Results of the systematic review on nurture groups’ effectiveness

How efficient are nurture groups?
Under what conditions do nurture groups work best?

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ABSTRACT

While nurture groups (NGs) have existed since the early 1970s and the academic literature has increasingly had interest in evaluating NGs since the 1990s, until now there has been no comprehensive review on their effectiveness. In order to contribute to current literature with an understanding of NGs’ effectiveness, a comprehensive review on the previous literature was conducted between September 2013 and March 2014 by the author. This paper will present the results of the review and discusses NGs’ ability to promote change in social, emotional and behavioural development (SEBD) and the key factors that contribute to NGs’ effectiveness. It argues that while NGs can have a positive impact on children at least in the short term, with the available literature it is challenging to draw clear conclusions about the conditions under which nurture groups work best and further research is still required to clarify some remaining research questions.

INTRODUCTION

Nurture groups, operating in school settings and usually consisting of a small group of children (between six and 12), were originally developed in the late 1960s by Marjorie Boxall to address social, emotional and behavioural problems in primary schools. In recent years NGs have also become operational in secondary schools. NGs, led usually by two members of staff, provide a set of routines either on a part- or full-time basis for children who have social, emotional or behavioural challenges and have difficulties remaining in the mainstream class.

While numerous reports and articles since the 1990s have described positive experiences deriving from NGs, the diversity of methods and focus used to study NGs has often left it unclear how effective they really are and under what conditions they work. A comprehensive review was conducted to understand what we know and what we need to know in order to close the research gaps in the literature and incorporate these lessons into recommendations to conduct future research and to improve practice.

Through drawing on the systematic review, this paper will introduce the main findings on the NGs' effectiveness and elaborates on the questions: what impact NGs have and under what conditions do NGs work best?

Scope and methods of the systematic review

The systematic review on NGs was undertaken between September 2013 and March 2014 and included studies that had been published since the 1990s until March 2013. It aimed to understand NGs' effectiveness in primary and secondary school settings, in the variant 1, 2 or 3 types of NG.

Variant 1 refers to the classic model of NG which is a class of 10-12 children and is staffed by a teacher and teaching assistant. Children spend half a day in the mainstream class per week and join their class for registration, assembly, break and lunchtimes (Boxall & Lucas 2010). Variant 2 NG adheres to the ‘important principles of the classic model, but differs in structure and/or organisational features’ (Cooper et al 2001 p.88). For instance, part-time nurture groups represent variant 2 NGs. Variant 3 NG is informed by NG principles but does not follow the same organisational principles.

Variant 4 are aberrant NGs (Cooper & Tiknaz 2007) and are claimed to be variants of NGs but they ‘contravene, undermine or distort the key defining principles of the classic nurture group’ (Cooper et al 2001 p.162).

The methodology of the review followed the general principles of systematic reviewing: databases were searched and a predetermined set of inclusion and exclusion criteria were adopted and results filtered accordingly.

A literature search was conducted using databases for journals and PhD theses and searching in the library catalogues and articles in academic journals. The search words included ‘nurture groups,’ ‘nurture group,’ ‘nurturing’ and ‘educational intervention’ and studies were selected for this review if they were directly referring to a NG variant 1, 2, 3 as classified in Cooper et al (2001) and Cooper & Whitebread (2007).

Through the ERIC database, 27 relevant entries, and through Ethos search, 19 relevant entries were identified. A further search in academic journals through EBSCO and Google was conducted with the above mentioned search terms, and journals on education were identified through British Library listings, which were checked for further studies. In total 173 articles, books, reports or theses were identified, which fully or in part examined NGs.
Having identified these entries it was possible to see that literature on NGs can broadly be divided into descriptive studies discussing the origin, background and theory behind NGs, and studies that aim to identify factors that contribute to efficient interventions, or to evaluative research that aims to understand NG pupils’ behavioural and academic change and experiences in the school setting, and analyse their effectiveness both in regard to pupils and the whole school environment. The reference lists and the authors from these entries were checked to identify any potential further studies.

As the purpose of the review was to understand what is known about NGs’ effectiveness, the studies focusing on assessing change through quantitative, qualitative or mixed methods or evaluated experiences of pupils or perceptions of pupils, parents and staff were selected. Studies were excluded if they were focusing on describing the origins of NGs, the running of NGs or their implementation in different circumstances.

The review drew data from 62 relevant studies as they were comprehensive in regard to the description of their focus, sample and methods and useful for identifying trends and gaps in the research. These studies were reviewed systematically using the principles of EPPI review methodology (available at: http://eppi.ioe.ac.uk/cms/) and entries were categorised in Excel.

### Number of Studies

<table>
<thead>
<tr>
<th>Number of Studies</th>
<th>Methods</th>
<th>Focus</th>
<th>Variant</th>
</tr>
</thead>
<tbody>
<tr>
<td>62 studies in total</td>
<td>10 quantitative studies</td>
<td>40 primary school studies</td>
<td>10 classic nurture groups</td>
</tr>
<tr>
<td>45 evaluative</td>
<td>25 qualitative studies</td>
<td>9 secondary school studies</td>
<td>13 part-time variants</td>
</tr>
<tr>
<td>17 describing effectiveness</td>
<td>11 mixed methods studies</td>
<td>3 including both</td>
<td>9 mixture of variants or ‘NG variant 3’ studies</td>
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(Some of the studies did not specify the methods used, whether they focused on primary or secondary children and the type of nurture group.)

### Previous research on effectiveness of the NGs

Through the review it was possible to identify that most of the studies aimed to understand NGs’ effectiveness through analysing behavioural change in pupils. Some studies also aimed to establish NGs’ impact on academic attainment and the whole school environment.

Studies were using quantitative, qualitative or mixed method approaches to understand NGs’ effectiveness in classic or variant type NGs and in primary or secondary school settings.

Quantitative research focused on analysing changes pre and post measurement either through the Boxall profile or SDQ questionnaire and most of the studies had a non-randomised design using matched control groups. Some studies were also conducted without using a control group (such as Binnie & Allen 2008, Cooke et al 2008, O’Connor & Colwell 2002).

Studies with matched groups had sample sizes varying from one school to 34 schools and from one single case study to studies including 546 pupils from NGs and control groups. Control group selection included participants from the same school or selected matched schools (Cooper et al 2001, Cooper & Whitebread 2007, Reynolds et al 2007; Sanders, 2007) or children were matched individually (Cooper et al 2001, Cooper & Whitebread 2007, Reynolds et al 2007). Matching was often done by age, gender, educational attainment, ethnicity, SEBD levels, socio-economic status, the number of pupils on the roll, and the deprivation levels of the area.

Most of the quantitative studies were short term and the entry and exit measurement were within one year. Currently there are only five long term studies that have also conducted a follow-up study a year or two after exit (see Chenay 2011, Cooper et al 2001, Cooper & Whitebread 2007, Reynolds et al 2007, O’Connor & Colwell 2002). These studies mainly assessed the changes in SEBD through Boxall profiles and SDQs and only in seven studies have there been attempts to cover questions regarding academic attainment (Binnie and Allen 2008, Cooper et al 2001, Cooper & Tiknaz 2005, Reynolds et al 2009, 2010, Sanders 2007, Scott & Lee 2009, Seth-Smith et al 2010).

Qualitative research has aimed to understand NGs’ effectiveness from parental, staff or pupil perspectives and has drawn on perception data from interviews, focus groups, questionnaires, observations and case studies.

In addition, multiple mixed method approaches have combined these two approaches to understand the effectiveness of NGs.

### Findings of the systematic review

Overall it can be argued that there was a consensus among the studies that NGs can have a positive impact on children’s SEBD especially in the short term (i.e. Cooper et al 2001, Cooper & Whitebread 2007, Reynolds et al 2009, Scott & Lee 2009, Seth-Smith et al 2010). More specifically the review enabled the identification of some key areas where NGs can have an impact and some conditions under which NGs seem to be working most efficiently. Furthermore it identified areas that require further research. This section will describe the areas of impact and conditions under which NGs seem to work most efficiently.

### Areas of impact

The most often reported areas of impact in the literature were: children’s improved SEBD levels, the whole school environment and home-school relationships. NGs were also found to have an impact at the wider societal level: being very cost-effective educational

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interventions in comparison to other interventions.

Both quantitative and qualitative studies demonstrated that children's behaviour was improving after their participation in the NGs. The most reported benefits for the children were found to be reducing displays of acting out behaviour and improving self-management of anger and calmness (Binnie & Allen 2008, Bishop & Swain 2000, Colwell & O'Connor 2002, Cooper & Tiknaz 2005, Cooper & Whitebread 2007, Reynolds et al 2009, Sanders 2007, Scott & Lee 2009, Seth-Smith et al 2010). NGs were also found to reduce school exclusions and special placement (Cooper 2011, Iszatt & Wasilewska 1997, Ofsted 2009, Ofsted 2011, Estyn 2007).

The whole school environment was also demonstrated to benefit from NGs (Binnie & Allen 2008, Bishop & Swain 2000, Cooper et al 2001, 2004, Cooper & Tiknaz 2005, Cooper and Whitebread 2007, Doyle 2001, Doyle 2003, 2004; Lucas 1999, Reynolds et al 2009; Sanders 2007; Scott & Lee 2009). The impact on other pupils within the whole school environment was identified in quantitative studies through comparison of SEBD scores of pupils with SEB issues who did not attend NGs (even though there was a NG in the school), compared to students with SEB issues who attended schools without NGs (Cooper & Whitebread 2007). Chenay (2011), however, points out that the results of Cooper & Whitebread's (2007) study should be interpreted with caution as direct causality could not be determined by their data because it may be equally likely that schools choosing to host NGs were those that already prioritised a nurturing approach.

Qualitative studies further reported increased capacity for the school to support pupils with SEB issues (Binnie & Allen 2008) and an increase in the dialogue in regard to addressing SEB needs in schools (Doyle 2001). It was also found that in schools where there were NGs, classroom teachers reported more commitment in their work and learning opportunities (Binnie & Allen 2008) and in general better behaviour management and more curricular and pedagogical adaptations (Sanders 2007). In addition, by creating a calmer classroom NGs were found to provide respite to class teachers, peers and parents (Bishop & Swain 2000, Cooper & Tiknaz 2005, Cooper et al 2001, 2004; Binnie & Allen 2008, Cooper & Tiknaz 2005, Papamichael 2012). While evidence shows these positive contributions to the whole school environment, these results should be interpreted with caution as these schools might have already had an improved ethos and capacity to support children with SEB issues. (Cooper 2004, Goodman 1997, 1999, Walker 2010).

The benefits of NGs were also found to reach beyond the school environment and some evidence was also available about improvements in a child's behaviour in the home context (Binnie & Allen 2008, Sanders 2007, Seth-Smith et al 2010). Teachers were found to be able to exert a powerful influence on the development and behaviour of young children even if they have continuing negative influences at home (Colwell & O'Connor 2002).

It can also be suggested that NGs have had a wider societal impact because when NGs have been compared to other educational interventions, they have been found to be the most cost-effective (Boxall & Lucas 2002; Iszatt & Wasilewska 1997, O'Connor & Colwell 2002). For instance, Boxall & Lucas (2009:4) argued that in comparison to EBD out of borough residential placement, which costs around £40,000+ per child, or the full-time LSA support, which costs £14,000+ per child, a nurture group may bring down the cost to £1,833 per child.

**Under what conditions do nurture groups work?**

While many studies have demonstrated that NGs have had a positive impact on a variety of aspects both in schools and pupils, there was very little information in regard to the particular conditions that would explain what make NGs successful. Only Davies (2011) and Parsons (2012) have so far in their PhDs focused on identifying factors at community, family, whole school and mainstream classroom levels to understand what factors contribute to successful outcomes.

Through the review of literature, however, it was possible to identify some issues that were repeatedly discussed as having the potential to contribute to successful outcomes. These factors will be categorised and discussed in regard to issues related to pupils themselves, group related factors, organisational issues and school related factors.

First, the review identified some particular characteristics of pupils which could be relevant for NGs’ effectiveness, such as their English skills and national curriculum attainment levels, the challenges the children have, their age and gender.

So far there is some evidence that variations in children’s fluency in English and national curriculum attainment levels have demonstrated differences in children’s progress in NGs (Rautenbach 2010, Pintelei 2009, Cooper & Tiknaz 2005). Further research is needed, however, to determine how other factors such as children’s characteristics, age and gender matter in terms of NGs’ impact, as no consensus on these factors has been reached.

For instance, children whose emotional needs were linked to self-esteem and anger management (Renwick & Spalding 2002) as well as those who were quiet and withdrawn have both seemed to benefit from NGs (Cooper & Tiknaz 2005; Sanders 2007). Although when children have been assessed through the Boxall profile including both the developmental and diagnostic strand, the previous research has mostly demonstrated that the developmental strand has shown the most consistent and easy improvement, whereas diagnostic strands did not show as much progress (Sanders 2007 and O’Connor & Colwell 2002, Rautenbach 2010, Cooke et al 2008, Broadhead et al 2011, Cooke et al 2008, Farrell et al 2009). Only in one research (Papamichals 2012) did the diagnostic strand improve slightly more than the development strand. This suggests that those with challenges featuring in the developmental strand are more likely to benefit more.

Furthermore, while in general there is evidence of younger children benefitting more from NGs, some research demonstrates that older children benefit from them and different age groups may develop different aspects of their behaviour or academic levels (Cooper and Tiknaz 2005; Gerrard 2006, Sanders 2007). For instance, Sanders (2007) found that younger children showed more improvement than older children. This view was supported with research by Scott & Lee (2009) which found that the earlier children accessed the intervention, the more readily they were influenced by it. In addition they argued that NGs did not produce significant improvements for KS2 children even though it had some improvement, and it noted that those school samples containing...
older children had less significant results. However, a study focusing on a variant 3 NG found, during a six-week intervention that younger children in some cases had shown less improvement than older (Renwick & Spalding 2002).

Moreover, evidence also suggests that younger and older children have gained improvements in different areas of behaviour and skills and it was found that not all children make the same progress (Cooper & Tiknaz 2005, Gerrard 2006, Sanders 2007). While children in reception classes were found to have had the greatest improvement in the total development scores (Reynolds et al 2009), Scott & Lee (2009) demonstrated that younger children showed more improvement in behavioural, emotional and social skills and the older children showed more improvement in academic skills (Hosie 2013). These results demonstrate a need for further clarification on the most optimal age of NG provision and increased understanding on what aspects of behaviour can benefit most from NGs.

Gender has not specifically attracted attention in the studies on variant 1 or 2 NGs (apart from Reynolds et al 2009 and Bani 2011) and there is no information yet on whether boys or girls would benefit more from NGs. Only one piece of research studying the impact in a variant model 3 (six-week intervention) suggested that boys had benefitted more than girls (Renwick & Spalding 2002).

Second, class composition (Cooper & Whitebread 2002), the right balance between different ages and types of SEB challenges (Howes et al 2002, Rautenbach 2010), the group size (Davies 2011) and certain staff characteristics (Cooper and Tiknaz 2005) have been discussed in the literature as potential factors impacting the effectiveness of NGs. For instance, in regard to class composition it was found to be important to have two full-time members of staff in a NG (Cooper & Tiknaz 2005, Davies 2011). Cooper & Tiknaz also found in a national study that whether or not the NG teacher had been replaced during the running of the group could actually have an impact on NG students’ social, emotional and behavioural functioning (2005). Moreover, it was found to be important that the school had a mixture of different ages and types of SEB challenges. Having a functioning balance in the group can help the teachers to give equal amounts of attention to each child.

However, more detailed information is not yet available on the importance of class size and teacher characteristics, even if they were suggested to be important for NGs functioning in the previous literature. For instance, even though there is a minimum and maximum limit in the NG for pupils there is very little discussion about the impact of a group’s size in the NG context.

While smaller group size can give the staff more opportunity and flexibility (Davies 2011), Boxall & Bennathan suggested (2000) that lower limit for numbers should be 10 pupils in order to avoid creating an undue attachment to the NG and the NG staff (Cooper & Whitebread 2007, Cooper 2004). Therefore it is suggested that there is a necessity for further research on the effect of class size as there are no systematic comparisons between children in NGs and matched children attending classes restricted to the same size but without using the NG principles (Reynolds et al 2009). In addition, there is no study focusing on teacher characteristics and behaviour while they are believed to have an impact on NG functioning (Davies 2011).

Third, the most discussed organisational factors in the previous literature relate to the time the group has been in existence, total length of time spent in the group and whether the pupil has attended a part or a full-time group.

There is a consensus about the correlation between NG efficiency and the length of the time the group has existed and the best results seem to have been achieved when the NG has been in existence at least for two years (Garner 2010, Cooper & Whitebread 2007, Rautenbach 2010). It has also been demonstrated that pupils gain different skills depending on how long they spend in the group. There is strong evidence that most SEBD improvements take place in the first two terms of the school year (Cooper et al 2004, Broadhead et al 2011, Scott & Lee 2009, Cooper & Whitebread 2007, Cooper & Whitebread 2007, Sanders 2007). However, this does not exclude that some children benefit from being part of the NG for a longer time (Garner 2010). Significant improvements on the ‘organisation of experience’ continue between terms two and three (Cooper & Tiknaz 2005) whereas cognitive progression and engagement in educational and learning tasks continue to improve within the third and fourth terms (Cooper & Tiknaz 2005). This then advocates supporting emotional needs first, from which academic progression will follow (Binnie & Allen 2008).

Furthermore, the question of whether the part-time variant group can be as influential as the classic full-time nurture group has attracted attention in the research (Cooper & Whitebread 2007, Cooper & Tiknaz 2005, Garner 2010, Scott & Lee 2009). While some researchers argue that longer periods predict higher levels of mean improvement (Cooper & Tiknaz 2005) and that full-time provisions may have encouraged greater progress due to their more intensive nature (Hosie 2013), most literature has agreed that the part-time model is as beneficial. Overall, various studies show that there has been no significant difference in scores between the children who have participated in the NG on a full or part-time basis (Cooper et al 2001, Binnie & Allen 2008, Sanders 2007, Scott & Lee 2009, Cheney 2011).

Fourth, school-related factors as a whole were considered to be important for efficient functioning of the NGs. It was found that NGs were more likely to be effective when they operate as a part of the school rather than an add-on to the school (Cooper & Tiknaz 2005) and schools were able to make the most of NGs when the whole-school community is committed to pupils’ needs (Cooper & Tiknaz 2005). Furthermore, the working relationships of the staff and the ability to work collaboratively were other important factors in NGs’ success. It was found to be important that the head teacher shared the vision with the NG staff and that the NG staff felt part of the whole school (Davies 2011). Good communication across members of staff was especially found to be crucial for NGs’ success. If the communication did not work between the mainstream and NG teachers, school staff felt that the teachers were less able to assess pupils’ academic attainment and that they knew the NG children less well (Sanders 2007). Poor communication also left NG teachers isolated (Sanders 2007, Dowsett 2011 p.89) and resulted in a lack of clarity about who was responsible for which aspect of the pupils’ education (Ofsted 2011, Sanders 2007).
What next?

While the systematic review was able to gather information about NGs’ effectiveness in promoting SEBD and about the conditions that are important for its efficiency, it also clarified gaps in the literature that need future attention. This section will briefly discuss the gaps and create recommendations for future action.

First, even if there was a consensus in the literature that NGs can benefit SEBD in children especially in primary schools, there was less evidence of NGs’ impact on children in secondary schools. There are only nine studies focusing on secondary school children: Colley (2009, 2011), Cooke et al (2008), Garner (2010), Garner & Miles (2011), Kourmoulaki (2012), Parsons (2012), Pintelei (2009), Vince (2007). So far studies focusing on secondary school children have been based on perceptions of children’s improvement rather than on quantitative data. Future research would benefit from quantitative studies in the secondary school environment. Learning about what mechanisms would work best in secondary school settings could enhance NGs’ presence in secondary schools and uncover the most efficient tools for supporting pupils’ SEBD.

Second, whereas NGs have indicated potential for impacting academic attainment as demonstrated by Reynolds et al (2009), Scott & Lee (2009) and Seth-Smith et al (2010) through quantitative measures and by Binnie & Allen (2008), Cooper et al (2001), Cooper & Tiknaz (2005) and Sanders (2007) through teacher and parent perceptions, more research would be beneficial to draw conclusions on NGs’ potential to support academic attainment through usage of different quantitative academic measures and studies covering a longer time span.

Third, while a wealth of literature described positive changes that NGs can bring about, little attention was paid to understanding what the key ingredients for NGs’ effectiveness are. Some characteristics at pupil, NG, school and organisational level have already been identified to support efficient NGs, but further research is required to understand optimal conditions for NGs’ success and to adjust NG practice accordingly. For instance, qualitative case studies could be considered to identify characteristics under which NGs perform best both in primary and secondary schools.

Fourth, in addition to the identified gaps in the research, the previous NG research has also suffered from some methodological weaknesses which should be addressed in the future research. For instance, there has been a lack of longitudinal studies, which makes it difficult to assess NGs’ long-term impact. Most research reported improvements in the first two terms and did not investigate further and there were only a couple of longitudinal studies which covered a time period of over two years, but in these studies sample size had significantly reduced when it was time for a new measurement (two years after intervention).

Moreover, sample size and selection of samples challenged the validity of results. For instance, some quantitative studies drew conclusions with as few as four NGs in the study (see Tiknaz & Cooper 2005). Some qualitative studies also included as few as four parental and staff interviews, or were based on three pupils’ and four staff perceptions (see Kirkbridge 2012 or Parsons 2012). Those samples, which were non-randomised and were chosen as they had volunteered for the research, caused a concern for the validity of results when these schools may already have a more positive or negative view of NGs. In addition, those studies, which did not use any control groups (i.e. O’Connor & Colwell 2002 and Binnie & Allen 2008), found it difficult to determine whether the change took place due to the NG or some other factor. Therefore, future research would benefit from larger samples and also from a more selective sampling strategy (Garner 2010).

Finally, both quantitative and qualitative studies focusing on assessment of impact of NGs have suffered from subjectivity. Usually Boaxall profiles have been evaluated by the teacher who knows the child best. However, as the profile is completed by only one person, it is open to subjective perception (Colwell & Connor 2002). Qualitative data can also suffer from subjectivity and lack of validity. The data received from interviews or questionnaires rely on subjective interpretations and have often only taken account of some of the stakeholders’ views to draw conclusions on the findings. Furthermore, various pieces of research have identified the difficulty in interviewing pupils and have commented that children have only replied with short answers, and that some have been too shy to elaborate on their answers (Parsons 2012, Walker 2010), which has also raised questions of validity of some data. Thus, qualitative research could also benefit from triangulation of data and ensuring the inclusion of multiple stakeholders’ perspectives.

CONCLUSION

The main findings of the previously conducted systematic review on NGs’ efficiency were described in this paper. The first section of the paper introduced the methods and scope of the review. In the second section the previous literature on NGs was discussed. The third section focused on the main findings and the research gaps, before creating some recommendations for further research in the fourth section. The main finding of the review was that there is a consensus on the NGs’ ability to promote change in regard to children’s SEBD especially in the short term while longer-term evidence is still scarce. Further findings of the review included identification of the main areas of impact and the key conditions at the pupil, group, school and organisational levels that can promote NGs’ efficiency. While this review contributed to the understanding of the current literature on NGs and on NGs’ efficiency, it also clarified the areas that still require further research. NGs’ impact on academic attainment and in secondary schools would especially benefit from more quantitative research even if there is already some promising evidence in these areas. Further research would also benefit from a case study approach to understand more conditions that can support NGs’ efficiency and help to achieve its goals in practice.
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