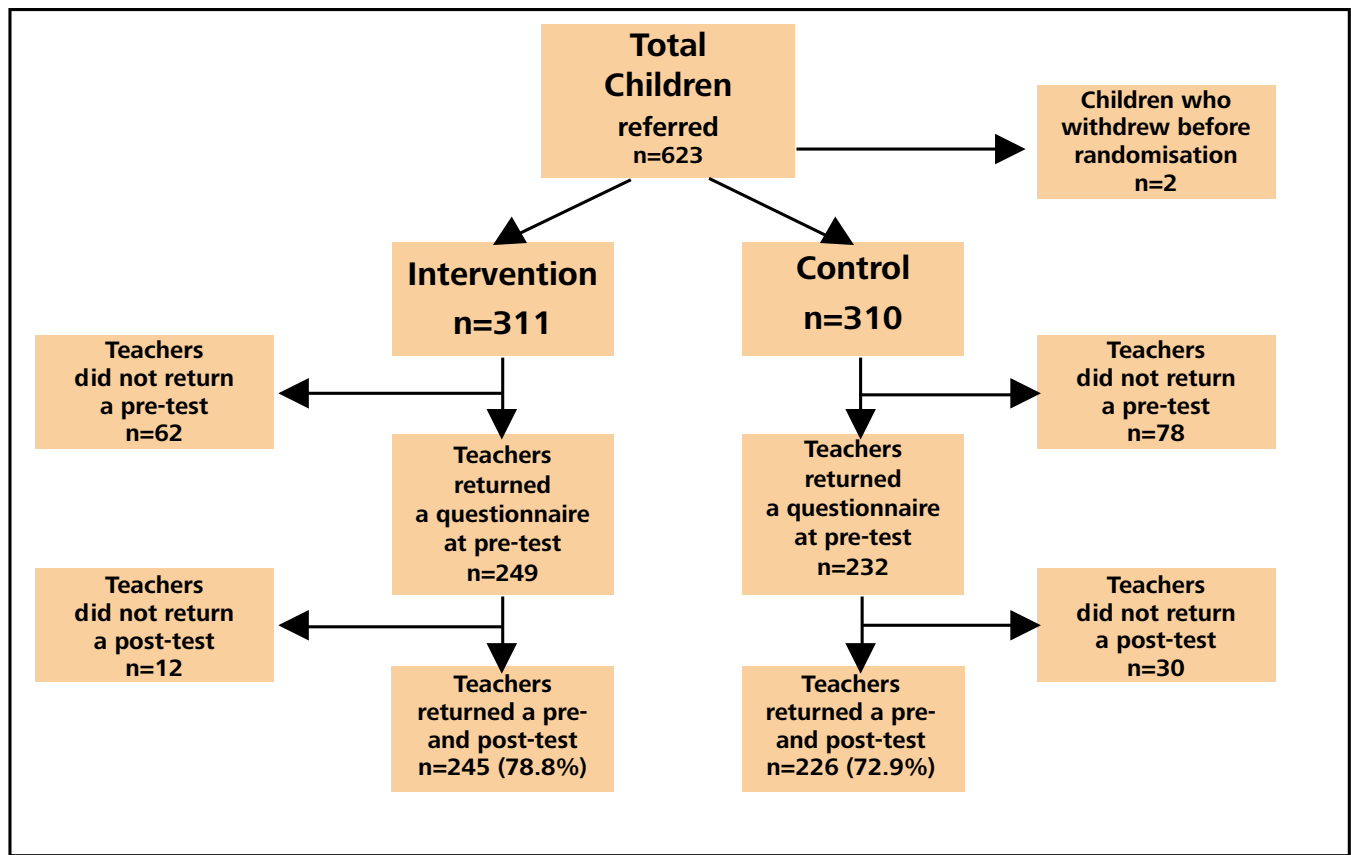
Figure 3.3 presents a flow diagram showing the number of parents who returned questionnaires for children in the intervention and control groups and details on the attrition. There was some attrition in parent responses during the various stages of testing. The main reason for this was that parents did not return questionnaires and, furthermore, did not complete them after a resend and follow-up reminder telephone calls (Cohort 2 and 3). However, the final numbers in the analysis (36% intervention group and 27% control group) were similar.

Figure 3.3: Flow diagram showing total number of questionnaires completed by PARENTS at each stage of the trial
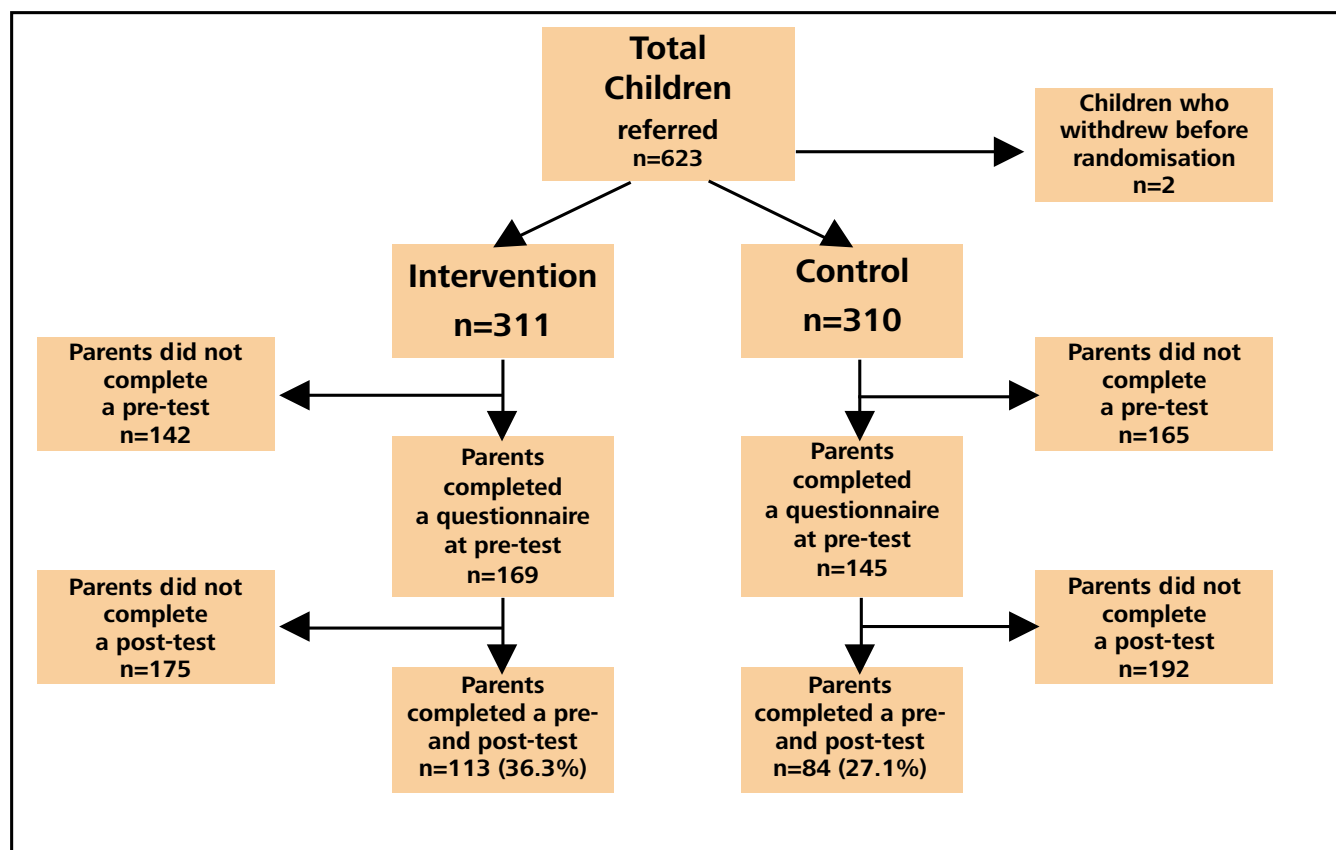
Table 3.4 explores this further to see if there were any significant differences between the two groups involved in the final analysis at the pre-test on the outcome variables. This indicates that responses achieved did not appear to introduce bias and the groups remained statistically equivalent following attrition on the pre-test measures.

The evidence suggests that, accounting for attrition among the sample, there do not appear to be any known differences between the control and intervention groups. Any differences not identified are likely to be addressed by controlling for pre-test differences in the analysis. With the exception of the child's writing ability, there were no significant differences between mean scores of both groups on any of the variables at pre-test. This suggests that the two groups are well matched and suitable for outcome evaluation.

Table 3.4: Means, standard deviations (SD) and significance of difference on variables at pre-test on children, teachers and parents who completed both pre- and post-test

Variable	Intervention mean (SD)	Control mean (SD)	Significance
Literacy ability (child report)	0.39 (0.17)	0.36 (0.18)	p=0.191, t= -1.311, df=398.168
Rating of general literacy ability (teacher report)	2.84 (0.81)	2.77 (0.88)	p=0.417, t= -0.812, df=387.027
Writing ability (child report)	7.31 (2.49)	6.34 (2.63)	P<0.0005, t= -3.651, df=374
School attendance	92.8 (5.75)	92.0 (6.73)	p=0.171, t= -1.372, df= -1.679
Literacy activity (parent report)	1.45 (0.69)	1.42 (0.73)	p=0.805, t= -0.247, df=122.973
Library activity (parent report)	0.47 (0.22)	0.49 (0.24)	p=0.500, t= 0.676, df=123.711
Child reading at home (parent report)	3.46 (0.70)	3.55 (0.55)	p=0.299, t= 1.042, df=191.384
ADHD-related behaviours (teacher report)	0.76 (0.77)	0.83 (0.77)	p=0.322, t= 0.991, df=451.485
Literacy attitudes (child report)	4.44 (0.66)	4.29 (0.92)	p=0.94, t= -1.679, df=284.126
Parent reading attitudes (parent report)	9.04 (2.30)	8.94 (2.26)	P=0.723, t= -0.355, df=300

3.4 RCT measures

In the study, there were three primary outcome variables and seven secondary outcomes variables investigated. Each of the outcome variables is measured by a composite mean score from several items within the questionnaire. The primary and secondary outcome variables are given in Table 3.5, as well as the measures and scales that contribute to the score on that outcome.

Table 3.5: Primary and Secondary Outcome variables, contributing scales and Cronbach's alpha

Primary Outcome variables	Secondary Outcome variables	Measure	Measurement constructs	Source	Cronbach's alpha
Reading Ability		Drumcondra Reading Tests (Sheil, 2008)	Word recognition	Child	0.786
			Picture recognition		
			Sentence structure		
			Word choice		
			Reading ability		
Writing Ability		Newly devised scale	Writing ability	Child	0.592
General Literacy Ability		National Assessment of English ERC 2004 (adapted)	Perceptions of literacy ability	Teacher	0.936
	School Attendance	School records	School attendance	School	n/a
	Literacy Activity	Family Literacy Questionnaire (Saracho, 2000)	Literacy activity	Parent	0.900
	Library Activity	Family Literacy Questionnaire (Saracho, 2000)	Library activity	Parent	0.750
	Child Reading at Home	Family Literacy Questionnaire (Saracho, 2000)	Child reading at home	Parent	0.615
	ADHD-related behaviours*	Attention Deficit Hyperactivity Disorder Rating Scale (DuPaul, 1991)	ADHD	Teacher	0.963
	Literacy Attitudes	National Assessment of English ERC 2004 and National Literacy Trust	Literacy attitudes	Child	0.740
	Parent Reading Attitudes	Family Literacy Questionnaire (Saracho, 2000)	Parent reading attitudes	Parent	0.652

* This measure assesses a range of ADHD-related behaviours on a continuous scale focusing on the child's concentration and behaviour in class. In the initial dissemination of results, there were some misconceptions that a change in this measure indicated a reduction in children with ADHD. As a result of this misconception, this measure is labelled as 'concentration and behaviour in class' for the remainder of the report.

The last column in Table 3.5, showing the Cronbach's alpha score for each measure, represents the reliability of the scale. High reliability occurs when people consistently answer the questions within each outcome measure in a similar way. All but one of the measures had satisfactory levels of reliability. The measure with questionable reliability was the 'writing ability' measure (alpha=0.592), which was a newly devised scale for this evaluation and was scored on a 5-point scale by the coder based on how well children could write their own first name, last name, country born and school name. The 'child reading at home' measure (alpha=0.615) and the 'parent reading attitudes' (alpha=0.652) are also just below the desirable threshold of reliability. The less than desirable reliability for 'writing ability', 'child reading at home' and 'parent reading attitudes' measures should be considered when interpreting these outcomes in the analysis.

In terms of validity, the measures had good face validity (as they specifically match the intended programme outcomes) and a factor analysis of measures (not reported in this paper) suggested that all measures had good construct validity.

3.5 Statistical analysis

The main statistical analysis in the study was conducted using linear regression. The exploratory analysis also utilised these models. Interactions were investigated by inserting an interaction term into the regression models.

Adjusted post-test means were calculated for each of the groups controlling for pre-test scores. Effect sizes were then calculated as standardised mean differences (Cohen's *d*). There was no clustering adjustment made to coefficients since participants had been randomised at the individual level.

3.6 Process evaluation

As well as the RCT, a process evaluation examining implementation and fidelity was undertaken. The following section outlines the process instruments and analysis of the process data, which involved the analysis of in-depth interviews and focus groups, site observations and documentation for the following two main purposes:

(1) To ascertain how the programme was being delivered across different sites, identifying any variations in implementation and any other relevant factors where differences may be evident (e.g. number of children attending/dropping out, parental involvement, timetable, resources).

(2) To provide insights into elements of the programme that tended to work or not, and the reasons why.

The in-depth interviews were conducted with all facilitators, service providers, principals, 3 members of CDI staff and the local librarian during the Cohort 3 roll-out. Focus groups were carried out with 4 groups of children and 2 groups of parents. Site observations were conducted on all sites and an analysis of documentation was conducted. The process evaluation also included a Client Satisfaction Survey (Cohorts 2 and 3), which focused on children's satisfaction with *Doodle Den* tasks, class behaviour and disposition of facilitators.

At the end of the evaluation, reflection group meetings were held with CDI staff, service provider managers and the facilitators of *Doodle Den*, and with school principals and parents upon production of the first draft of the final report. This permitted a detailed discussion of the findings and their interpretation prior to finalising the report.

3.6.1 Selection of the sample

All of the facilitators involved with the delivery of *Doodle Den* throughout the Cohort 3 roll-out were interviewed, totalling 14 facilitators from 7 teams. In addition to this, a teacher facilitator who withdrew from the programme at Easter (2011) was also interviewed; she was replaced by a youth worker. As a result, 15 facilitators were interviewed, which comprised a sample of 7 teachers and 8 youth workers. For the most part, interviews were conducted after a corresponding site observation, to reduce the level of disruption and time taken for the evaluation. In a few cases, some facilitators were unable to stay after the site observation and arrangements were made to meet them at an alternative time. In order to obtain a detailed picture of the different viewpoints, interviews were also conducted with 7 principals from all schools involved in *Doodle Den*, both service providers commissioned to manage the delivery of *Doodle Den*, 3 members of CDI staff (to include the *Doodle Den* trainer) and the local librarian.

Focus groups were carried out with 4 groups of children and 2 groups of parents. These were first selected on the basis of their availability and the different characteristics of the sites. Availability depended on access to the children and their parents during the same session to minimise disruption and to ensure the least possible interruption to delivery time. This was organised in conjunction with the facilitators and the service providers. Children and parents from the same two sites were involved (one site was located in the corresponding school and the other site was in a local community centre).

In total, 28 people were interviewed: 15 facilitators, 7 principals, 2 service providers, 3 members of CDI staff and the local librarian. In addition to this, 15 parents and 15 children were involved in the focus groups.

Site observations were conducted for one full session (90 minutes) at all 7 sites between October 2010 and May 2011. In other words, 7 observations were conducted. It was decided that all facilitators should be interviewed and all 7 sites should be observed to give as detailed and accurate a picture as possible of delivery at each site. It was also important that the comparative views of teachers and youth workers were considered, as well as those working on and off school sites.

The Client Satisfaction Questionnaire was administered to all children in the intervention group attending the 7 sites. The questionnaire was completed in school during the school day, at a suitable time agreed with each school. Initial analysis of all relevant documentation for Cohorts 1 and 2 was also carried out.

3.6.2 Interviews and focus groups

The focus of this part of the evaluation was to gather in-depth data to complement the RCT and the statistical analysis of the effectiveness of the programmes, and was used to assist in the interpretation of the results from the RCT.

Interviews and focus groups were digitally recorded (with the interviewees' consent) and fully transcribed. The transcribed interview and focus group text files were uploaded to the MAXQDA qualitative data analysis software. The transcripts were then analysed following a thorough process of reading, categorising, testing and refining, which was repeated by the researcher until all emerging themes were compared against all the participants' responses. The same process has previously been labelled as 'recursive comparative analysis' (Cooper and McIntyre, 1993) and thematic/content analysis (Kvale, 1996).[2] The themes were collated and listed in order of the most frequently mentioned aspects. It is important to note that the findings presented in this report, for the process evaluation element of the overall evaluation, are based on the in-depth interviews and focus groups conducted during Cohort 3 and have built upon previous interview and focus group schedules/findings from previous cohorts and related to the final outcome measures from the RCT. With the exception of the focus groups with parents, the interviews and focus groups with the children were conducted by the

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[2]   For more information on this analysis approach, see the studies by Leitch *et al* (2006), Miller *et al* (2009), Odena (2001, 2007 and 2009) and Odena and Welch (2007 and 2009).

same researcher. The parent focus groups were conducted by another researcher who was familiar with the programme. She conducted the parent focus groups in one of the settings so that the full-time researcher (who conducted all of the other interviews) could interview the children concurrently.

3.6.3 Observational data

An observation schedule was drawn up and agreed with CDI. This schedule was based on earlier observations conducted during the Cohort 1 roll-out and in order to assess fidelity it was designed in conjunction with the content of the manual. The observations were conducted by the same researcher.

The observational data were analysed in a similar way to the interview and focus group data, with a thorough process of reading, categorising, testing and refining, which was repeated by the researcher until all emerging themes were compared against all the observations.

3.6.4 Client satisfaction

In consultation with CDI, it was decided that the originally proposed mid-term tests on the outcome measures would not be carried out. In relation to Cohort 1, this was due to the very short time between completion of pre-tests (November) and the proposed month of mid-term testing (February). The evaluation team and CDI subsequently decided to drop mid-term testing completely because there was concern about overburdening children and schools with further testing. Instead, it was decided to conduct a Client Satisfaction Survey with the intervention group of children to enhance the process evaluation. This survey was conducted during February-March 2010 for Cohort 2 and in February-March 2011 for Cohort 3.

The use of client satisfaction measures is considered good practice in health service evaluations. There were a wide range of measures that could have been adapted and used in the context of an after-school programme. The measures used were identified using a comprehensive list of factors: age- and ability-appropriate, freely available to use and easy to administer.

Following a pilot study, an adapted version of the 'Client Satisfaction Questionnaire' (CSQ-8) (Larsen *et al*, 1979) was identified as suitable for use with young children. Given that *Doodle Den* is mainly delivered in a classroom environment using various 'teaching' approaches, the evaluation team agreed that the children's perceptions of the *Doodle Den* learning environment and classroom behaviour should be included. As a result of the pilot study, the 'My Class Inventory' scale was identified for this purpose (Fisher and Fraser, 1981). Finally, given the emphasis placed on the impact of the teacher–youth worker–child relationship, a 'Facilitator Checklist' was included. This offered the children an opportunity to express their viewpoints on the disposition of their facilitator. In line with ethical considerations, all facilitators were asked for their informed consent for the inclusion of the checklist in the questionnaires. Therefore, the Client Satisfaction Survey for this study focused on children's viewpoints on task ('Client Satisfaction Questionnaire'), learning environment/ classroom behaviour ('My Class Inventory') and facilitator dispositions ('Facilitator Checklist').

The client satisfaction data were analysed in accordance with the scales used in the questionnaire (percentage of positive responses and mean scores) and compared with respect to the delivery sites.

3.6.5 Analysis of documentation

The minutes of the Communities of Practice facilitators' monthly meetings, service provider meetings and progress meetings were included in the analysis. These documents were analysed in relation to a 'process evaluation template' which was developed by the National University of Ireland, Galway, to support the integration of process elements from service evaluations into the overall process evaluation of CDI being conducted by that institution and found suitable for the purposes here. Under each heading in the template, there was a list of the general types of questions which the process evaluation team were interested in, alongside the type of data required. The 'meaning' of each theme and domain was also outlined. As part of the process evaluation for *Doodle Den*, all of the information from the minutes and observation notes were analysed. Every phrase from the minutes and observation notes were recorded under the themes and domains. A series of subheadings within each theme and domain was also used based on the 'meanings' and/or general types of questions given in the 'process evaluation template'. In other words, information pertinent to each theme and domain was drawn directly from the documents and summarised under each heading.

3.7 Ethics

A statement of ethics was approved by the Research Ethics Committee of the School of Education at Queen's University Belfast, ensuring that the study complied with the ethical standards set out by the American Education Research Association and the British Educational Research Association (BERA, 2004). It covered issues relating to consent, privacy, confidentiality and data storage, the well-being and safety of participants, and the intellectual property rights of participants, as well as the wider ethical issues relating to research with children. All fieldworkers and project staff were police-checked prior to engaging in the evaluation.

All interviewees were given assurances of anonymity and it was explained in the preamble at the start of interviews or focus groups that no names of individuals would be identified in the final report. Where names have been provided in direct quotes from transcript material, these have been replaced with pseudonyms.

For Cohorts 2 and 3, an additional ethics application was submitted and approved by the Research Ethics Committee of the School of Education at Queen's University Belfast for the 'Facilitator Checklist' section on the Client Satisfaction Questionnaire. This section is potentially sensitive since children are asked to 'rate' the dispositions of their facilitators and was additional to what was proposed in the initial ethics application. All facilitators were asked for their informed consent for the inclusion of the checklist in the questionnaires conducted with their respective groups. All facilitators gave written consent for the checklist to be included.

3.8 Challenges and limitations

Generally, the research team and CDI communicated the research process well within the community and 'buy-in' into the process was high from the start, increasing as processes became established. However, as expected, an RCT will still unsettle some members of the community. For example, some parents were very disappointed that their child had not been selected for the programme or did not understand why they were required to complete questionnaires if their children were not attending *Doodle Den*. This may have led to an increase of non-parental responses to the evaluation. Some parents also assumed that if they withdrew their (intervention) child from the programme, then the child was automatically withdrawn from the evaluation. The research team put a new protocol in place for the follow-up of intervention children who withdrew from Cohort 3 by calling parents to ask if they would like their child to continue with the evaluation. Some teachers also felt that the random allocation resulted in some of the 'less needy' children being offered places and were concerned about the split between classes. As indicated, communication issues became less prevalent by Cohort 3 as awareness of the research and its purpose grew within the community.

The number of children leaving their schools also presented a particular challenge to the research team. It is these children who contributed to the majority of attrition. The issue of children leaving their schools was further compounded by poor attendance in early September. The knock-on effects, in terms of the evaluation of *Doodle Den*, included attrition in children's testing and teacher responses, as well as non-responses from parents. In an attempt to address this issue, the research team called schools to personally 'follow-up' whether or not children had actually left the school and to check the addresses held on file.

In relation to the teacher assessment measures, it was also not feasible to fully conceal from teachers which children in their classes were receiving *Doodle Den* and teachers may have been aware which children were attending the programme. While we would expect teachers to fill in their assessments as objectively as possible, we cannot be sure whether knowledge of attendance at *Doodle Den* inadvertently influenced their assessments in any way.

Collection of attendance records also proved challenging to collect from schools and repeated approaches had to be made in order to get these data. This may have been due to the workload involved in searching manual records for the attendance record of specific children. There were no issues with collecting attendance records by the end of Cohort 3 – again, this may have been because the processes were well established at this stage and schools knew what to expect.

Chapter 4: Findings

This chapter begins with a description and breakdown of the study sample, before reporting the findings in relation to the outcomes described in Chapter 3. Full details of each of the statistical models used in the analysis are provided in Appendix 1.

4.1 Sample characteristics

Table 4.1 summarises the main characteristics of the sample and is broken down by intervention and control groups in relation to gender, Special Educational Need (SEN), ethnicity and cohort.

Table 4.1: Breakdown of the sample, by gender, Special Educational Need, ethnicity and cohort

	Intervention group		Control group	
	N	%	N	%
Gender				
Boys	167	53.7	161	51.9
Girls	144	46.3	149	48.1
Total	**311**	**100.0**	**310**	**100.0**
Special Educational Need				
Yes	18	6.8	12	4.8
No	233	88.3	228	90.8
Don't know	13	4.9	11	4.4
Total	**264**	**100.0**	**251**	**100.0**
Member of minority ethnic community				
Yes	54	20.4	43	17.2
No	167	63.0	163	65.2
Answer not given*	44	16.6	44	17.6
Total	**265**	**100.0**	**250**	**100.0**
Cohort				
Cohort 1	104	33.4	100	32.3
Cohort 2	101	32.5	104	33.5
Cohort 3	106	34.1	106	34.2
Total	**311**	**100.0**	**310**	**100.0**

* This row represents one school which requested that the ethnicity question was not included on their questionnaires.

4.2 Main analysis

The analysis was conducted using multiple linear regression. As children were randomised at the individual level, there was no need to take account of clustering effects. As can be seen, by including the children's pre-test scores in the model, the analysis controls for any differences at pre-test between the children that attended *Doodle Den* and the control group. Table 4.2 highlights the **main primary effects**, reporting on the adjusted post-test scores, the effect size [3] difference between the control and intervention groups on each of the primary outcomes, and whether the differences are statistically significant (i.e. $p<0.05$). Statistically significant effects are indicated in **bold**. For a fuller explanation of the statistical findings, please refer to Appendix 3.

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[3] The effect sizes presented have been converted to Cohen's *d* based on the standardised beta coefficients of the regression models.

Table 4.2: Summary of Main Primary Effects

Outcome	Adjusted post-test scores* (with standard deviations)		Effect size (d) [95% confidence interval]	Significance
	Control	**Intervention**		
Child's Writing Ability	4.24 (3.12)	5.59 (2.76)	0.12 [-0.05, +0.29]	p=0.150
Child's Overall Literacy Ability	0.67 (0.25)	0.71 (0.23)	**0.17** [0.00, +0.35]	p=0.049
– Child's word recognition**	0.75 (0.25)	0.79 (0.23)	**0.17** [0.00, +0.35]	p=0.043
– Child's sentence structure	0.54 (0.34)	0.61 (0.32)	**0.3** [+0.13, +0.48]	p=0.020
– Child's word choice	0.57 (0.31)	0.65 (0.31)	**0.26** [+0.08, +0.43]	p=0.012
Teacher rating of Child's Literacy	3.03 (1.04)	3.32 (1.02)	**0.28** [+0.12, +0.45]	p<0.0005

*   Controlling for pre-test score.
**   These are subscales of the overall measure of literacy ability and were run as separate models.

Three primary literacy outcomes were specified for the analysis: the child's writing ability, the child's overall literacy ability and a teacher rating of the child's literacy. As can be seen from Table 4.2, in terms of these three main primary literacy outcomes, those children who participated in *Doodle Den* (intervention group) scored significantly higher than the children in the control group in their overall measured literacy ability (d=+0.17), as well as the separate teacher rating of their literacy ability (d=+0.28). No evidence was found of any significant effect of *Doodle Den* in relation to the children's writing ability, although this measure displayed less than the desirable level of reliability and therefore should be interpreted with care. The overall measure of the children's literacy ability contained a number of subscales (word recognition, sentence structure and word choice), all of which were statistically significant.

To make these effect sizes easier to interpret, they can accurately be translated into an average percentile gain. This shows that, on average, children who attended *Doodle Den* had a 7 percentile point gain in their overall literacy ability. When teacher ratings are considered, this gain increased to 11 percentile points. The average percentile gains for word recognition, sentence structure and word choice were 7, 12, and 10 respectively.

In addition to the main primary effects, which focused on the children's literacy ability, a number of **secondary outcomes** were specified. Table 4.3 presents these results, which highlight further significant **effects** for the children who attended *Doodle Den* – a reduction in teacher-reported concentration and behaviour problems in class (d=-0.18), an increased parental report of child's reading at home (d=+0.25) and increased use of public library facilities (d=+0.39).

Table 4.3: Summary of Main Secondary Effects

Outcome	Adjusted post-test means* (with standard deviations)		Effect size (d) [95% confidence interval]	Significance
	Control	Intervention		
Attendance at School	91.14 (7.47)	92.10 (6.39)	0.03 [-0.14, +0.19]	p=0.092
Teacher-rated Concentration and Behaviour in Class	0.63 (0.81)	0.77 (0.68)	**-0.18** [-0.35, -0.02]	p=0.001
Parental-reported Child Reading	3.42 (0.69)	3.57 (0.50)	**0.25** [0.00, +0.50]	p=0.047
Parental-reported Child's Literacy Activity	1.82 (0.69)	1.93 (0.57)	0.18 [-0.10, +0.45]	p=0.191
Parental-reported Family Library Activity	0.48 (0.22)	0.57 (0.230)	**0.39** [+0.14, +0.66]	p=0.004
Parental Reading Attitudes	9.20 (2.26)	9.38 (2.30)	0.08 [-0.17, +0.33]	p<0.462

* Controlling for pre-test score, with exception of school attendance which was only collected at post-test.

Once again, these can be converted into average percentile gains or reductions for those who attended *Doodle Den*. This shows a reduction of 7 percentile points in relation to concentration and behaviour problems in class, a 10 percentile point increase in the child's reading at home and a 15 point increase in family library activity.

There was no reliable evidence that *Doodle Den* had an impact on the children's general attendance at school, although this is in a positive direction and approaching significance (p=0.092), or on wider literacy activities at home or parental reading attitudes.

4.3 Exploratory analysis

A number of pre-specified exploratory subgroup analyses were undertaken to see whether *Doodle Den* worked differently for:

- boys and girls;

- different year cohorts;

- family affluence/poverty;

- ethnicity.

In addition to this, analyses were conducted to explore whether the number of *Doodle Den* sessions that were actually attended (i.e. a higher level of exposure to the programme) was related to better outcomes for the children in the intervention group. Full details of the statistical models for these analyses are presented in Appendix 1.

4.3.1 Gender

In relation to the primary outcome measures, there was no evidence that the children's literacy scores differed according to gender. However, in relation to the main secondary outcomes, a gender difference was observed in relation to teacher-reported concentration and behaviour in class (p=0.009). Although outcome scores were similar between the control group of girls and the girls who attended *Doodle Den*, a notable difference was apparent between the boys. Boys in the intervention group were significantly less likely to display a lack of concentration and poor behaviour in class, as rated by teachers at post-test (controlling for their pre-test scores), when compared to the boys who did not attend *Doodle Den* *(see Figure 4.1)*.

Figure 4.1: Adjusted post-test scores for teacher-rated concentration and behaviour in class, by gender

*Controlling for pre-test scores.
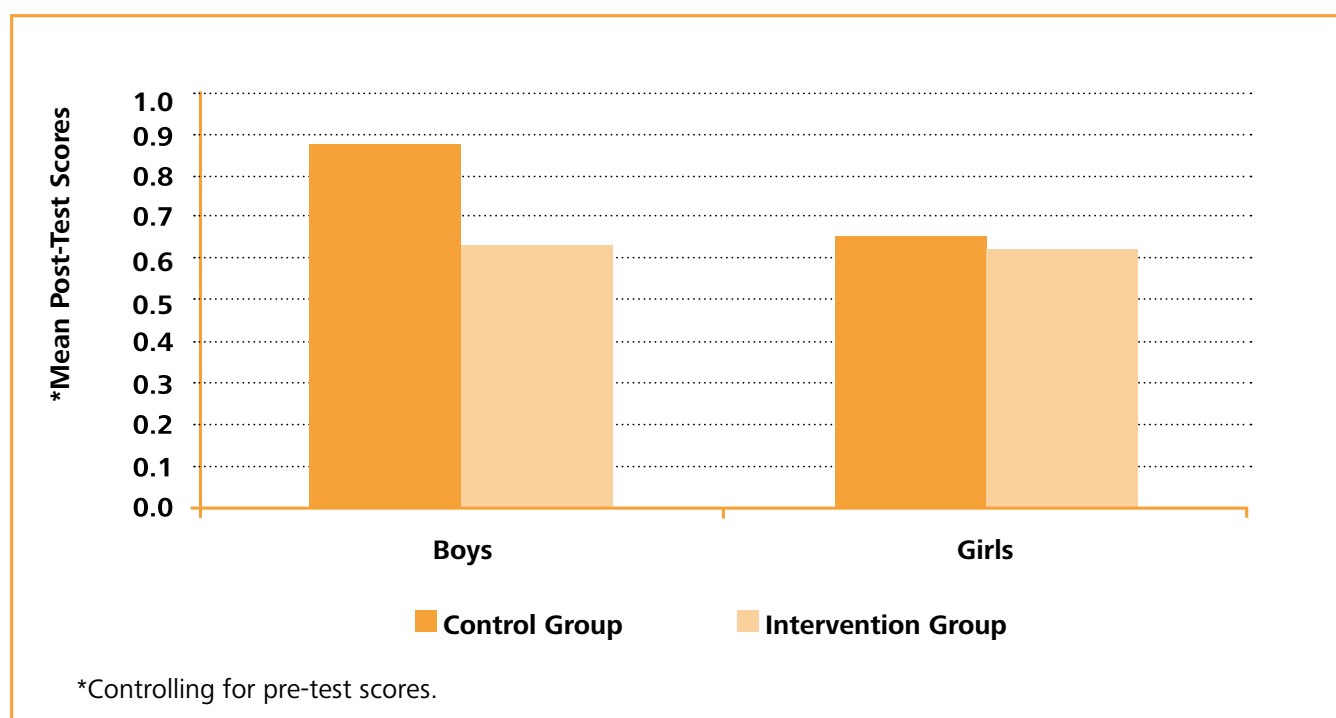
4.3.2 Cohort

The programme was delivered to 3 successive cohorts over a period of 3 school years and it is the pooled data from these cohorts that is reported in the analysis. There was no evidence of a cohort effect on the primary outcome measures related to literacy ability. However, a significant cohort effect was found for parental-reported family library activity (p=0.044) and literacy activity (p=0.020). This suggested that there was a significant decrease in family library activity among intervention parents among Cohort 2 when compared with Cohort 1. However, examining the adjusted post-test scores *(see Figure 4.2)* shows that there was higher family library activity among Cohort 1 as a whole (both control and intervention groups). This may be due to the differential response rates from parents across cohorts, although Cohort 1 also coincided with the opening of the new Tallaght Library which could be another explanatory factor and also the fact that car parking charges were introduced during Cohort 2. As highlighted in the methodology for the study *(see Chapter 3)*, following the disappointing response rate from parents in Cohort 1, new procedures were put in place to follow-up non-responding parents by telephone in Cohorts 2 and 3.

Figure 4.2: Adjusted post-test scores for parental-reported library activity

*Controlling for pre-test scores.
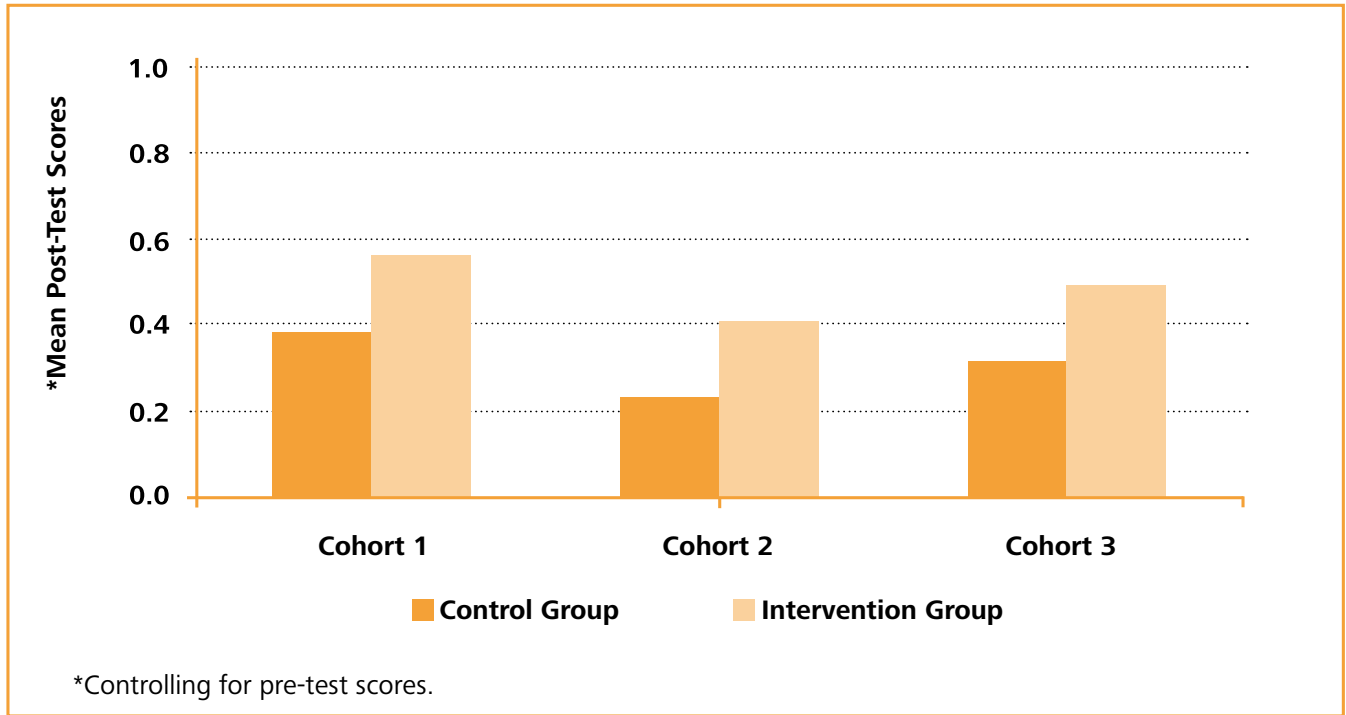
In terms of the significant difference between cohorts and family literacy activity, this showed that Cohort 3 was significantly different from Cohort 1. Figure 4.3 shows the differences in the predicted post-test scores for family literacy activity for each of the 3 cohorts. While the family literacy activity is greater for those who participated in *Doodle Den* in Cohorts 1 and 2, it declines among Cohort 3. The reasons for this are unclear, although once again the different parental response rate for Cohort 1 may be a factor.

Figure 4.3: Adjusted post-test scores for parental-reported family literacy activity

*Controlling for pre-test scores.
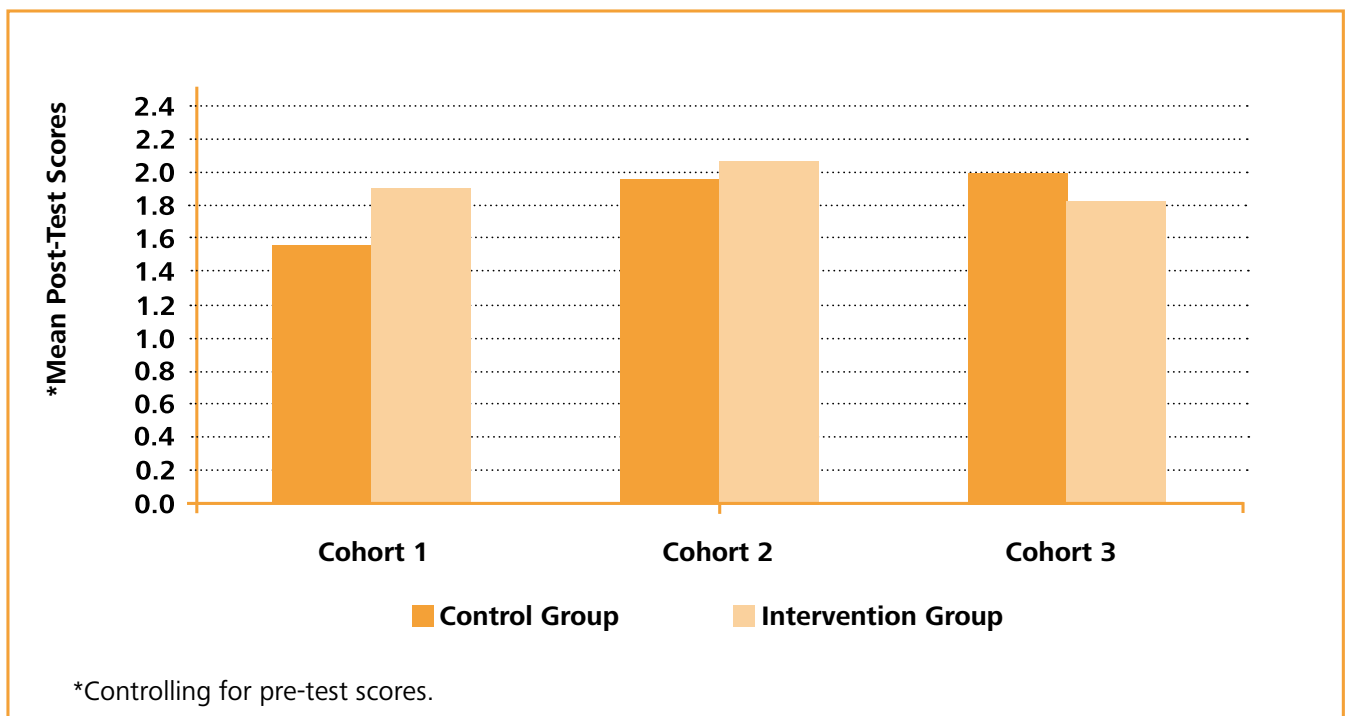
4.3.3 Family Affluence/Poverty

There was no evidence to suggest that differences in the children's family affluence/poverty influenced the outcome on any of the primary or secondary measures.

4.3.4 Ethnicity

Overall, 16% of the children in the sample were defined by teachers as coming from a minority ethnic background. There was no evidence in relation to the primary outcomes on literacy ability that the programme worked differently according to the child's ethnic background. In relation to the secondary outcomes, one outcome measure was statistically significant – family library activity ($p=0.029$) – and teacher rating of concentration and behaviour problems was of borderline significance ($p=0.056$). While this suggests that the programme may be working differently for different ethnic groups, due to the small numbers of ethnic minority children in the sample, these results should be interpreted with care and too much reliance should not be placed on them.

In terms of family library activity, the parents of children in the intervention group were more likely to report increased library activity and this was particularly true in the case of minority ethnic children who attended *Doodle Den (see Figure 4.4)*.

Figure 4.4: Adjusted post-test scores for parental-reported family library activity, by ethnicity

*Controlling for pre-test scores.
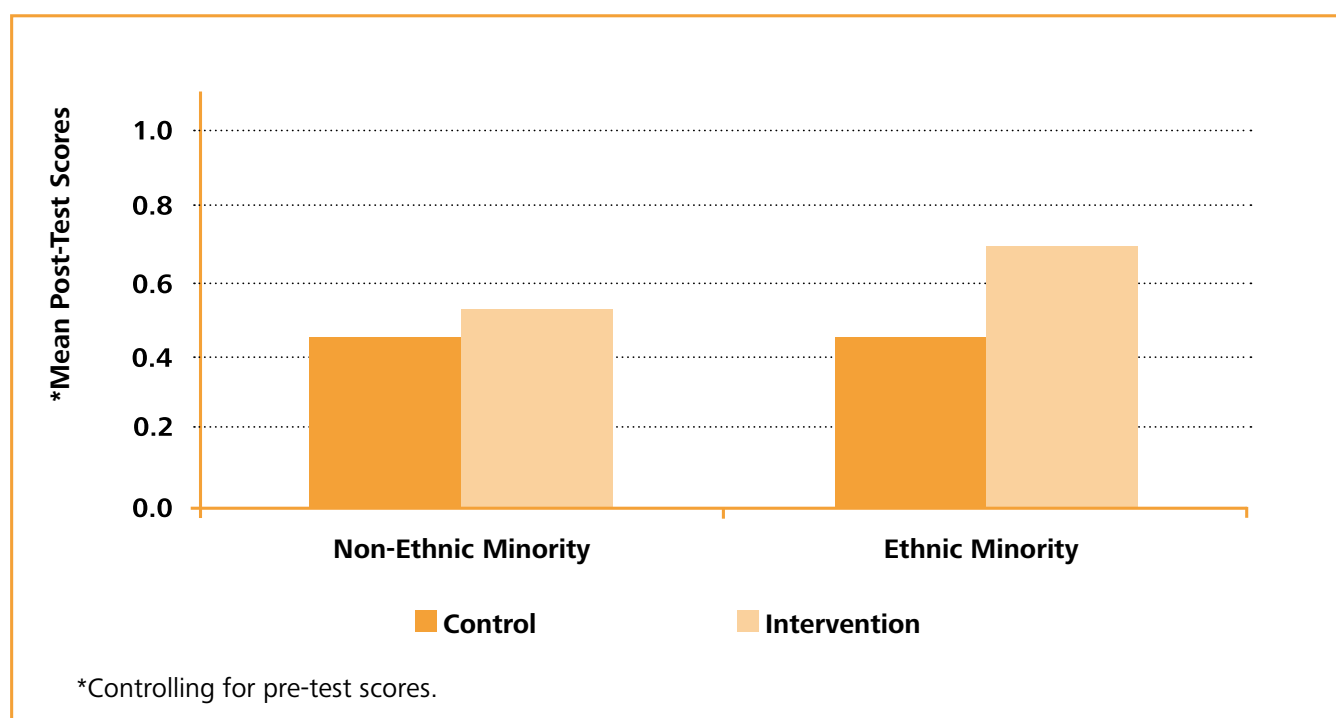
In relation to the differences in teacher reports of concentration and behaviour issues in class according to ethnic group, the predicted post-test scores suggested that children who did not attend *Doodle Den* from a non-ethnic minority background were more likely to have higher levels of these behaviours, compared to both their respective intervention group and the two groups of minority ethnic children (control and intervention) whose scores were similar. In other words, ethnic minority children in general seemed less likely to display these problem behaviours and the programme appeared to reduce these behaviours among the non-minority ethnic children who attended the programme in line with the scores of the ethnic minority children *(see Figure 4.5)*.

Figure 4.5: Adjusted post-test scores for teacher-reported concentration and behaviour in class, by ethnicity

*Controlling for pre-test scores.
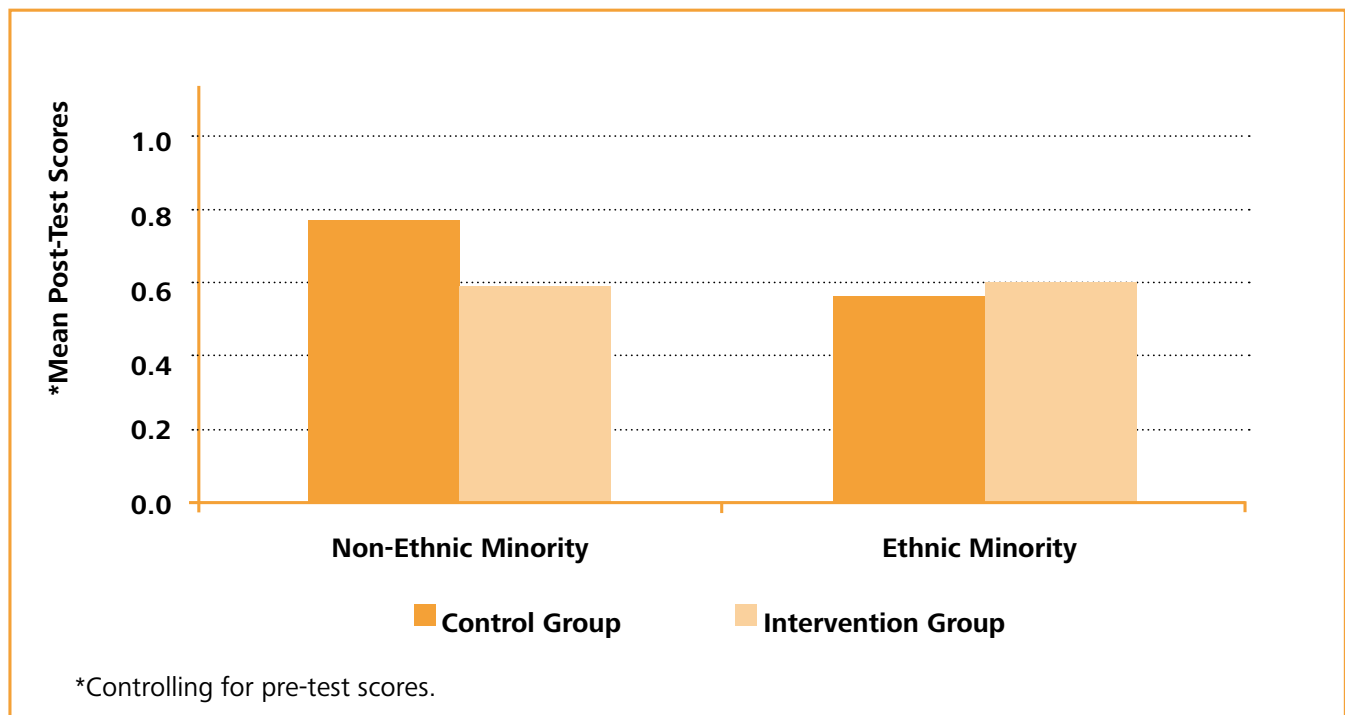
4.3.5 Number of *Doodle Den* sessions attended

The programme facilitators were asked to keep a weekly register of children who attended the programme. Children who received the intervention attended an average of 63 sessions (SD=21.29), which equates to an average contact time of 95 hours additional literacy activities over the course of the school year. The minimum number of sessions attended by a child was one and the maximum was 88. The maximum number of sessions a child could have attended ranged between 67 and 89, depending on the delivery setting.

The analysis found evidence that the greater the number of sessions attended by the children, the greater were the gains in overall literacy ability (p=0.033), writing ability (p=0.005), attendance at school (p=0.000) and the teacher rating of the child's literacy skills (p=0.027). The measure of the children's word recognition was also of borderline significance (p=0.053).

No evidence was found that greater attendance at *Doodle Den* impacted on sentence structure, word choice, concentration and behaviour in class, or any of the parental report measures.

Figures 4.6 and 4.7 illustrate how overall literacy ability and teacher-rating of literacy ability increased with the greater number of sessions attended.

Figure 4.6: Adjusted post-test scores for child's overall literacy score, by number of *Doodle Den* sessions attended

*Controlling for pre-test scores.
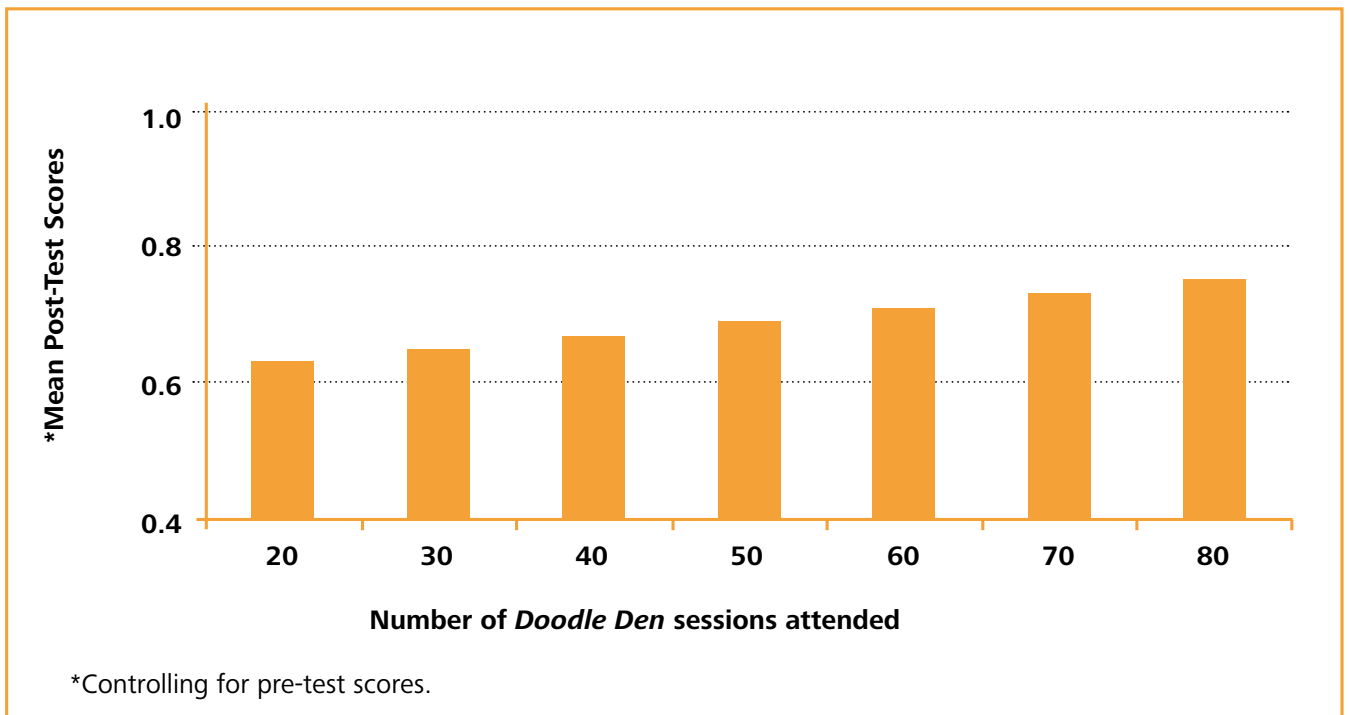
Figure 4.7: Adjusted post-test scores for teacher-rated literacy ability, by number of *Doodle Den* sessions attended

*Controlling for pre-test scores.
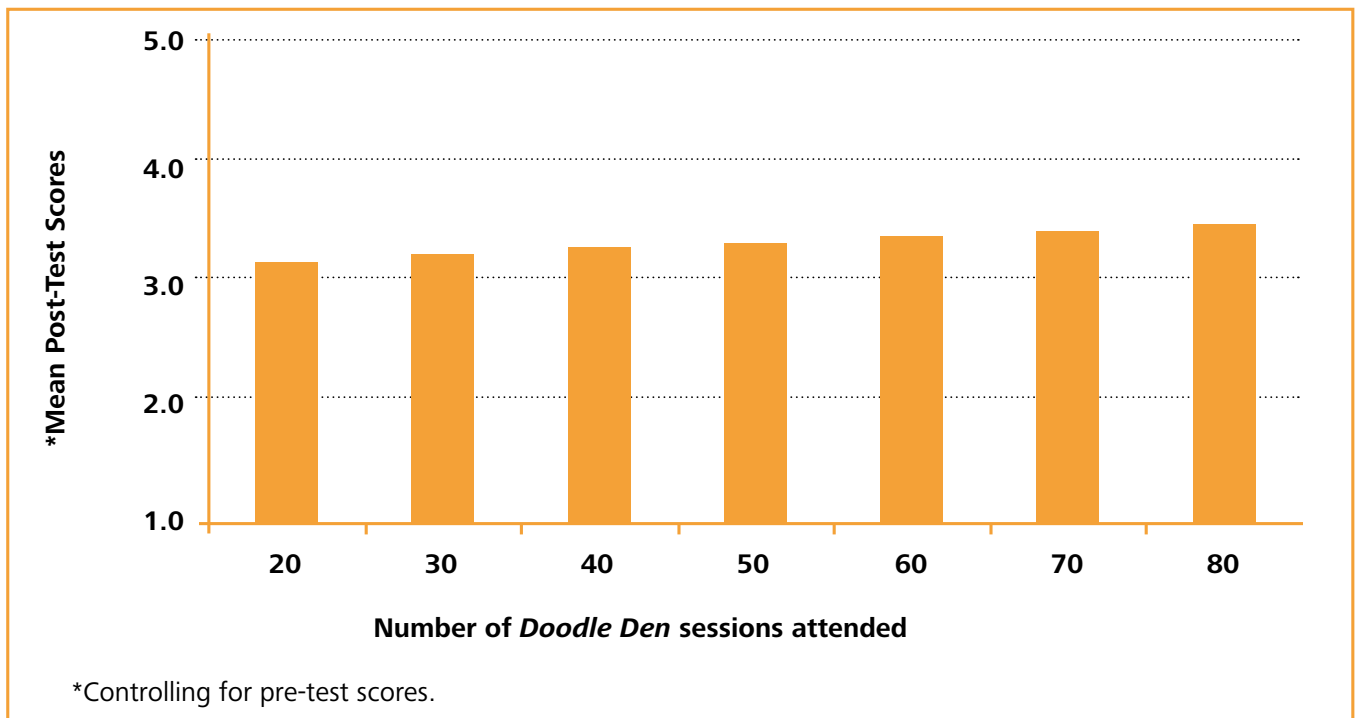
Chapter 5: Process Evaluation

5.1 Introduction

As well as the randomised controlled trial (RCT), a process evaluation was also conducted, which involved the analysis of in-depth interviews and focus groups, site observations and documentation. Given the very detailed nature of the interview and focus group data, coupled with evidence from the in-depth observational data, these will form the main framework of this chapter. The interview and focus group data were rich in terms of the length, depth and level of discussion and the number of interviews conducted across all of those involved in *Doodle Den*.

In total, 28 people were interviewed: 15 facilitators, 7 principals, 2 service providers, 3 members of CDI staff and the local librarian. In addition to this, approximately 15 parents and 15 children were involved in the focus groups. In the following discussion, where facilitators, principals, service providers or CDI staff are quoted, their words have been taken from interview transcripts; similarly, quotes from children or parents have been taken from their focus group interviews. The interviews, focus groups and observations also presented a level of saturation (i.e. repetition of issues from previous interviews and previous analysis of documentation) that made it unnecessary to include a detailed analysis of the documentation.

The interview and focus group findings are presented in the following sections in order of the most frequently talked about aspects. For example, the most prevalent area discussed was the manual/programme content and approaches used in the *Doodle Den* programme *(Section 5.2)*. This discussion is followed by the next two most frequently discussed aspects: impact of the *Doodle Den* programme on the children involved *(Section 5.3)* and findings on the facilitation of *Doodle Den (Section 5.4)*. Interview and focus group findings related to the impact of CDI's involvement *(Section 5.5)* and information on the parental element of *Doodle Den (Section 5.6)* are then presented, along with the improvements noted by interviewees *(Section 5.7)*. The interview and focus group findings are presented with illustrative quotes in an attempt to keep the sections brief; however, further quotes are given under each Section heading in Appendix 2. The final two sections relate to findings from the site observations *(Section 5.8)* and client satisfaction survey *(Section 5.9)*.

It is important to note that the interview and focus group data presented represent the *views and perceptions* of those who were interviewed and have not been extrapolated beyond that in order to prevent assumptions being made from the data.

5.2 Manual/programme content and approaches

The majority of references to the *Doodle Den* manual/programme content outlined by interviewees was positive. The main issues reported related to timing and fidelity, including the lack of allowance for the different levels of ability within the groups.

5.2.1 Positives of the manual/programme content and approaches

Respondents, who had different levels of interaction with *Doodle Den*, were most positive about the overall structure of the *Doodle Den* manual and about specific elements in the manual and sessions.The most frequently mentioned elements were PE, writing, centres, art, the 'fun elements', stories/reading and snack time. In terms of the approaches used in *Doodle Den*, interviewees were very positive about the great variety of methods used (including 'using computers'), that *Doodle Den* is active, that there is great variety in the programme and it also involves many social aspects. A few of the positive comments related to the viewpoint that *Doodle Den* supports existing school work and almost all of the school principals said that they would recommend *Doodle Den* to other principals.

"I found it's great to have it [the manual] because you have a complete outline, you know what you want to do, you can look at it in advance and you know what you need to get ready. So I found it very good, very helpful."

(Service provider)

"What's in the manual seems to be working well. It's so structured that you know exactly what you're doing and that's the wonderful thing about it. I have to say it's a wonderful asset to the school."

(Principal)

"I think all of the different aspects mixed really well together because, you know, there is the academic side of it, there's also the fun side. Each week, they do PE on a Tuesday, drama on a Wednesday, art on a Thursday, you know, and the kids really look forward to those parts of the programme. Every day we also do centres, which are like little stations of different educational activities … like water painting and painting words. They were writing, being word detectives around the room … looking for different words. They don't see it as learning."

(Facilitator)

"Me playing the computer (favourite bit) … because we can play games on it."

(Child)

"They have their snack and that, and there's great importance to that as well for them, to chat socially and have manners round at a table."

(Principal)

5.2.2 Issues with the manual/programme content and approaches

The most frequently mentioned issue, by far, in terms of the manual was timing. Fidelity to the manual and lack of guidance on differentiation were also cited as major issues. Comments related to timing included the time needed to move children to the *Doodle Den* room/site, the level of content in *Doodle Den*, no time allowance for behaviour problems, that some activities take longer than others, and no time for transition between activities. With reference to fidelity, almost all facilitators talked about making small changes to the manual content and that they do not follow it 'exactly' for a number of reasons, namely to suit different children, that people have different 'approaches' and because of time constraints. Almost every facilitator and two of the CDI staff mentioned issues with a lack of differentiation for the differing abilities of the children within the *Doodle Den* manual. According to the facilitators, this standardised approach was found to be problematic and resulted in changes being made to the specified delivery.

A few interviewees also talked about some of the approaches. For example, it tended to be the service providers and principals who were particularly positive about the writing aspect, while a number of facilitators were more negative about this element and how difficult it was to implement in terms of time and how it was a struggle for many children of this age. Repetition of big books and the fast pace of the sessions were also mentioned as issues.

"The practicality of allocating 20 minutes to an art lesson when it takes them 20 minutes just to cut the thing out. Our art lessons always went on to the next day. There's definitely some things that need to be looked at it in terms of the timing."

(Facilitator)

"In terms of fidelity to the manual, some things were skipped and I know others were doing that too. There just wasn't time in the allocated spot for that."

(Facilitator)

"Say there's a child who's upset or acting up at the start, then there's no kind of [time] allowance for it."

(Facilitator)

"I don't think it's as interactive as what we were first led to believe because when they're doing the shared writing and the independent writing, they can be there for a long time."

(Facilitator)

"I just think it's a skill of any facilitator or teacher to differentiate. I think people do it naturally because they feel maybe guilty about it or unsure of how far to go with a manual, I suppose. But the fact is, if a child cannot do their letter formation, there is no point in getting them to copy out things when you haven't done that part first."

(Facilitator)

5.3 Impact on children

When asked about the benefits of *Doodle Den* for the children involved, responses related mainly to literacy skills and abilities. There were some issues raised around how suitable *Doodle Den* is for all children, e.g. for less able children and children with behavioural problems.

5.3.1 Positive impact on children

The majority of comments related to the very positive impact on the children and focused on the improvement in children's literacy skills, knowledge and abilities, as well as the children's enjoyment, improved social skills, enhanced confidence and noticeable differences between those who attended *Doodle Den* and those who did not.

> *"I can see it, you can see it in his grammar, his writing and all. His writing and his reading. He has started reading out stories and all. He would never have done that before."*

(Parent)

> *"[We] learn stuff and read stories. We learn words, new sentences. We learn phonics."*

(Child)

> *"Their speech, their work, everything flies along brilliantly … their confidence, their person, confidence, everything."*

(Parent)

> *"There would be huge changes in the half of the children in my class [who received Doodle Den] and the half in the Senior Infants class, and you can notice straightaway the differences. It's huge absolutely."*

(Facilitator)

5.3.2 Potential challenges to the impact of *Doodle Den* on children

About a third of the comments related to the impact of *Doodle Den* on the children involved were less positive and highlighted that *Doodle Den* is not suitable for less able children and children with behavioural issues. Quite a few interviewees also talked about how *Doodle Den* makes the day too long for children of this age group and that they are too tired for it after a full day at school.

> *"I have to say, as an experienced teacher, I was finding them very difficult to manage because a lot of them were having difficulty with what was in the manual, but they were all so exhausted. I think five out of that group attend the emotional support teacher and for very specific problems at home and very short attention spans. And these were the group of children that were being sent down there. I would question how you can justify putting all those children in the one room to learn because I definitely think some children ruined it for others and it's a tough enough manual as it is just to get through."*

(Facilitator)

"It's tiring, it's hard to … keep up the pace and the enthusiasm and energy and to make it fun for them and I think they're even more tired than we are. It was promoted as this fun thing, which it is in as far as possible. But it is an hour and a half of intensive work, so you're doing it in a fun way but it's still work. Some of them are not able for it. I think it does depend on the group. We've a group and a little boy keeps falling asleep all the time, he's sitting and his eyes keep dropping. But they're very rowdy this bunch, we've never had this before. These children enjoy the club, but they just want to chat all the time."

(Facilitator)

While there were clear issues with the suitability of *Doodle Den* for all children, evidence from the interviews and focus groups clearly demonstrates that the majority of people involved report that *Doodle Den* has a positive impact on children's literacy levels, enjoyment and attitudes to schools and learning.

5.4 Facilitation of *Doodle Den*

Facilitation of *Doodle Den* was talked about positively and negatively, in equal measure. The main positives related to the co-facilitation of the programme by youth workers/childcare workers and teachers. A childcare worker in this context refers to staff with experience of working in a nursery or crèche. The majority of the teachers' co-facilitators were youth workers, although childcare workers were co-facilitators in two of the settings.

5.4.1 Positive elements – youth worker/childcare worker and teacher combination, approach to their work

Interviewees were very positive about the youth worker/teacher combination and communication between them. For example, the youth workers and teachers work well together and bring strengths from their two different backgrounds (youth work/childcare and teaching), which appeared to be a good combination.

"[It's] great because it takes the focus off the temptation to fall back into classroom teaching because that's what teachers do. I'd be the first to admit it. I think it's a lovely balance because the teacher knows how to implement the manual, but the youth worker balances it out by it not becoming a classroom session."

(Principal)

"You could even bounce ideas off someone, which was brilliant, and even to reflect on your work – what worked well and what didn't."

(Facilitator)

"The calibre of individuals – I am very pleased and happy with their level of professionalism. It runs itself really."

(Principal)

5.4.2 Negative elements – Youth workers' previous experience and training issues

The majority of negative comments on the facilitation of *Doodle Den* were related to training issues and the involvement of youth workers in the delivery of the programme. These comments centred on the youth workers' reporting a lack of experience with children of this age and with teaching literacy, coupled with (according to the facilitators) inadequate training to carry out these roles. These comments came from the youth workers themselves as well from their co-facilitators, service providers and a few principals. It is important to note that the manual refers to co-facilitation as 'working in partnership' and highlights the benefits of this. The job description outlined in the manual also states that both facilitators are responsible for 'co-facilitating all the sessions of the literacy programme and ensuring fidelity of service delivery to the *Doodle Den* Manual' (O'Rourke *et al*, 2008, p. 429).

The demonstrative quotes below *(and see also Appendix 2)* suggest that, *whether or not it was intended*, both teachers and youth workers/childcare workers understood that they should both be able to deliver all aspects of the programme.

"All I'm suggesting is that the youth workers should be trained. They have their own qualifications behind them, but no experience of working with small children and I would say that in particular about the people that were working with me. They said they've only worked with teenagers, but working with small children requires a very different set of skills and even an awareness that you can't say to a group of 15 children 'Now go and get your coats on'. That's going to cause mayhem in a doorway and people are going to bang into each other. I felt I had to constantly be on top of what the youth workers were saying."

(Facilitator)

"I'm not convinced that the staff up there have that kind of understanding and awareness of working with very young children. Particularly, again, coming back to children who are struggling readers, they may need that little bit of extra warmth and affection and cuddly time if you like – down time."

(Principal)

"The ideology was that the youth workers or childcare workers would bring this different element of the programme than the teachers, but there is no time for 'X' to share her skills or her methods. It's teaching. I don't know what their vision was, but it is purely teaching and they don't get a chance to bring anything that might be different."

(Facilitator)

"I said that for the whole first year of it and up at the COP [Communities of Practice] meetings and I felt like a fool because I was the only one that was saying – I can't do this, I don't know how to teach, I don't know what phonics or sight words are."

(Facilitator)

"I started here the first year. I had no phonics training, no word training, I had no teaching training. I've picked it up along the way. I didn't get any training … It was like learning from the ground. OK, I can do phonics now. I can do sounds now. It's [the training] still not [supplied] … and we're still told to share the work equally. I would say the girls I was working with are fine and I can now do a shared writing activity. But it was very unfair on the people. If there's two first years and one of them has got the youth worker experience, but yet they're still told to share, balance the work out."

(Facilitator)

5.5 Impact of CDI's involvement

Service providers, principals and facilitators were asked about how they found the support from CDI. Both service providers and four of the principals were positive about the support they received from CDI and, in particular, they were positive about communication with CDI. For example, the professionalism, how quickly CDI responded to queries/problems and how well informed they felt. Throughout the interviews, participants talked about the Communities of Practice (COP) meetings when they considered CDI's involvement. The majority of discussion on the COP meetings related to negative issues. For example, facilitators talked about how a few people dominate these meetings and that the content is repetitive, not useful and time-consuming. In particular, four facilitation teams talked about the issue they have with peer presentation/demonstrations, to include being video-recorded. However, the other four teams talked about the benefits of peer presentation, sharing good practice and how useful the video recordings were.

"I found that anytime I want anything or want to get extra information, I can ring 'X'. She would be my main contact, so she'd always keep me informed of whatever was happening."

(Service provider)

"I don't know if anyone else brought it up, but sometimes the COPs felt like an AA [Alcoholics Anonymous] meeting, where people would just be complaining about various things and I remember leaving a good few of them, going 'That's two hours of my time completely wasted'. I didn't gain anything from it."

(Facilitator)

"Another thing I would like to say about the COPs was the demonstration: a lot of the time we had to demonstrate back to our co-workers how we would do something. Again having to show someone how I'd read a big book. I shouldn't have to do that. I found it very intimidating in front of adults doing that. I know I'm a teacher, but I teach small children and I find it very hard to do that in front of adults and I was very stressed out at the beginning in a lot of those COPs at the thought of having to stand up and perform in front of all these peers."

(Facilitator)

"[The videos are] not too bad, I suppose it depends on who you are. Some people will be comfortable, some people will be uncomfortable. I didn't find it too bad. You're always putting yourself out there with your peers and you're up for judgement. But because I appreciate seeing other people doing it, I know that other people will get something out of it. Even if they're looking at you and saying that's how I wouldn't do it, then that's learning something."

(Facilitator)

5.6 Parental involvement in *Doodle Den*

Parents were very positive about *Doodle Den* and could see the value in it. Principals also reported that parents were very positive about *Doodle Den* for their children and have seen the value as time goes on. References to the manualised sessions for parents were also very positive. Respondents were positive about the library session, felt informed about what their child was doing in *Doodle Den* and had good relationships with everyone involved.

"I think starting off, it was slow to start off getting parents involved. As the programme progressed, the involvement of parents increased. Their commitment to it seemed to increase and I thought that was a very important part of it – that the parents actually saw it as something worthwhile. They want to get their children into Doodle Den."

(Principal)

"I know the parents have gone on the library visits and they've done a few things like that and all the celebrations they have. It is celebrating the positive because some of the parents themselves do have poor literacy and will have had their own negative experiences of school. But they're all very positive about the Doodle Den experience."

(Principal)

"But it's only when it's something really important that they call us in and give us all the papers and stuff like that. It's not at all babyish, you know like. It's about 20 minutes. You find out what you need to find out and that's you."

(Parent)

5.7 Improvements with time

Four principals, three facilitation teams, the librarian, both service providers and all three CDI staff members talked about improvements in some aspects of *Doodle Den* since the programme began. Some respondents reported that there have been improved relationships with schools, parents and their involvement, as well as parents seeing the value of *Doodle Den* as time has gone on. Some interviewees reported improvement with delivery over time, greater confidence and knowledge of the manual.

"I suppose it's helped us build relationships with the schools. We're in the school three days a week now and so they've got to know us and we've got to know them. I think there has been good appreciation on both sides for what we're at. There would be a certain spin-off into other programmes because some of them would have children involved in other programmes here."

(Service provider)

"Well, as I said, because of the approach to including parents and involving parents in their children's work, anything like that changes the parents' attitudes towards school and they see the value of learning and of education and it increases interaction between teachers and parents. It's a general trend here that parents are becoming more involved in learning in school and buying into it. Doodle Den does that."

(Principal)

"I think the programme as a whole really has gone very well. I've been doing it now for three years and I'm more comfortable with it now than I was in the first year and I feel that I'm better equipped to deliver the programme now than I was when I first started. There were a lot of unclear areas when we began the programme back in 2008, things like what were centres – there was no clarity over what they were, how we were to set them up, how we were to deliver them. This year, coming into the programme we knew exactly what every element was and it was much easier to facilitate, even accessing the different parts of the programme, like the shared writing moving into the independent writing and even drama was an area I became more comfortable with this year. But it's taken a while to get to that place."

(Facilitator)

5.8 Site observations

Detailed site observations were conducted during a full session at all 7 sites where *Doodle Den* was being held. The observation schedule involved observing and collecting information related to the location/space being used for the programme, a breakdown of the overall content in each session (recorded with a breakdown in time allocations and related to the manual) and information on various aspects of teaching, learning and assessment.

5.8.1 Location/space

As part of this observation schedule, information was collected on the location and space available for delivery of the programme. Table 5.1 outlines the differences between sites in terms of location, whether or not *Doodle Den* had a dedicated space and the size of the room being used.

Table 5.1: Information, by site, relating to location, space and room size

Site particulars		School						
		A	A/G	B	C	D	E	F
Location	Same school site (same building)			✓	✓	✓	✓	✓
	Out-of-school site	✓	✓					
Dedicated space	Dedicated space	✓	✓		✓	✓		
	Shared room with space to put up work						✓	✓
	Shared room with no space to put up work				✓			
Room size	Small space (not enough for moving/running)		✓			✓	✓	✓
	Constricting space (2/3 main activities, no running)			✓	✓			
	Large space	✓						

The majority of groups were based in school, in the same building where the children attended school. Two groups attended sessions at an out-of-school site, both of which had dedicated rooms. Two of the school settings also had a dedicated space. Interview and focus group participants were also asked about their *Doodle Den* site. Evidence from the interviews would suggest that there was a general preference for a dedicated *Doodle Den* space on the school site. This was because interviewees involved with the in-school sites were more positive when they had a dedicated space (not a classroom) and those involved with the out-of-school site talked about the time taken to walk the children there. A few interviewees commented on the unsuitability of the out-of-school site for children of this age. The children themselves talked about issues with the toilets being 'too big'.

"The first year we were in one of the teacher's classrooms, so it was very chaotic trying to move things around and then the following year we had a Doodle Den area. So this year actually having a Doodle Den room is so much better. The kids feel that this is theirs and their space."

(Facilitator)

"Child 1: The funny bit. I don't like the toilet … because you have to go up to the toilet and then you have to go outside again.

Child 2: Because you always have to go up and down, and then if you want to go to the toilet you have to go up and down again.

Child 3: You have to jump up for the soap."

(Children)

Those facilitators who had small or constricting spaces were nonetheless mainly positive – this did not appear to be focused on as much as the benefits of a dedicated space in the school. This is perhaps because the majority of these facilitators were able to take the children to the school hall to play games requiring more space and to complete the PE section of the manual.

5.8.2 Session content *versus* manual outline

For all of the observations, a detailed record of the time spent on each activity was recorded (for example, '2.15-2.20 – for sight word (YW), sentences with it'). These observation records were compared to the outline given and the specified times outlined in the *Doodle Den* manual. Table 5.2 presents details on the setting-up time and activities that were given extra time, less time or were missed out completely. The number of children collected early, from the observed sessions, is also recorded, given that they would have missed activities. The information is presented per session and does not represent the frequency of behaviours noted during observations.

Setting-up time varied between sites and the amount of time spent on specified manual activities also varied. The 'centres' and 'snack time' activities were most frequently recorded as taking longer than proposed in the manual: in 4 out of 7 sessions observed the 'centres' ran over, and in 3 out of 7 sessions observed the 'snack time' ran over. On the other hand, the 'art/drama/PE/music' element and 'snack time' activities were most frequently allocated less time than stated in the manual: in 4 out of 7 sessions observed the 'art/drama/PE/music' element was allocated less time, and in 4 out of 7 sessions observed the 'snack time' was allocated less time. It would appear that 'snack time' and the more practical elements of the sessions 'art/drama/PE/music' and 'centres' were the most difficult activities to manage with respect to time. It is also important to note that 'art/drama/PE/music' was missed out completely in 2 out of the 7 sessions observed. Furthermore, it is no coincidence that 'art/drama/PE/music' was frequently allocated less time given that it is the final activity outlined in the manual for each session. 'Independent reading' was also missed out in 2 out of the 7 sessions observed; perhaps this is another activity which was difficult to fit into the allocated time slots in the manual. Issues with activities running over, being allocated less time and being missed out completely were not just obvious in the observation data, but were also very frequently mentioned in the interview data *(see Section 5.2.2)*. The management of time and time allocated to particular parts of the *Doodle Den* session is something which needs to be addressed in the future implementation of the *Doodle Den* programme.

Children were collected early from 4 out of the 7 sessions observed. On one occasion, a total of 5 children were collected early (one child 25 minutes early and 4 children 15 minutes early). On another occasion, 3 children were collected 15 minutes early and in another site 4 children were collected early (3 children were collected 30 minutes early and one child 10 minutes early). Given the frequency of observed instances of children being collected early and the subsequent amount of time missed, this is an issue which should be addressed for future *Doodle Den* sessions.

Table 5.2: Details of time spent on activities outlined in the manual, as well as the number of children collected early

School site	Setting-up time	5 mins more	10 mins more	25 mins more		5 mins less	10 mins less	Activities missed out		No. of children collected early
School A	up to 5 mins	Centres Game				Snack* Sight vocab.		Music/PE		5 (1 = 25 mins early, 4 = 15 mins early)
School A & G	up to 5 mins	Centres	Shared writing				Snack* Art			3 (all = 15 mins early)
School B	6 to 10 mins			Sight vocab.			Snack* Drama			1 (35 mins early)
School C	unknown	Phonics Sight vocab. Centres	Snack*			PE		Independent reading		0
School D	>15 mins	Snack* Centres								4 (3 = 30 mins early, 1 = 10 mins early)
School E	6 to 10 mins	Phonics				Snack* Indep reading Indep writing		Music		0
School F	>15 mins		Snack*			Shared writing Art Centres		Independent reading		0

* This includes children signing in and a 'message' (e.g. Today is …)

5.8.3 Teaching, learning and assessment

The observation schedules set out to consider quite a few aspects of teaching, learning and assessment during *Doodle Den* sessions. These can be summarised as: positive discipline and ethos, facilitation, using a variety of skills and strategies, effective questioning, differentiation and assessment, and interaction with parents. All of these aspects were commented on for every setting and are summarised below.

In all of the groups, facilitators worked hard to focus on positive discipline through the use of setting clear expectations for behaviour and using lots of positive praise. It should be noted that youth workers tended to tolerate more instances of challenging behaviour before intervening. However, it was also observed that youth workers tended to follow the teacher's lead in terms of dealing with challenging behaviour. Youth workers also spent more time talking to disruptive children and reluctant children on a one-to-one basis in an attempt to keep them on track. Overall, the blend of positive discipline from the teacher and the one-to-one attention from the youth worker worked very well in the majority of sites. In general, it was observed that the children's behaviour was more challenging in the out-of-school sites. This could be related to a number of factors, such as issues with location/space *(as outlined in Section 5.8.1)*.

The facilitation was balanced in the majority of sites, in the sense that both facilitators contributed equally and utilised different types of co-facilitation. These were (in order of the most prevalent approach):

(1) The teacher and youth worker/childcare worker led separate parts of the session, while their co-facilitator supported them by working with the children. The teacher mainly led the focused literacy parts (phonics, shared writing, story reading and discussion).

(2) The teacher and youth worker/childcare worker led separate parts of the session, while their co-facilitator supported them by working with the children. They shared the lead for the focused literacy parts and mutually contributed at times.

(3) The youth worker/childcare worker supported the teacher by working with the children as the teacher led the majority of the individual sessions.

The prevalence of these patterns of co-facilitation were supported by evidence from the interview data, namely that the teachers and youth workers/childcare workers worked well together, but the youth workers/childcare workers had less experience and felt they were not sufficiently trained to co-facilitate every part of *Doodle Den*, something which facilitators perceived as an expectation of the delivery *(see Section 5.4.2)*. Examples of this include the focused literacy parts (phonics, shared writing, story reading and discussion).

A great variety of skills and strategies were observed across the *Doodle Den* sites. For example, explaining, questioning, modelling and demonstrating were observed in all 7 sites. In particular, a wide variety of questioning styles were used to include probing, asking for opinion, recall, compare, predictive, summarise, describe/retell and evaluative questioning. Higher order questioning was used less often in some sites (e.g. compare, evaluate). However, it is important to note that the layout of some sessions (e.g. a focus on independent writing) did not leave enough time available for much questioning. Again, this is related to one of the main issues with the manual/programme – the timing issue *(see Section 5.2.2)*. All sites also included whole class, small group, paired work and collaborative learning. In this context, collaborative learning is taken to be that the children are learning something together and are working on the one task and are depending on and accountable to each other. There is a distinction between paired/group work in the sense that children can be paired or grouped but are still working alone and not interacting with their peers. The centres were excellent opportunities for effective group work. Collaborative learning was used less often, but was very effective when it was observed.

The resources and available space were used very well, sometimes very creatively. For example, use of a puppet to motivate, using children's own paintings to practise describing, use of a reward chart, use of computers/laptops to keep some children's attention, use of the 'author's chair'. In sites with small or constricting spaces, facilitators still made great use of the space available. They managed to move the children between spaces very effectively to break up the sessions. For example, between the carpet space and the tables and use of assembly halls for games requiring larger spaces or ICT rooms for different activities.

The management of time was particularly evident throughout the observations. Facilitators were constantly reminding each other and the children about the time. This was a particular issue during independent writing and the art/drama/music/PE parts of the sessions. These activities were also frequently allocated too much time or left out completely *(see Section 5.8.2)*. The observer frequently noted that facilitators were 'under pressure' and some were clearly struggling to fit everything in. Time issues for facilitators were particularly prevalent in groups where more challenging behaviour was evident or where there were more children with additional needs. Facilitators were under pressure to manage behavioural issues and children with additional needs, as well as attempting to cover everything. These observed trends are directly supported by evidence from the interview data *(see Section 5.2.2)*, where interviewees talked about a lack of time for moving between activities and dealing with challenging behaviour.

In relation to assessment and differentiation, facilitators had a very good awareness of the needs of individuals and had developed methods to attempt to address specific needs. Although there were no formal assessment records, it is clear that some of the tasks had been differentiated as a result of observing the children's needs. In particular, writing activities appear to have been organised with respect to children's abilities. In all of the writing sessions, observed facilitators divided the children according to ability and worked with certain groups at different times. In some observations, it was also clear that teachers were targeting different levels of questions to different children, which highlighted their overall awareness of ability and the need to differentiate at all levels. The absence of specific guidance in the manual in relation to differentiation, and the time allocated for it, was also raised as an issue in the interviews. In fact, almost every facilitator and two of the CDI staff mentioned issues with a lack of differentiation in the *Doodle Den* manual, which resulted in changes to the specified delivery. In other words, it was talked about in relation to fidelity – many facilitators felt that they could not differentiate appropriately because they were working hard to be faithful to the manual *(see Section 5.2.2)*.

In a few sites, there were also very specific strategies in place to encourage 'reluctant' children – for example, lots of praise and highlighting of the positive things they did. In one site, a Special Needs Assistant was present for one child – this improved his engagement with the programme, but he was 'separate' from the rest of the group for a considerable amount of time. During the observation and the corresponding interviews with facilitators, it was clear that those working with this child were questioning the suitability of such a programme for his needs. The suitability of *Doodle Den* for all children was also raised as an issue in the interviews *(see Section 5.3.2)*.

Interaction with parents was generally very positive and many facilitators made extra efforts to speak to specific parents about, for example, how well their child had done today. This was particularly prevalent for children with challenging behaviour and those who were reluctant to take part. Parents arrived early to collect children in 4 out of the 7 sessions observed *(see Table 5.2)*. For the most part, the parents came in, collected the children and left promptly. However, in one site the parents entered the room 15 minutes before the end of the session and began chatting among themselves; this brought the session to a close. In the majority of sites, the children were taken out to their parents at the end of the session (e.g. to a forecourt or the front door of the school). This worked much better since facilitators could complete their work. However, the early arrival of parents was handled in a very positive way in one session: two parents arrived early and joined in the final activity – this was very effective and really motivated these two children in the final 10 minutes and their parents' pride was obvious. The other children and the facilitators also completed the entire session, with the parents taking part. Dealing with the early arrival of parents and children being collected early is definitely an area which requires further consideration for future *Doodle Den* cohorts.

5.9 Client Satisfaction Questionnaire

The initial findings from the Client Satisfaction Questionnaire (Cohorts 2 and 3) are presented below. This survey was conducted among those children involved in the *Doodle Den* programme (intervention group) and focused on their viewpoints on task ('Client Satisfaction Questionnaire'), learning environment/classroom behaviour ('My Class Inventory') and facilitator dispositions ('Facilitator Checklist'). Response rates to the survey were 93% (N=94) of the Cohort 2 children and 89% (N=94) of the Cohort 3 children. Factor analysis was conducted on each scale (Client Satisfaction Questionnaire, My Class Inventory and Facilitator Checklist) to check the correlation between the items. A number of low loading items were removed from the 'My Class Inventory' scale (8 out of 33 items) and the 'Facilitator Checklist' (4 out of 10 items).

As a measure of the internal consistency of the scales, Cronbach's alpha was calculated for each scale used within the Client Satisfaction Questionnaire. Table 5.3 presents the reliability co-efficient for each of the scales. As can be seen, the reliability of measures is good, with all of the scales having an alpha coefficient of 0.80.

Table 5.3: Reliability of the scales used in the Client Satisfaction Questionnaire

Scale	Reliability co-efficient (Cronbach's alpha)
Client Satisfaction Questionnaire (CSQ-8)	0.80
My Class Inventory	0.80
Facilitator Checklist	0.80

The majority of children seem well satisfied with what happens in the *Doodle Den* sessions. Children in both cohorts responded positively to every item related to task ('Client Satisfaction Questionnaire'). In particular, children in both cohorts were very positive about how happy they are in *Doodle Den* (Cohort 2: 81% giving positive responses; Cohort 3: 75%), that they think *Doodle Den* is good (72% and 73% positive, respectively), that *Doodle Den* helps them with their reading (70% and 71% positive, respectively) and that the help they get at *Doodle Den* is making reading easier at school (69% and 76% positive, respectively). Children in Cohort 2 were also very positive about recommending *Doodle Den* to friends who want help with their reading (76% giving positive responses) and those who want help with their writing (70% positive). Children in Cohort 2 were more positive than those in Cohort 3 in relation to 8 out of 12 of the Client Satisfaction questions. Figure 5.1 presents the percentage of positive responses for every item on the CSQ scale.

Figure 5.1: Percentage positive responses for the questions on task ('Client Satisfaction Questionnaire')

Question	Cohort 2	Cohort 3
How happy are you at *Doodle Den*?	81	75
If your friend wanted help with reading, would you tell them to go to *Doodle Den*?	76	56
What do you think of *Doodle Den*?	72	73
How much does *Doodle Den* help you with your reading?	70	71
If your friend wanted help with writing, would you tell them to go to *Doodle Den*?	70	61
Is the help you get at *Doodle Den* making reading easier at school?	69	76
How much does *Doodle Den* help you with your writing?	68	67
Is the help you get at *Doodle Den* making writing easier at school?	67	61
How is the help you get at *Doodle Den*?	64	71
If you wanted more help with reading, would you come to *Doodle Den* again next year?	62	56
If you wanted more help with writing, would you come to *Doodle Den* again next year?	60	55
Does *Doodle Den* help you the way you want?	58	56

Percentage of positive responses
(a score of 4 or 5 on a 5-point scale)

Cohort 2   Cohort 3

55

For the most part, the majority of children were also positive about the *Doodle Den* learning environment/classroom behaviour ('My Class Inventory' scale). In particular, children in both cohorts were very positive about enjoying their work at *Doodle Den* (Cohort 2: 88% positive; Cohort 3: 85% positive), that everyone in *Doodle Den* is their friend (85% for both cohorts) and that children like *Doodle Den* (84% and 81%, respectively). Figure 5.2 presents the proportions providing a positive response to the learning environment/classroom behaviour section of the questionnaire. Children in Cohort 3 were more positive than those in Cohort 2 for 6 out of 12 of the learning environment/classroom behaviour questions.

Figure 5.2: Percentage positive responses for the questions on learning environment/classroom behaviour ('My Class Inventory')
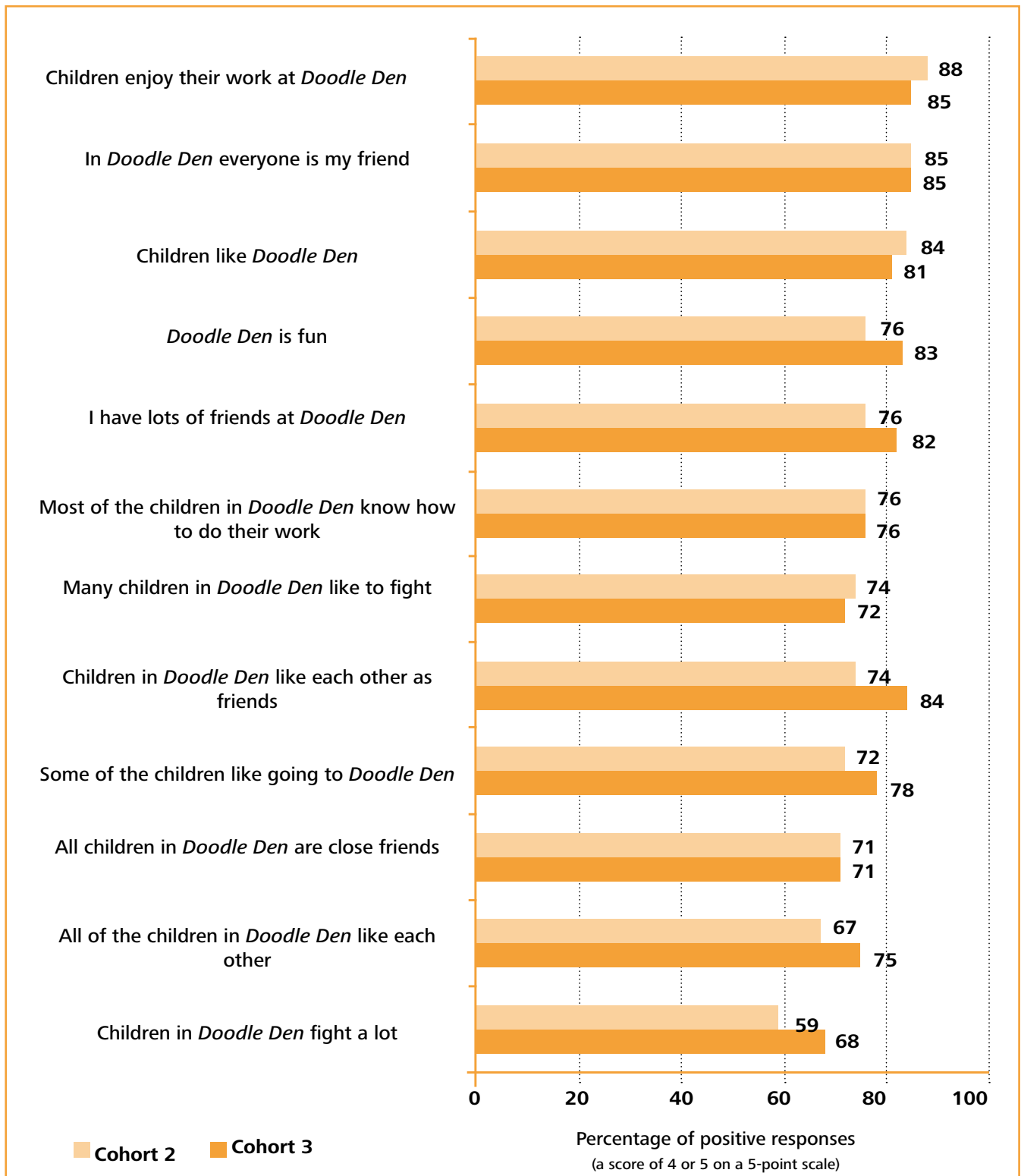
Overall, the children were very positive about the disposition of their facilitators (*see Figure 5.3*). The descriptions that evoked the most positive responses for both cohorts were 'friendly' (Cohort 2: 85% positive; Cohort 3: 79% positive) and 'helpful' (82% and 77% positive, respectively). Children in Cohort 2 were more positive than those in Cohort 3 about their facilitators for 5 out of 6 of the items.

Figure 5.3: Percentage positive responses for the questions on disposition of facilitator ('Facilitator Checklist')
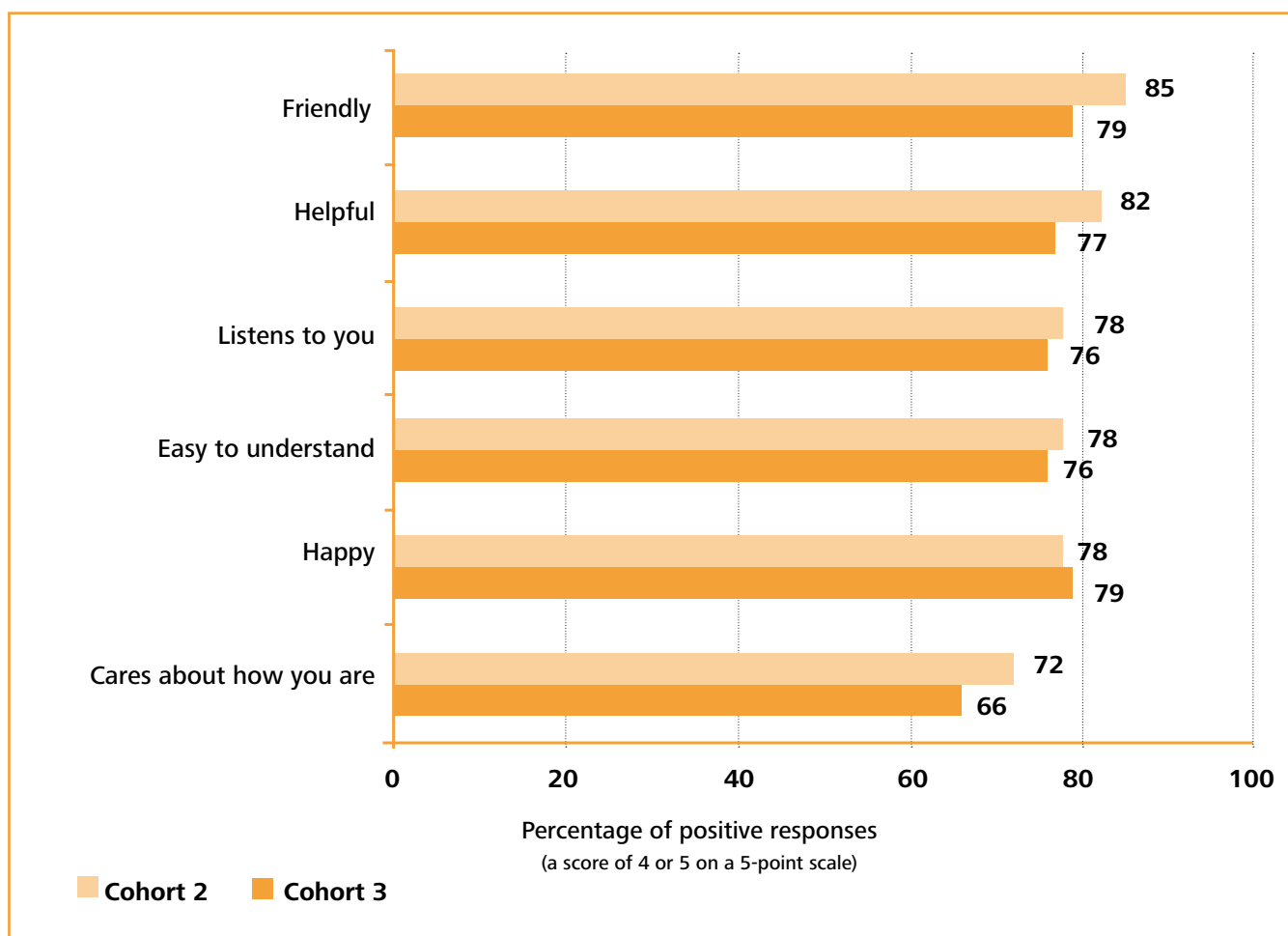
The overall means for three of the scales used for the Client Satisfaction Survey were broken down into individual schools for each cohort. Table 5.4 details the mean values for each scale, by school, for Cohort 2. Children in the School A&G group were least positive for all three scales. This would suggest that Cohort 2 children are reporting slightly different experiences with the *Doodle Den* programme, depending on which group they are in. However, an analysis of variance was conducted for each scale with respect to the Cohort 2 mean responses and the difference between the groups was not significant.

Table 5.4: Mean values for each scale, by school, for Cohort 2

Scale	Cohort 2						
	School A	School A&G*	School B	School C	School D	School E	School F
Client Satisfaction	3.74	3.60	3.98	3.76	3.87	4.03	4.17
My Class Inventory	4.02	3.63	4.33	4.14	3.68	4.47	4.31
Facilitator Checklist	3.96	3.84	4.19	4.34	3.87	4.03	4.17

* School A&G refers to the only group which comprised children from two schools. The schools were put together because School G was very small and had a smaller number of referrals *(see Section 3.3 for details on the sample)*.

Table 5.5 details the mean values for each scale, by school, for Cohort 3. No specific groups were highlighted as the most or least positive. Also, an analysis of variance was conducted for each scale with respect to the Cohort 3 mean responses and the difference between the groups was not significant.

Table 5.5: Mean values for each scale, by school, for Cohort 3

Scale	Cohort 3						
	School A	School A&G*	School B	School C	School D	School E	School F
Client Satisfaction	3.82	4.07	3.71	3.83	3.86	3.69	3.65
My Class Inventory	4.09	4.23	4.58	4.41	4.04	4.25	4.23
Facilitator Checklist	4.20	4.32	4.24	4.34	4.07	3.94	3.80

* School A&G refers to the only group which comprised children from two schools. The schools were put together because School G was very small and had a smaller number of referrals *(see Section 3.3 for details on the sample)*.

As mentioned above, Cohort 2 children in the School A&G group were the least positive for all three scales. But this pattern does not continue for Cohort 3 children in the same A&G school. The data presented in Tables 5.4 and 5.5 suggest that there is no obvious trend by site across both cohorts.

5.10 Conclusions

5.10.1 Positive aspects of *Doodle Den*

Evidence from the interview and focus group data clearly shows that those involved with *Doodle Den* were very positive about the majority of the **manual/programme**, with the exception of timing and lack of differentiation which resulted in issues with fidelity *(see Section 5.2.2)*. In particular, they were positive about the overall structure of the *Doodle Den* manual, as well as specific elements in the manual and sessions. The most frequently mentioned elements were PE, writing, centres, art, the 'fun elements', stories/reading and snack time. Interviewees were also very positive about the approaches used in *Doodle Den* to include 'using computers', that *Doodle Den* is active, there is great variety and the social aspects. A few of the positive comments related to the viewpoint that *Doodle Den* supports existing school work and almost all of the principals said that they would recommend *Doodle Den* to other principals.

Facilitation of *Doodle Den* was talked about positively and negatively, in equal measure. The main positives related to the benefits of co-facilitation of the programme by youth workers/childcare workers and teachers, as well as the facilitators' general approach to their work.

When asked about the **benefits** of *Doodle Den* for the children involved, the majority of comments were very positive and focused on improvements in children's literacy skills, knowledge and abilities, as well as the children's enjoyment, improved social skills, enhanced confidence and noticeable differences between those who participated in *Doodle Den* and those who did not.

Parents were very positive about *Doodle Den* and could see the value in it. They were positive about the library session, felt informed about what their child was doing in *Doodle Den* and had good relationships with everyone involved. Principals also reported that parents are very positive about *Doodle Den* and have seen the value as time goes on.

Service providers, principals and facilitators were asked about how they found the **support from CDI**. Both service providers and 4 of the principals were positive about the support they received from CDI and, in particular, they were positive about communication with CDI.

Several interviewees talked about **improvements** in some aspects of *Doodle Den* since the programme began. They talked about improved relationships with schools, parents and their involvement, as well as parents seeing the value of *Doodle Den* as time has gone on. Some interviewees reported improvement with delivery over time, greater confidence and knowledge of the manual.

5.10.2 Issues with *Doodle Den*

The most frequently mentioned issue in terms of the manual was clearly in relation to **timing**. Specific issues included the time needed to move children to the *Doodle Den* room/site, the level of content in *Doodle Den*, no time allowance for behaviour problems, that some activities take longer than others and that there is no time for transition between activities. Aside from timing, a few interviewees talked about some of the approaches, for example, the repetition of big books and the fast pace of the sessions.

Almost all facilitators talked about making **small changes to the manual content** and that they did not follow it 'exactly' for a number of reasons, namely to suit different children, that people had different 'approaches' and because of time constraints. Almost every facilitator and two of the CDI staff mentioned issues with **lack of differentiation** in the *Doodle Den* manual, which resulted in changes to the specified delivery.

In terms of facilitation of *Doodle Den*, the majority of negative comments were related to **training issues** and the involvement of youth workers in the delivery of the programme. These comments centred on the youth workers' lack of experience with children of this age and with teaching literacy, coupled with (according to the facilitators) inadequate training to carry out these roles. These comments came from the youth workers themselves as well from their co-facilitators, service providers and a few principals.

About a third of the comments related to the impact of *Doodle Den* on the children involved were less positive and highlighted that *Doodle Den* is **not suitable** for less able children and children with behavioural issues. Quite a few interviewees also talked about how *Doodle Den* makes the **day too long** for children of this age group and that they are too tired for it after a full day at school.

The majority of discussion relating to the **Communities of Practice (COP) meetings** related to negative issues. For example, facilitators talked about how a few people dominate these meetings and that the content is repetitive, not useful and time-consuming. In particular, four facilitation teams talked about the issue they have with peer presentation/demonstrations, to include being video-recorded.

The service providers and facilitators were negative about the **referral procedures and random allocation** as part of the RCT. Many talked about how the children in most need of literacy help were referred but not necessarily allocated, and that too many children with behavioural problems were referred and did not (or may not) benefit. There was also the viewpoint that *Doodle Den* would be best targeted at those who would benefit and progress most – perhaps 'middle ability' children. However, many of the interviewees were aware that *Doodle Den* will run during 2011-12 and were in the process of, or had completed, referral. They were more positive about the new referral process because all of the children they chose will be involved, rather than half forming a control group, and they are more aware of the level of children who will benefit most.

5.10.3 Suggested improvements

This section presents a summary of the improvements suggested by interviewees, observed in the site visits and evidence from the client satisfaction process. The evidence presented in this evaluation suggests that *Doodle Den* was generally a very positive experience for all involved. The majority of comments about the impact of *Doodle Den* were very positive in terms of children's literacy skills, knowledge and abilities, as well as the children's enjoyment, improved social skills, enhanced confidence and noticeable differences between those who attend *Doodle Den* and those who do not. However, there was an issue with children being collected early and, if this is a frequent occurrence for individuals, they will not avail of the full impact the programme could have. Evidence from the qualitative data therefore suggests that Doodle Den is a worthwhile programme for the children involved and it would be beneficial to minimise children being collected early.

Interviewees were positive about the general content and structure of the manual, as well as talking positively about specific elements. The most frequently mentioned elements were PE, writing, centres, art, the 'fun elements', stories/reading and snack time. However, it is interesting to note that the observations highlighted that 'snack time' and more practical elements of the sessions 'art/drama/PE/music' and 'centres' were the most difficult activities to manage with respect to time. It is also important to note that 'art/drama/PE/music' was missed out completely in 2 of the 7 sessions observed and was frequently allocated less time. Given that these elements were outlined as particularly positive in the interviews and focus groups, the management of time and time allocated to these particular parts of the *Doodle Den* session is something which needs to be addressed in the future implementation of the *Doodle Den* programme.

Although the youth worker/childcare workers' experience of teaching literacy to this age group was raised as an issue and the general consensus was that training was not adequate, the relationships between the teacher and youth worker/childcare worker and the positive attitude towards this combination did emerge as a particular strength of the *Doodle Den* programme. This may give a sound basis for amendments to training approaches in the future.

While there were clear issues with the suitability of *Doodle Den* for all children, evidence from the interview and focus group data clearly demonstrates that the majority of people involved perceived that *Doodle Den* had a positive impact on children's literacy levels, enjoyment and attitudes to schools and learning.

Evidence from the interviews would suggest that there were mixed views about the Communities of Practice (COP) meetings. In particular, some facilitators were uncomfortable with the peer presentation/video aspect, but others could see the merits of this approach. The COPs, therefore, and the activities utilised within them may be an area for future consideration.

Throughout the interviews and focus groups, participants also made various suggestions in relation to how they felt *Doodle Den* could be improved. It is important to remind the reader here that the interview and focus group data presented and the suggestions given below represent the *views and perceptions* of those who were interviewed. The majority of suggestions for change, in the order of the frequency with which they were mentioned, were:

- **Improvements in training** – Separate training for teachers and youth workers, with a different focus. Interviewees suggested that teachers receive training that builds on their current needs and it should not repeat what they learnt in college – facilitators felt that this was what the *Doodle Den* training entailed. It was suggested that teachers' training should be more interactive, while youth workers' training should be focused more on the delivery of the more difficult literacy aspects of which they had no prior experience. Some interviewees also suggested that further training is required in the area of co-facilitation.

- **Making *Doodle Den* more active** – To include more 'fun' elements (e.g. play, ICT, art) and more interaction.

- **Improvements to the timing (within sessions)** – In particular, more time for the activities that are difficult to fit into the allocation time (art, PE, drama, independent writing, centres). Also, 'free' time should be built into each session to deal with the unexpected and time allocated between activities to allow for the transition.

- **Updating the manual to include differentiation** – Guidance on differentiation to improve fidelity, to include less well-known books and newer ideas in the area (these were not specified, but 'First Steps' was mentioned a few times).

- **More flexibility and opportunities for variation within sessions** – Some interviewees talked about having the opportunity to try out new things, that the manual should be a 'living document' and not so prescriptive.

- **Improvements to the Communities of Practice meetings** – A few interviewees said the meetings could be less frequent, more about sharing practice and more practical.

Aside from suggesting changes, interviewees also talked about expanding *Doodle Den*. For example, interviewees recommended that *Doodle Den* be delivered to all Senior Infants, that the materials should be used outside of *Doodle Den* (as classroom practice), that the programme should be continued beyond Cohort 3, and that it would be great to roll it out in all schools. A few interviewees also talked about keeping the current management system to oversee the delivery of *Doodle Den*.

6.1 Discussion of findings

Doodle Den, as a newly developed programme, was designed to improve children's literacy and overall has received a positive response from a wide variety of stakeholders, including facilitators, school principals, parents and not least the children themselves through the Client Satisfaction Survey. When asked about the benefits of *Doodle Den* for the children involved, the majority of respondents were very positive and focused on improvements in children's literacy skills, knowledge and abilities, as well as the children's enjoyment, improved social skills, enhanced confidence and noticeable differences between those who participated in Doodle Den compared to those who did not.

6.1.1 Main effects

These perceptions are fully supported by the findings of the randomised controlled trial (RCT), which has provided strong and robust evidence that the programme has met its original aim of making moderate improvements in the children's literacy. This is evidenced not only through standardised measures of the children's overall literacy (d=+0.17, p=0.049), but is also confirmed through teacher assessment of the children's literacy ability (d=+0.28, p=0.000). The subscales of the direct measures of children's literacy showed *Doodle Den* children particularly improved in relation to the comprehension items: word choice (d=+0.26, p=0.012) and sentence structure (d=+0.3, p=0.020), but also in relation to word recognition (d=+0.17, p=0.043). While the effect sizes achieved show a moderate improvement in the children's literacy skills, one-to-one literacy programmes, such as *Reading Recovery*, have shown stronger effects; nevertheless the results achieved are in line with other RCTs of major US group-based programmes such as *Success for All* (Borman *et al*, 2007). It should also be noted that one-to-one programmes tend to be more costly and are therefore unlikely to have the same level of reach within a given set of resources. The results also add to the limited number of RCT evaluations internationally of academically orientated after-school programmes that are delivered to young children at risk of academic failure, many of which have shown null effects on the measured outcomes.

Not only did the *Doodle Den* programme improve children's overall literacy ability, but there was evidence to suggest that it also had a positive impact on improving concentration and reducing problem behaviours in school (d=-0.18, p=0.001), family library activity (d=+0.39, p=0.004) and the child's reading at home (d=+0.25, p=0.047). All the other measures, such as school attendance, were moving in a positive direction, although they failed to reach the required level of statistical significance.

6.1.2 Exploratory analysis

Exploratory analyses suggest that, overall, the programme appeared to benefit boys as much as girls and there were only minor differences in terms of year cohort, family affluence/poverty and ethnicity. The boys in particular who attended *Doodle Den*, however, appeared to derive some additional benefits in relation to their concentration and behaviour in school lessons, as evidenced through the teacher reports. Furthermore, children who attended *Doodle Den* more frequently displayed more positive gains in their literacy abilities and any attempt to improve levels of participation would likely lead to further gains.

6.1.3 Process evaluation

The process evaluation raised a number of issues in terms of fidelity and implementation. In particular, fidelity to the manual was a challenge due to the extent of activities that were planned in any given session. It should be noted, however, that the facilitators were dedicated and worked hard to maintain fidelity where possible. Differentiation was another issue and can be one that poses difficulties for manualised approaches when there is a considerable spread of abilities within a given group. While facilitators developed approaches to deal with the problem of differentiation, this could lead to some tensions with strict adherence to the manual.

Observational data also highlighted the issue of some parents collecting children early, which not only reduced the amount of the programme individual children received, but could also lead to the overall session ending prematurely. This finding also needs to be read in the context of the RCT results, which suggested that gains in literacy were associated with the amount of exposure the children got to *Doodle Den*.

Other salient issues raised by the process evaluation were the different models of co-facilitation that emerged within the youth worker and teacher combinations, the lack of experience of the youth workers in working with this age group and in particular with the academic-orientated aspects of the curriculum. While both groups of professionals brought strengths to the programme, and in most cases this combination worked well, it raised issues in relation to training and/or clarity of the respective roles.

6.1.4 Study limitations

There are several limitations to the study and these must be considered when interpreting the results. The first is that the attrition of participants may have reduced the study power to a degree where some observed effects failed to reach statistical significance which otherwise may have done so. This is particularly the case in relation to the parental sample, where only 36% of intervention parents and 27% of control parents completed both pre- and post-test questionnaires. While considerable efforts were made to boost returns, with such low response rates too much emphasis should not be placed on the outcomes deriving from this aspect of the study.

Although teacher reports are supported by the direct measures of the children's literacy, and there is no evidence to suggest any bias in reporting, teachers are likely to have been aware which children were receiving *Doodle Den* and which were not. While this was not feasible in the current study, ideally teachers would have been blind to who was receiving the intervention.

Further limitations concern the measurements used in the study. While these were carefully chosen to be age-appropriate and to capture a range of literacy outcomes and other pertinent measures, there was not a clear logic model specified at the start of the evaluation. There is always the question as to whether other effects have been unmeasured. However, all the measures were agreed with stakeholders prior to testing. The reliability and validity of measures was also monitored across the three cohorts. Most measures displayed good reliability. However, one of the child measures ('writing ability') and two parental measures ('child reading at home' and the 'parent reading attitudes') were below the desired level of reliability and therefore should be interpreted with care.

As a newly developed programme, *Doodle Den* has been shown to be effective in improving children's literacy outcomes in the context of Tallaght West and worthy of further development and expansion. While the evidence presented here is very promising, care should be taken in generalising these results to all other contexts without a greater body of evidence than the single study presented here. However, this caution needs to be read in the context of the comparatively small number of literacy programmes, and after-school literacy programmes in particular, that have been subjected to this form of rigorous evaluation.

6.1.5 Conclusion

This rigorous evaluation of *Doodle Den* has demonstrated that the programme has made a real and discernible change in children's literacy abilities in Tallaght West as a direct result of receiving *Doodle Den*. This is confirmed by both individual assessment of the children's literacy abilities and the teacher-reported measures. Furthermore, the programme appears to have some other positive benefits in relation to improvements in concentration and a reduction in problem behaviours in school, particularly in the case of boys. Overall, the programme was well implemented and met its original aim of making a moderate improvement in the children's literacy.

6.2 Recommendations

A number of recommendations are made in light of the findings above.

1. Given the strong evidence presented in this report of the proven effectiveness of *Doodle Den*, CDI should be encouraged to develop, disseminate and promote the expansion of the programme further.

2. Given its proven effectiveness, we would caution against radical changes to the nature of the programme. However, evidence from the process evaluation suggests there are a number of issues that should be addressed in taking the programme forward.

3. Careful consideration should be given to the content of sessions and a reduction in the number of activities in any given day. The curriculum outlined in the manual is clearly over-crowded and many activities appear frequently missed due to lack of time.

4. There was a wide variation in attendance at *Doodle Den* and also issues with parents collecting their children early, both of which were impacting on the number of sessions received. CDI should reflect on whether further steps can be taken to improve general attendance, to include parental education on the importance of full attendance and also whether more formalised parental collection procedures need to be adopted.

5. Consideration should be given to whether it would be desirable to standardise the different models of co-facilitation that were apparent and to provide greater clarity on the different roles of the two facilitators.

6. Although the youth worker and teacher combination worked well in many cases, it is recommended that an assessment is made of the training needs in the delivery of the programme for both groups of professionals independently. It may be desirable for some training events to be held separately for each group of professionals.

7. It is suggested that consideration should be given to whether youth workers are best placed to act as co-facilitators, or to identify whether they need additional training prior to working with young children and with an academically orientated curriculum.

8. Ongoing professional training and the regular Communities of Practice meetings have been highlighted as an important component of other successful programmes and this aspect of the programme should not be neglected in future delivery.

9. It is recommended that CDI consider a longitudinal follow-up of the children to see if the literacy gains observed are retained over time and built upon in order to assess the longer term impact of the programme.

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Appendix 1: Linear Regression Models for Outcomes and Effects

Table A1: Statistical models for Children's Writing Ability Outcome

Independent variables in the model	Statistical models (standard errors in parentheses)					
	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:				
		Gender	Cohort	Ethnicity	No. of sessions	Family affluence
Intervention [4]	.348 (.241)	.445 (.341)	.312 (.437)	.339 (.337)		1.609 (.813)
Pre-test score	.559 (.046)	.552 (.047)	.599 (.046)	.609 (.056)	.502 (.063)	.642 (.057)
Boy		-.214 (.342)				
Boy*int [5]		-.156 (.477)				
Cohort_2			1.751 (.420)			
Cohort_3			1.421 (.414)			
Cohort_2*int			-.305 (.583)			
Cohort_3*int			.379 (.575)			
Ethnic minority				-.425 (.490)		
Ethnic minority*int				.695 (.687)		
No. of sessions					.032 (.011)	
Family affluence						.158 (.116)
Family affluence*int						-.258 (.159)
Constant	6.354 (.332)	6.499 (.385)	4.951 (.436)	6.051 (.409)	4.892 (.903)	5.534 (.639)
Adjusted R^2	.246 (2.59)	.246 (2.595)	.301 (2.499)	.283 (2.665)	.226 (2.445)	.299 (2.531)
N	474	474	474	336	241	330

[4] Type of group (coded Intervention=1, Control=0)
[5] * indicates an interaction term

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Table A2: Linear regression models for Children's Overall Literacy Outcome

	Statistical models (standard errors in parentheses)					
Independent variables in the model	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:				
		Gender	Cohort	Ethnicity	No. of sessions	Family affluence
Intervention [6]	.040 (.020)	.019 (.028)	.027 (.034)	.032 (.028)		.055 (.072)
Pre-test score	.740 (.058)	.744 (.057)	.714 (.057)	.756 (.066)	.671 (.085)	.651 (.069)
Boy		-.091 (.028)				
Boy*int [7]		.045 (.040)				
Cohort_2			.045 (.034)			
Cohort_3			.089 (.035)			
Cohort_2*int			.039 (.049)			
Cohort_3*int			.017 (.049)			
Ethnic minority				-.014 (.041)		
Ethnic minority*int				.026 (.058)		
No. of sessions					.002 (.001)	
Family affluence						.011 (.010)
Family affluence*int						<0.001 (.014)
Constant	.398 (.025)	.441 (.028)	.362 (.031)	.390 (.031)	.328 (.073)	.408 (.057)
Adjusted R²	.314 (.198)	.334 (.195)	.337 (.194)	.343 (.198)	.260 (.198)	.284 (.189)
N	380	380	380	260	187	240

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[6] Type of group (coded Intervention=1, Control=0)
[7] * indicates an interaction term

Table A3: Linear regression models for Children's Word Recognition Outcome

Independent variables in the model	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:				
		Gender	Cohort	Ethnicity	No. of sessions	Family affluence
Intervention [8]	.041 (.020)	.027 (.028)	.009 (.036)	.047 (.029)		.110 (.071)
Pre-test score	.479 (.043)	.476 (.043)	.477 (.042)	.521 (.051)	.428 (.063)	.448 (.052)
Boy		-.062 (.028)				
Boy*int [9]		.031 (.040)				
Cohort_2			.045 (.035)			
Cohort_3			.083 (.035)			
Cohort_2*int			.055 (.049)			
Cohort_3*int			.051 (.049)			
Ethnic minority				-.007 (.042)		
Ethnic minority*int				.002 (.059)		
No. of sessions					.002 (.001)	
Family affluence						.023 (.010)
Family affluence*int						-.011 (.014)
Constant	.538 (.023)	.569 (.027)	.493 (.031)	.505 (.030)	.478 (.071)	.463 (.056)
Adjusted R^2	.242 (.208)	.249 (.207)	.273 (.204)	.275 (.214)	.195 (.206)	.240 (.199)
N	421	421	421	293	207	280

[8] Type of group (coded Intervention=1, Control=0)
[9] * indicates an interaction term

Table A4: Linear regression models for Children's Sentence Structure Outcome

Statistical models (standard errors in parentheses)						
Independent variables in the model	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:				
		Gender	Cohort	Ethnicity	No. of sessions	Family affluence
Intervention [10]	.073 (.031)	.052 (.044)	.085 (.056)	.070 (.042)		.080 (.107)
Pre-test score	.268 (.067)	.278 (.067)	.234 (.068)	.320 (.077)	.286 (.093)	.326 (.080)
Boy		-.106 (.044)				
Boy*int [11]		.044 (.062)				
Cohort_2			.032 (.055)			
Cohort_3			.140 (.055)			
Cohort_2*int			-.003 (.077)			
Cohort_3*int			-.029 (.076)			
Ethnic minority				.004 (.061)		
Ethnic minority*int				-.022 (.085)		
No. of sessions					.002 (.001)	
Family affluence						.012 (.015)
Family affluence*int						-.001 (.021)
Constant	.454 (.030)	.504 (.036)	.403 (.044)	.447 (.038)	.395 (.106)	.409 (.081)
Adjusted R²	.044 (.327)	.057 (.325)	.061 (.324)	.055 (.324)	.038 (.319)	.061 (.323)
N	447	447	447	316	226	303

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[10] Type of group (coded Intervention=1, Control=0)

[11] * indicates an interaction term

Table A5: Linear regression models for Children's Word Choice

Independent variables in the model	Statistical models (standard errors in parentheses)					
	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:				
		Gender	Cohort	Ethnicity	No. of sessions	Family affluence
Intervention [12]	.074 (.029)	.086 (.042)	.114 (.054)	.094 (.040)		-.043 (.099)
Pre-test score	.225 (.063)	.227 (.063)	.205 (.064)	.203 (.073)	.178 (.086)	.170 (.076)
Boy		-.024 (.042)				
Boy*int [13]		-.021 (.059)				
Cohort_2			.063 (.053)			
Cohort_3			.118 (.052)			
Cohort_2*int			-.049 (.073)			
Cohort_3*int			-.060 (.073)			
Ethnic minority				.018 (.058)		
Ethnic minority*int				-.018 (.081)		
No. of sessions					.002 (.001)	
Family affluence						-.006 (.014)
Family affluence*int						.021 (.019)
Constant	.497 (.029)	.508 (.035)	.439 (.042)	.490 (.039)	.472 (.105)	.578 (.077)
Adjusted R^2	.037 (.310)	.036 (.310)	.043 (.309)	.029 (.306)	.015 (.308)	.017 (.299)
N	445	445	445	311	226	300

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[12] Type of group (coded Intervention=1, Control=0)
[13] * indicates an interaction term

Table A6: Linear regression models for teacher-rating of Child's Literacy Ability

Independent variables in the model	Statistical models (standard errors in parentheses)					
	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:				
		Gender	Cohort	Ethnicity	No. of sessions	Family affluence
Intervention [14]	.292 (.065)	.219 (.094)	.328 (.111)	.298 (.088)		.382 (.246)
Pre-test score	.882 (.038)	.874 (.039)	.878 (.038)	.898 (.044)	.876 (.055)	.854 (.054)
Boy		-.157 (.095)				
Boy*int [15]		.155 (.130)				
Cohort_2			.178 (.123)			
Cohort_3			.235 (.109)			
Cohort_2*int			-.062 (.171)			
Cohort_3*int			-.033 (.150)			
Ethnic minority				.266 (.128)		
Ethnic minority*int				-.128 (.174)		
No. of sessions					.005 (.002)	
Family affluence						.067 (.036)
Family affluence*int						-.022 (.048)
Constant	.556 (.116)	.654 (.132)	.422 (.130)	.461 (.142)	.568 (.219)	.416 (.240)
Adjusted R²	.588 (.639)	.591 (.639)	.593 (.635)	.586 (.661)	.552 (.635)	.532 (.647)
N	392	385	392	305	205	232

[14] Type of group (coded Intervention=1, Control=0)

[15] * indicates an interaction term

Table A7: Linear regression models for teacher-rated ADHD Behaviours

Independent variables in the model	Statistical models (standard errors in parentheses)					
	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:				
		Gender	Cohort	Ethnicity	No. of sessions	Family affluence
Intervention [16]	-.135 (.039)	-.033 (.056)	-.047 (.074)	-.181 (.049)		-.074 (.141)
Pre-test score	.789 (.026)	.782 (.026)	.800 (.026)	.799 (.028)	.698 (.035)	.821 (.033)
Boy		.223 (.056)				
Boy*int [17]		-.205 (.078)				
Cohort_2			.075 (.073)			
Cohort_3			-.053 (.071)			
Cohort_2*int			-.157 (.100)			
Cohort_3*int			-.096 (.097)			
Ethnic minority				-.203 (.084)		
Ethnic minority*int				.212 (.111)		
No. of sessions					-.002 (.001)	
Family affluence						.001 (.020)
Family affluence*int						-.020 (.028)
Constant	.143 (.035)	.039 (.044)	.136 (.058)	.177 (.041)	.181 (.089)	.105 (.107)
Adjusted R²	.671 (.428)	.681 (.424)	.675 (.426)	.690 (.429)	.611 (.410)	.672 (.437)
N	488	478	488	390	253	316

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[16] Type of group (coded Intervention=1, Control=0)

[17] * indicates an interaction term

Table A8: Linear regression models for parental-reported Child Literacy Activity

Independent variables in the model	Statistical models (standard errors in parentheses)					
	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:				
		Gender	Cohort	Ethnicity	No. of sessions	Family affluence
Intervention [18]	.109 (.083)	.089 (.119)	.347 (.163)	.089 (.103)		-.031 (.318)
Pre-test score	.635 (.059)	.635 (.059)	.637 (.058)	.595 (.066)	.559 (.074)	.579 (.068)
Boy		-.137 (.128)				
Boy*int [19]		.031 (.166)				
Cohort_2			.413 (.152)			
Cohort_3			.431 (.155)			
Cohort_2*int			-.237 (.207)			
Cohort_3*int			-.500 (.212)			
Ethnic minority				.012 (.220)		
Ethnic minority*int				.214 (.266)		
No. of sessions					-.001 (.004)	
Family affluence						.055 (.048)
Family affluence*int						.007 (.061)
Constant	.905 (.108)	.976 (.127)	.607 (.137)	.998 (.127)	1.200 (.314)	.831 (.276)
Adjusted R²	.467 (.467)	.468 (.466)	.509 (.448)	.463 (.450)	.413 (.436)	.454 (.462)
N	132	132	132	97	79	93

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[18] Type of group (coded Intervention=1, Control=0)
[19] * indicates an interaction term

Table A9: Linear regression models for parental-reported Child Library Activity

	Statistical models (standard errors in parentheses)					
Independent variables in the model	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:				
		Gender	Cohort	Ethnicity	No. of sessions	Family affluence
Intervention [20]	.090 (.030)	.098 (.043)	.179 (.057)	.063 (.037)		.103 (.134)
Pre-test score	.427 (.066)	.419 (.065)	.449 (.065)	.400 (.070)	.417 (.094)	.394 (.088)
Boy		-.062 (.046)				
Boy*int [21]		-.018 (.060)				
Cohort_2			.071 (.054)			
Cohort_3			-.060 (.056)			
Cohort_2*int			-.150 (.074)			
Cohort_3*int			-.074 (.077)			
Ethnic minority				-.004 (.064)		
Ethnic minority*int				.174 (.079)		
No. of sessions					<.001 (.002)	
Family affluence						.017 (.021)
Family affluence*int						-.004 (.026)
Constant	.277 (.040)	.313 (.046)	.259 (.050)	.270 (.045)	.380 (.123)	.205 (.128)
Adjusted R²	.247 (.177)	.269 (.174)	.288 (.172)	.337 (.161)	.180 (.183)	.177 (.178)
N	141	141	141	105	82	96

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[20] Type of group (coded Intervention=1, Control=0)

[21] * indicates an interaction term

Table A10: Linear regression models for parental-reported Child Reading Activity (Read Home)

Independent variables in the model	Statistical models (standard errors in parentheses)					
	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:				
		Gender	Cohort	Ethnicity	No. of sessions	Family affluence
Intervention [22]	.152 (.076)	.163 (.111)	.284 (.163)	.193 (.092)		-.159 (.241)
Pre-test score	.271 (.060)	.267 (.060)	.292 (.060)	.317 (.069)	.153 (.064)	.287 (.060)
Boy		-.036 (.114)				
Boy*int [23]		-.007 (.152)				
Cohort_2			.385 (.141)			
Cohort_3			.274 (.145)			
Cohort_2*int			-.313 (.201)			
Cohort_3*int			-.067 (.205)			
Ethnic minority				.156 (.165)		
Ethnic minority*int				-.251 (.211)		
No. of sessions					<.001 (.003)	
Family affluence						-.023 (.036)
Family affluence*int						.053 (.046)
Constant	2.490 (.219)	2.524 (.226)	2.173 (.243)	2.327 (.253)	3.110 (.342)	2.630 (.289)
Adjusted R²	.099 (.526)	.091 (.525)	.127 (.518)	.131 (.495)	.034 (.467)	.135 (.454)
N	195	194	195	146	110	143

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[22] Type of group (coded Intervention=1, Control=0)

[23] * indicates an interaction term

Table A11: Linear regression models for Parental Reading Attitudes (Parent Read)

Independent variables in the model	Statistical models (standard errors in parentheses)					
	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:				
		Gender	Cohort	Ethnicity	No. of sessions	Family affluence
Intervention [24]	.172 (.233)	.394 (.345)	-.020 (.495)	.199 (.312)		1.00 (.933)
Pre-test score	.738 (.053)	.736 (.053)	.743 (.054)	.782 (.064)	.675 (.066)	.712 (.068)
Boy		.261 (.354)				
Boy*int [25]		-.331 (.471)				
Cohort_2			.140 (.439)			
Cohort_3			.038 (.449)			
Cohort_2*int			.128 (.619)			
Cohort_3*int			.332 (.633)			
Ethnic minority				-.179 (.549)		
Ethnic minority*int				-.070 (.707)		
No. of sessions					-.011 (.011)	
Family affluence						.068 (.143)
Family affluence*int						-.131 (.180)
Constant	2.562 (.508)	2.415 (.553)	2.452 (.589)	2.145 (.619)	4.042 (1.014)	2.370 (.986)
Adjusted R²	.509 (1.581)	.506 (1.585)	.500 (1.595)	.516 (1.639)	.496 (1.558)	.447 (1.642)
N	187	185	187	140	105	133

[24] Type of group (coded Intervention=1, Control=0)

[25] * indicates an interaction term

Table A12: Linear regression models for School Attendance (Attendance at School)

Independent variables in the model	Statistical models (standard errors in parentheses)					
	Main Model	Sub-group analyses testing whether the following variables had an impact on the effectiveness of the intervention:				
		Gender	Cohort	Ethnicity	No. of sessions	Family affluence
Intervention [26]	.965 (.572)	.684 (.839)	.258 (.990)	.805 (.752)		3.365 (1.832)
Pre-test score						
Boy		-.678 (.830)				
Boy*int [27]		.625 (1.160)				
Cohort_2			.123 (1.019)			
Cohort_3			.789 (.993)			
Cohort_2*int			1.222 (1.414)			
Cohort_3*int			.928 (1.388)			
Ethnic minority				-.509 (1.182)		
Ethnic minority*int				.432 (1.587)		
No. of sessions					.074 (.017)	
Family affluence						.777 (.264)
Family affluence*int						-.419 (.359)
Constant	91.137 (.411)	91.459 (.599)	90.821 (.711)	91.046 (.543)	87.371 (1.170)	87.885 (1.336)
Adjusted R^2	.003 (6.930)	.001 (6.955)	.003 (6.929)	-.002 (6.721)	.053 (6.213)	.035 (5.953)
N	588	577	588	414	303	347

[26] Type of group (coded Intervention=1, Control=0)

[27] * indicates an interaction term

Appendix 2: Further quotes from the Process Evaluation data

(presented by theme, corresponding Section in this report and interviewee group)

MANUAL/PROGRAMME CONTENT AND APPROACH: Positives of the manual/programme content and approaches (Section 5.2.1)	
Service providers	I found it's great to have it because you have a complete outline, you know what you want to do, you can look at it in advance and you know what you need to get ready so I found it very good, very helpful. It's great the way that it's laid out. When they start off at the beginning of the year, it's great the way it builds up and by the time they come to the end they're well able for the end part of the manual because they've slowly worked through it.
Principals	What's in the manual seems to be working well. It's so structured that you know exactly what you're doing and that's the wonderful thing about it. I have to say it's a wonderful asset to the school. I think the structure, the story time, there's the little bit of food and the little bit of banter. The two that are doing it work very well together; the children just pick it up. One activity blends into the other between big story books, the writing; they go up to the hall maybe for structured programme. The training in independence and trying to get on and do things on their own – I've seen that happen which is wonderful. The benefits of being able to work independently and being able to produce extra work, especially in writing, I would have seen that in first class. Certainly this year the majority are quite independent workers. They have their snack and that and there's great importance to that as well for them to chat socially and have manners round at a table.
Children	I want to draw the PE. I do PE … because I love that. Going outside [is the best bit]. We always go outside to play … PE … it's deadly. Me playing the computer [favourite bit] … because we can play games on it.
Facilitators	The manual is very good, it's very comprehensive, very well put together. I've found the manual brilliant even for just getting things down and giving it actual structure. The PE is nice and I really like the programme. I've got great ideas from it that I've used within my own classroom. I think the centres are great. I think all the different aspects mixed really well together because, you know, there is the academic side of it, there's also the fun side. Each week, they do PE on a Tuesday, drama on a Wednesday, art on a Thursday, you know, and the kids really look forward to those parts of the programme. Every day we also do centres, which are like little stations of different educational activities, but, as you seen today … water painting and painting words. They were writing, being word detectives around the room … looking for different words. They don't see it as learning. And putting on some sort of like visual really can, like they love it … they're learning so much from it like. Yesterday we had the 'K' up, and they'd kitten and they had cats running across the screen and they had music, and like kitchen, and the telephone was ringing and the cooker was on and, you know, this sort of stuff, and you know it is going in, rather than you drawing pictures on the board. You know, I'm saying obviously that that's one good way of doing it.

CDI staff	But actually, just the way it's built from the start of the year until when they finish up, it is like building blocks, it is building on it … I don't use the manual myself, I know about the manual and I would hear the facilitators talking about the manual. I think they're [the *Doodle Den* sessions] invaluable because they help children to develop their skills around thinking about what way to put things, thinking about ideas for stories and writing a shared story and getting a sense that they're right. I think it helps them with their individual work and it's quite a hard area to teach.

MANUAL/PROGRAMME CONTENT AND APPROACH: **Issues with manual/programme content and approaches (Section 5.2.2)**	
Service providers	Sometimes they feel a bit rushed in delivering the sessions. I know an hour and a half is long enough for them at that age, the kids, but they do feel that sometimes it is a rush to fit in everything.
Facilitators	I don't think it's [*Doodle Den*] as interactive as what we were first led to believe because when they're doing the shared writing and the independent writing, they can be there for a long time. And then for the independent reading, we haven't done that in a while because our time is just gone and the writing has become so difficult now that we have to spend extra time on that, so you're losing out on the other things. They're still at the stage where they're only writing, shared writing as opposed to writing independently, so it's big jump. I think the most challenging, for us anyway, is the independent writing where they have to come up with their own opinions and their own sentences and their own stories. Again, the time wasted walking down there and faffing about setting up. All of that needs to be on the ball. The practicality of allocating 20 minutes to an art lesson when it takes them 20 minutes just to cut the thing out. Our art lessons always went on to the next day. There's definitely some things that need to be looked at it in terms of the timing. In terms of fidelity to the manual, some things were skipped and I know others were doing that too. There just wasn't time in the allocated spot for that. The manual was quite hard to follow in regard to time constraints. I felt the time constraints were quite difficult to keep to. At the moment, they're given 20 minutes to do the writing, to explain the concept and then they're asked to write and practise what they have been learning. That takes much longer, that takes at least half an hour. By the time you get to the end of the programme, there's no time for the art or PE or drama. You concentrate so much on a big book, maybe things go on for too long or there's not enough time for other things. That would be the only bad thing I would say about the manual. Obviously there are the days when they're hyper, when they haven't been out to the yard, and you know, you just get on with it, you just deal with it like. And you might jiggle one or two things around … You might give them a little bit of extra PE and you might do the independent writing the first thing the next day … It's just about being sensible about it and I suppose like Mary was saying yesterday, not … you know, saying 'Oh, I have to do this now, then I have to do that in 10 minutes'. When you only have 10 minutes for a sentence, it's a very short time to set it up and actually do it.

They go when they finish school, then they come in and have their snack, then they have to do 'pick a partner' game and then they have to do story and it's all just overlapping. You're constantly like, 'I forgot to do that', go back and do that because … you just don't have the time. And you need to keep checking your time as well. Like I don't do that as a teacher. I wouldn't be checking specifically, but this is a very brief 10 minutes.

Say there's a child who's upset or acting up at the start, then there's no kind of [time] allowance for it.

It's quite hard, I find sometimes, even though I really enjoy the fast pace of it. Sometimes I find that it's quite hard to get everything covered.

I wouldn't say that it's not going well. But there is a lot to get through in the hour and a half and I don't think they talk about transition times, moving from one thing to the other, because that takes up some of the time. So sometimes there's a lot to do in the hour and a half and you might not get it done.

It's open to change as well … If the game wasn't working, you could use another game or even change it a bit.

We've done very little of the independent reading. We did that more as a centre activity as opposed to a set 10 minutes aside.

The book *Rosie's Walk* comes right at the very end of the programme. But it's a book that has very little reading in it and it does not hold the children's interest. We're meant to do that for three weeks. We did it for two weeks and we put the *Three Billy Goats Gruff* in for one of the weeks because we were going to be missing a week at the end. Some of the books they know so well like *The Gruffalo* and the big books we're meant to do for three weeks, so for the third week of *The Gruffalo* instead we read *The Gruffalo's Child*. So it was like a follow-on.

Days you never get the things finished. We say we'll get that finished next week, but you can't and they want to finish this mask or they want to finish a really nice thing that they did, so our only other option is to take away most of what we do on a Thursday and do half of it to Art because you don't really have any other option because Monday is straight back to it, Thursday is kind of not as strict with the timing: we do reading and we do art with them and they do double centres so they do two separate centres. They certainly should be doing phonics and sight words every day. We do PE and art and drama, so maybe just two out of three of them in a week and have the rest of the time just to fill in whatever.

Last year because of the children we had, we moved PE to the start and then we were told No, we couldn't do that. We were saying the children we have if they burn off their energy before they come in, but it was just like No. But in fairness to them, at the start of this year they did actually say Yeah it's OK to do that, so maybe it was just a learning curve for everybody last year. That would be the major issue I would have.

Like say last week, we extended, we put in a game of Farmer Duck bingo … We had all the words of Farmer Duck written out and then they played a game of bingo with the words. I think it's about being creative as well, you know, extending the manual when … like to stick to the manual obviously, but don't be afraid to extend it if you think that.

I just think it's a skill of any facilitator or teacher to differentiate. I think people do it naturally because they feel maybe guilty about it or unsure of how far to go with it with a manual, I suppose. But the fact is, if a child cannot do their letter formation, there is no point in getting them to copy out things when you haven't done that part first.

So we would do a bit of that every day. The manual has 20 minutes for the independent writing. Now our kids wouldn't have the concentration to do that. Some of them, maybe three or four, could do it so you just start them off, but the others would need more one-to-one so you would just differentiate them.

	Then you have children who aren't coping with what they're doing and you're trying to adapt it. So there are certain things that the manual doesn't allow for. It doesn't allow for managing the children or settling the children. Last year we had a very difficult group and it wasn't really taken into account until the end of the year, but we needed that at the start of the year. Although we were one of the groups to finish the manual, but still I know myself and the other facilitator felt very under pressure. We had to adhere to the manual.
CDI staff	Timing of it, I think. I think the time seems to be the biggest one, actually getting through everything. There's always like they didn't get there on time, they were late walking up from school, they were 10 minutes late starting. I would say time is their biggest issue. I think differentiation is a big issue. So how do you differentiate between the child who is well able for it and who is not? I think with a manual, sometimes people say 'Well, we can't do that because the manual doesn't say that'. You get the people who will follow it blindly or maybe the people who don't take enough care with it, and you're trying to get somewhere in the middle.

IMPACT ON CHILDREN: Positive impact on children (Section 5.3.1)	
Service providers	It just gives them the confidence to put their hand up and say 'I know that'. I think, as well, it works because a lot of what they're doing, they're doing in the classroom so when they come in to do the session it reinforces what they're doing in the classroom. So if you talk to the teachers who are teaching them every day, they can see the difference as the programme goes on because they're able to put their hand up and say 'I know that' or they might know it before the other children, so it's building up their confidence all the time.
Principals	I do know the teachers in 1st class say they can pick out the children that have been in *Doodle Den*. They put it on a par with when, years ago, an awful lot of children didn't go to pre-school. We in Junior Infants could pick out the kids coming into us who had been in pre-school and the 1st class teachers likened it to that. So obviously the literacy is working.
Children	[We] learn stuff and read stories. We learn words, new sentences. We learn phonics. It helps me read more. When we grow up, we can write better stories and illustrate them.
Parents	He is in the highest level in his reading in school now as well. I can see it, you can see it in his grammar, his writing and all. His writing and his reading. He has started reading out stories and all. He would never have done that before. It's their writing, their spelling is different like. It's the way he sounds them out. He does sound words out, yeah, good, very good. Even when they are writing their names, like 'X' will sound it out and space the finger and full stop and capital letters. Like 'Y' is in 5th class and she wouldn't be as good as that. Their speech, their work, everything flies along brilliantly … their confidence, their person, confidence, everything.

Facilitators	In just with their reading level and their literacy level, their phonics, their sounds especially in a Gael school – it makes so much difference to them.
	Like even for the children who weren't necessarily weak when they first came, they were able to, because we differentiated for them and gave them, you know, more things to do, maybe something that was harder, harder worksheets … they were able to progress, you know, to the best of their ability as well.
	He starts whispering. He understands, but he just hasn't started speaking. But he's started to whisper, which is more than his class teacher can get, and he's kind of … he understands and he nods and all. But I can definitely see him progressing and guarantee by the end of the *Doodle Den*, he'll be talking. Those extra hours of literacy will help him move from that phase into talking.
	The children that have gone through the programme have all experienced great success in terms of their confidence and enjoyment of school and engagement with the learning process.
	I love the way that it kind of helps them. You can see them progress throughout the year and you can … their confidence and everything, in their literacy, and confidence to stand up and actually speak. So I really think that's a good thing.
	And the groups we had last year, they were brilliant. But you can still see their confidence coming out.
	I think it's a great programme … it benefits the children massively and you can see that. 'X' had half of her class in *Doodle Den* last year … and you can just see the difference, you know … The teachers this year are even saying to us now that they can see much of a difference.
	I've spoken to the teachers and you can tell the ones who've been to *Doodle Den*. They know their words, they're picking them up and they're reinforced and the centres work really well.
	There would be huge changes in the half of the children in my class and the half in the Senior Infants class and you can notice straightaway the differences. It's huge absolutely.
CDI staff	I think the differences are very much in engagement and learning, as well as in literacy, from my perspective … People report differences in children's ability to write sentences and read fluently, but they also report differences in their interest. They put their hand up more. So I hope that's what comes out of it.

IMPACT ON CHILDREN: Potential challenges to the impact of *Doodle Den* on children (Section 5.3.2)	
Service providers	Even at the moment there is one child who – the teacher and facilitator came to me last week – has had a lot of difficulty in school … but he's also been taken off the programme for a few days. We're very keen to get him back on it. But I suppose that would be the extreme.
Principals	I think in relation to special needs, children with behavioural issues or concentration issues, we want them to have a positive experience in school and then for them to go into a more structured system after school just didn't work.
	Sometimes I feel sorry for the children because I think they feel tired at the end of the day. I know other people have said they're full of energy when they go down. Sometimes they look tired, in particular on a fine sunny day when all their peers are going home to play in the garden and they're going down to more school.

Children	Our school is down there, but we walk the way up. And my legs get tired.
Parents	It's long for them as well, like because they are going in at 9 and then they are getting collected at 1.30 and then it's 3.20. So it's a 3.45 when you get home.
Facilitators	I have to say as an experienced teacher I was finding them very difficult to manage because a lot of them were having difficulty with what was in the manual, but they were all so exhausted. I think five out of that group attend the emotional support teacher and for very specific problems at home and very short attention spans. And these were the group of children that were being sent down there. I would question how you can justify putting all those children in the one room to learn because I definitely think some children ruined it for others and it's a tough enough manual as it is just to get through. Some things are more advanced than others and some of the things you are being asked to teach the children are far too advanced for their stage, their developmental level … We're told it's great they have a head start, but some of them aren't able for that and they get very confused over what's a magic E and when do we use a magic E. I think the programme works well if you have a group that responds to it. I think it very much depends on the group dynamics. We've had groups in the past that were very difficult to control, which meant that you couldn't really give the manual the full implementation because you were constantly on this management of the children's behaviour and it was very tough to try and get the manual covered that year. It's tiring. It's hard to kind of keep up the pace and the enthusiasm and energy and to make it fun for them and I think they're even more tired than we are. It was promoted as this fun thing, which it is in as far as possible. But it is an hour and a half of intensive work, so you're doing it in a fun way but it's still work. Some of them are not able for it. I think it does depend on the group. We've a group and a little boy keeps falling asleep all the time – he's sitting and his eyes keep dropping. But they're very rowdy this bunch. We've never had this before. These children enjoy the club, but they just want to chat all the time. I think as well in the afternoon they are tired and sometimes it's hard to gain their attention.
CDI staff	There's been one or two issues where a child has been referred, got selected for a programme, and maybe it is a bit challenging, maybe behaviourally challenging, and they're not quite getting what's happening and they need extra support. But they are making improvements, but they're maybe not making them at the rate of other children.

FACILITATION OF *Doodle Den*: Positive elements – Youth worker/childcare worker and teacher combination, approach to their work (Section 5.4.1)	
Service providers	I think they complemented each other, by having either the youth worker or the childcare worker. It really complemented the work with the teachers and they worked very well together. It would be nice to continue it in some way like that.
Principals	[It's] great because it takes the focus off the temptation to fall back into classroom teaching, because that's what teachers do. I'd be the first to admit it. I think it's a lovely balance because the teacher knows how to implement the manual, but the youth worker balances it out by it not becoming a classroom session. The calibre of individuals – I am very pleased and happy with their level of professionalism. It runs itself really. The [youth] workers treat it very seriously. It's not like an after-school, where you can take it or leave it.

Parents	Very good, they are very good. All of them yeah, all of them.
Facilitators	You could even bounce ideas off someone, which was brilliant, and even to reflect on your work – what worked well and what didn't. It's great having the co-facilitator, you know, someone else to work with, and probably, yeah preferably, someone like Jonathan who's not a teacher, but that helps me to sort of take a step back … so I'm like trying not to be in the teacher role the whole time, and trying out a few things …They're only 5, 6 and 7, it's half one in the afternoon, they've had a full day of school. We swap every week. So if A did art this week, I'll do the art the next week, so that everything is 50/50, and it works well. I mean, at the start when I was doing it, I struggled, shared writing, letter formation, but I picked it up and improved on it. So in that sense, once you practise and you're able to take in and help each other. I mean, if I'm doing this wrong, A tells me at the end 'You should do it this way' … it's really helpful.
CDI staff	I feel it definitely adds an awful lot to delivery. I think it's a really positive thing to have a youth worker and a teacher delivering it.

FACILITATION OF *Doodle Den:*	
Negative elements – Youth workers' previous experience and training issues (Section 5.4.2)	
Principals	I'm not convinced that the staff up there have that kind of understanding and awareness of working with very young children. Particularly, again, coming back to children who are struggling readers – they may need that little bit of extra warmth and affection and cuddly time if you like. Down time. I suppose I have a bit of a problem with non-teaching people teaching reading. I'm not completely comfortable with it. The ideology was that the youth workers or childcare workers would bring this different element of the programme than the teachers. But there is no time for 'X' to share her skills or her methods. It's teaching. I don't know what their vision was, but it is purely teaching and they don't get a chance to bring anything that might be different.
Facilitators	All I'm suggesting is that the youth workers should be trained. They have their own qualifications behind them, but no experience of working with small children and I would say that in particular about the people that were working with me. They said they've only worked with teenagers, but working with small children requires a very different set of skills and even an awareness that you can't say to a group of 15 children, 'Now go and get your coats on'. That's going to cause mayhem in a doorway and people are going to bang into each other. I felt I had to constantly be on top of what the youth workers were saying. I was teaching 14-year-old lads and going down to – I mean, there was that innocence about them as well. But it was a bit daunting to say the least, you know; whatever you were teaching them was very important for their learning and for years to come. So that's hard, but it's great because 'X' has the experience. This is her third year and I have infant experience, so we put it together. But I know there's people who started with me and they were told 'It's up to you to get your phonics training'. Both my youth workers said to me, 'I'm not teaching jolly phonics because I don't know what it is'. And how would they?

IMPACT OF CDI'S INVOLVEMENT (Section 5.5)	
Service providers	The support there is very good. 'X' is very good to work with and they've a very quick response if there is an issue and they're very professional. I found that anytime I want anything or want to get extra information I can ring. 'X' would be my main contact so she'd always keep me informed of whatever was happening.
Principals	They seem to have things very streamlined. Everything's well notified and resourced.
Facilitators	I don't know if anyone else brought it up, but sometimes the COPs [[Communities of Practice meetings] felt like an AA meeting, where people would just be complaining about various things and I remember leaving a good few of them, going 'That's two hours of my time completely wasted'. I didn't gain anything from it. No, not really [useful]. It's the same people who are talking. It just seems to be a big chat, which maybe is all right because you get to hear what's going on in other people's groups. But I think it should be more about the sharing of ideas and how to do it, different strategies that are working. It's just ideas thrown out there and the same people talk every time. I find it a little bit frustrating. Another thing I would like to say about the COPs was the demonstration. A lot of the time we had to demonstrate back to our co-workers how we would do something. Again, having to show someone how I'd read a big book, I shouldn't have to do that. I found it very intimidating in front of adults doing that, I know I'm a teacher, but I teach small children and I find it very hard to do that in front of adults and I was very stressed out at the beginning in a lot of those COPs at the thought of having to stand up and perform in front of all these peers. To be honest, I don't know if I would have gotten involved if I knew I had to do that. Nobody should be put on the spot and very much that was part of it. You didn't have a choice, but to be put on the spot. When they ask us to show the other facilitators how we would teach this lesson to the kids, like how can you possibly show 20-something year-olds how you're going to do it? Like tomorrow we've to do a camera and then next Tuesday and then show a demonstration on camera and talk about what we did right and what we did wrong. It just depends on your personality, I suppose, I'm absolutely dreading it. I don't mind the camera as long as I don't have to look at myself. Also, personally, we do not like having to stand up and role-play teaching to the rest of our peers. I get very embarrassed, I'm not confident doing that. I don't like being videoed, we never agreed to that. We have to video our sessions and then present them back at the monthly meetings. Some people are natural in front of the camera, but I hate speaking in front of staff meetings or anything like that. I can see the purpose of it, but I don't think we should be forced. I'm not forced in my job. I'm respected for who I am. That's not something that's OK with me. There are quite a number of people in the group who feel like that and don't appreciate it at all … There is one girl this year who is new and she's just refused, but when it comes to it I'm too afraid to say No. It's a pity because things like that are ruining my impression of it … People should be more comfortable within it and you should be learning from those meetings. It should be a nicer feeling rather than sitting there, praying you're not going to be asked to do something you don't want to do. I find them [COPs] helpful and it's always good to hear how other people are doing it, particularly when parts of the sessions were videoed. I found that particularly helpful because it helps your own confidence as well. It's good for youth workers to see other youth workers working and to see how other teachers are doing it because if you're just seeing your teacher the whole year without seeing how other teachers do it, it can be a bit of a disadvantage.

The Communities of Practice meetings, they're very good, even on just the very basic level in that you're talking in an informal way. You're talking to people saying, 'Oh, we did this' and 'We did this this way and it worked very well', so just … small hints and tips. You can learn as much collaboratively as you may from a Doctor in English Literacy coming in and teaching you, you know. So I think the COPs are great.

[The videos are] not too bad, suppose it depends on who you are. Some people will be comfortable, some people will be uncomfortable. I didn't find it too bad, you're always putting yourself out there with your peers and you're up for judgement, but because I appreciate seeing other people doing it, I know that other people will get something out of it. Even if they're looking at you and saying that's how I wouldn't do it, then that's learning something.

PARENTAL ELEMENT OF *Doodle Den:* (Section 5.6)	
Principals	I think starting off, it was slow to start off getting parents involved. As the programme progressed, the involvement of parents increased. Their commitment to it seemed to increase and I thought that was a very important part of it – that the parents actually saw it as something worthwhile. They want to get their children into *Doodle Den*. It's a raffle system at the moment, but parents want to get their children into *Doodle Den* because they see it's really something good. If parents see something as good, then good will come of it. I know the parents have gone on the library visits and they've done a few things like that and all the celebrations they have. It is celebrating the positive because some of the parents themselves do have poor literacy and will have had their own negative experiences of school. But they're all very positive about the *Doodle Den* experience. One of the sessions I saw, they were making story sacks and the parents were there with the arts and crafts, making the story sacks and that was a really lovely thing to see. Pitching it at a level that parents could actually do [things] with the child.
Parents	But it's only when it's something really important that they call us in and give us all the papers and stuff like that. It's not at all babyish, you know like. It's about 20 minutes. You find out what you need to find out and that's you.
Facilitators	They seem really appreciative of the programme and of the work that we've been doing. We're grateful to have so many great parents as well.
CDI staff	Yeah, if you're going to get them, this is the age to get them. I think that the idea of the child component, the parent component, the child and parent – I think that's a lovely model. I think that's a lovely way to work – that you address the parents in their own right, but you also have the child and parent together, so it makes it real for them. It's nicely, logically laid out.

IMPROVEMENTS WITH TIME	
(Section 5.7)	
Service providers	I suppose it's helped us build relationships with the schools. We're in the school three days a week now and so they've got to know us and we've got to know them. I think there has been good appreciation on both sides for what we're at. There would be a certain spin-off into other programmes because some of them would have children involved in other programmes here.
Principals	Well, as I said, because of the approach to including parents and involving parents in their children's work, anything like that changes the parents' attitudes towards school and they see the value of learning and of education and it increases interaction between teachers and parents. It's a general trend here, that parents are becoming more involved in learning in school and buying into it. *Doodle Den* does that. They're more engaged with the child's education and they would attend meetings in other aspects of school life. We had a healthy breakfast run by our school coordinator and there was a huge turnout of parents. As a junior school, we're always trying to establish links to get the parents interested and to get them on board. It's things like *Doodle Den*, where they're maybe meeting teachers more often and that does transfer. I think starting off, it was slow to start off getting parents involved. As the programme progressed, the involvement of parents increased. Their commitment to it seemed to increase and I thought that was a very important part of it – that the parents actually saw it as something worthwhile. They want to get their children into *Doodle Den*. It's a raffle system at the moment, but parents want to get their children into *Doodle Den* because they see it's really something good. If parents see something as good, then good will come of it. Well, you hear that we'd love a *Doodle Den* for everyone in Senior Infants. The word is out that this service is there and there's a huge interest from parents. This year, there was quite a bit awareness about it and people wondering how they can get a place and that is good that people see the benefit of it and we would hope that they would fully engage and participate in *Doodle Den* next year.
Facilitators	I suppose the fact that I've done it last year, it's definitely easier this year. So I know in some of the schools they've changed the teacher who does it each year because they don't want the same person doing it. But I don't think that's a good idea because … just for the continuity and I think they do get a good feel for it and it's the only kind of thing that as the second and third year goes on, you're really kind of mastering it and I think it definitely does make it easier. I think the programme as a whole really has gone very well. I've been doing it now for three years and I'm more comfortable with it now than I was in the first year and I feel that I'm better equipped to deliver the programme now than I was when I first started. There was a lot of unclear areas when we began the programme back in 2008. Things like what were centres – there was no clarity over what they were, how we were to set them up, how we were to deliver them. This year, coming into the programme we knew exactly what every element was and it was much easier to facilitate, even accessing the different parts of the programme, like the shared writing moving into the independent writing and even drama was an area I became more comfortable with this year. But it's taken a while to get to that place.
CDI staff	But I think once it all got up and running, once people thought 'Well, actually the service is useful' and they could see improvements in children, I think that helped massively. It's only really in the last year, there's a real deep understanding of reflective practice, of fidelity, of quality assurance. Now this year we have two simultaneous programmes where we have two groups happening at the same time, so we don't have children coming later. So that's improved the ability to deliver.

Appendix 3: Explanation of statistical terminology in the report

A3.1   Outcome measures

A measure was constructed in relation to each of the outcomes listed in the study. Each single measure contains a number of items (questions) that are averaged to create a score on the particular outcome. There were three primary outcomes and seven secondary outcome variables investigated.

A3.2   Mean scores (with standard deviations)

For each of the outcome measures used, the tables in Chapters 3 and 4 compare the mean (or average) post-test scores of children in the intervention group (i.e. those children who received the *Doodle Den* programme) with those in the control group (i.e. those who did not).[28] By way of illustration, in Table 4.2 the average score for children who received the *Doodle Den* programme at the end of the randomised controlled trial (RCT) in relation to the teacher rating of the child's literacy ability was 3.32, compared to an average score of 3.03 for children who did not receive the programme. Thus, on average, the intervention group had a higher teacher-rated literacy score than the control group.

The figures in brackets beneath the mean scores represent the standard deviations and they provide a sense of how spread out the scores are within each group. As a rough guide, about two-thirds of scores tend to lie within one standard deviation of the mean. Thus, again in Table 4.2, to take the example of the mean of the teacher-rated literacy ability of children in the control group (3.03), its standard deviation can be seen to be 1.04. This means that we can deduce from this that about two-thirds of children have a score of 3.03 plus or minus 1.04, i.e. their scores fall between 1.99 and 4.07.

In relation to the standard deviations shown in Table 4.2, they are very similar for the intervention and control groups in most cases and this suggests that while there is a difference in mean post-test scores between groups in the majority of cases, the spread of the scores in both groups is similar.

A3.3   Effect sizes (*d*)

The effect size is a standardised measure of the size of the difference in mean scores between the control and intervention groups – in this case, the size of the effect of the *Doodle Den* programme. Effect sizes tend to run from 0 (indicating that there is no effect at all) to +1 (indicating that there is a very large positive effect) or -1 (indicating that there is a very large negative effect). In education, effects in the range of 0.20 or 0.30 tend to be considered 'meaningful' and those of around 0.50 or higher tend to be viewed as 'large'. Those below 0.10 are considered 'small'.

In relation to the data presented in Tables 4.2 and 4.3, it can be seen that most of the effects are of a level to be considered 'meaningful' (above 0.20). However, a few effects are slightly below this level.

Effect sizes are actually measured in units of standard deviations. Thus, an effect size of +0.50 would actually indicate that the mean score of the intervention group is half of a standard deviation higher than that of the control group. Using effect sizes in this way allows us to compare the relative effects of the programme across different outcome measures. This is particularly useful when the outcome measures themselves may be calculated on different scales and thus where it is not possible to directly compare differences in raw scores.

A3.4   95% confidence interval

For each estimated effect size, a 95% confidence interval is also provided. Since this RCT is based on a sample of children (rather than on the total population), then the effect sizes reported can only ever be viewed as estimates and, as such, will carry a level of sampling error. The confidence intervals give a sense of the sampling error associated with each effect size. More specifically, the confidence intervals tell us that there is a 95% chance that the true effect size for the *Doodle Den* programme lies somewhere between the two figures quoted. Thus, for the teacher-rated literacy ability, the effect size was estimated from this RCT as being +0.28 and the confidence interval indicates that we can be 95% certain that the true effect of the programme lies somewhere between +0.12 and +0.45.

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28   These mean scores have been adjusted to control for any differences between the two groups in relation to their pre-test scores.
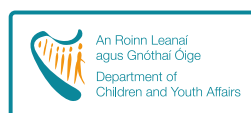
A3.5   Significance of difference

Because we are dealing with a sample, then there is a chance that the *Doodle Den* programme may have had no effect at all and that the effect sizes found could have just occurred by chance in terms of the random nature of the sample selected and the way the children were split into intervention and control groups. The figures in the last column of Tables 4.2 and 4.3, headed 'Significance', tell us the actual probability of this occurring for each of the estimated effect sizes listed. In other words, these figures tell us the chance that the *Doodle Den* programme may have had no effect at all in reality and that the effect sizes found here have just occurred randomly as a product of sampling error.

To illustrate this point, let us take an example. In Table 4.2, the effect size estimated for the child's sentence structure is +0.3 and the significance of this effect is 0.020 (reported as p=0.020). Perhaps the best way to interpret this is to multiply this 0.020 figure by 100, which then converts the probability into a percentage chance. In this case, the findings tell us that there is a 2% chance that the *Doodle Den* programme had no effect at all for this measure and that the effect quoted (of +0.3) could have occurred randomly. Another example, this time in Table 4.3, shows that the effect size of the programme on parental-reported child's literacy is 0.18 and its significance is p=0.191. Here, the findings suggest that there is an increased chance (a 19% chance) that this effect could have occurred randomly and that, in reality, the programme has not had any effect at all on this outcome.

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