Potentials and Challenges of Family Literacy Interventions: the question of implementation quality

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ABSTRACT Literacy interventions in the family context have great potential to promote reading development in children. However, the results of meta-analyses indicate that family-based approaches tend not to be as effective as expected. Although the effectiveness of family literacy interventions can be assumed to hinge largely on the quality of their implementation in families, this aspect has attracted surprisingly little research attention to date. This article identifies, analyses, and discusses aspects of implementation quality that may enhance or diminish the effectiveness of family literacy interventions. Data from two evaluation studies of programmes for kindergarten- and school-age children were used to examine three types of implementation variables (intensity and quality of parent–child activities; support and training provided for parents; participation). The results indicate possibilities for how implementation quality in all three areas can be improved. Implications for future family literacy programmes as well as for evaluation and implementation studies are discussed.

Introduction

The acquisition of literacy skills is one of the essential ingredients for success in primary education: reading and writing constitute a major part of the curriculum, and both skills are conditional for progress in other subjects. Most children learn to read and write successfully during the primary school years. As recent international studies have shown, however, a considerable number of students lag systematically behind their peers (e.g. Organisation for Economic Cooperation and Development [OECD], 2001; Artelt et al, 2003; Mullis et al, 2003). In children of preschool and primary school age, one environmental variable is particularly important, namely the family. Research has shown that the family remains a crucial factor in scholastic development up to and beyond the end of primary schooling (Entwisle & Alexander, 1992; Elley, 1994).

A focal area of research into family effects on reading and writing development is the home literacy environment (HLE) (Purcell-Gates, 1996; Leseman & de Jong, 1998; Whitehurst & Lonigan, 1998; Gunn et al, 2000; Burgess et al, 2002; Centre for Community Child Health, 2004). Studies on the HLE examine both the quantity and quality of literacy activities to which children are exposed in the home. In two well-known meta-analyses, Bus et al (1995) and Scarborough & Dobrich (1994) found significant effects of shared reading frequency on oral language abilities, code-related (pre-)literacy skills, and formal reading acquisition. Other researchers have established effects of other activities (Weinberger, 1996; Sénéchal et al, 1998; Van Steensel, 2006a).

The quality of the HLE can be discussed in the framework of socio-cultural theories, e.g. the influential work by Vygotsky (1978). In these theories, the social co-construction of meaning through social interaction is brought to the centre of attention (see also Rogoff, 1990; Resnick et al, 1991; Cole, 1992). Co-construction of meaning is a fundamental part of parent–child literacy practices (see also the work on intertextuality), and is guided by favourable interaction strategies
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such as ‘scaffolding’ (Wood et al, 1976; Neuman & Gallagher, 1994) and ‘contingent responsivity’ (Van Tuijl, 1993).[1] An important feature of HLE quality is the extent to which interactions during parent–child literacy activities are characterized by utterances that move beyond the immediate conversational context and stimulate children to reconstruct or analyse events and share opinions and ideas (‘decontextualized talk’ [Whitehurst & Lonigan, 1998]). At the same time, social-cognitive learning theory (Bandura, 1977) provides through the framework of learning from models in the social context an explanation for intergenerational transmission of literacy practices.

Families differ in the range of literacy activities they provide. These differences are known to be related to demographic variables. Bradley et al (2001) examined the HLE in a large sample of US families of different socio-economic status (SES) and ethnic backgrounds. They found effects of both SES and ethnicity on quantitative aspects of the HLE. Similar findings have been reported for other countries (e.g. the Netherlands: Tesser et al, 1999; Germany: Müller & Stanat, 2006). SES and ethnic background also influence the quality of literacy activities and the types of knowledge that are transferred in parent–child interactions during those activities (see also the theory of Bourdieu [1984] on families’ cultural capital and social differences). In a classical ethnographic study Heath (1982) compared literacy practices in three American communities: a middle-class community, a European-American low SES community and an African-American low SES community. Her extensive research provides data on literacy practices but also on more general child-rearing issues. She describes how interaction patterns vary depending on the social class of the family and their ethnic background, with literacy practices in the middle-class community resembling most the practices common in education (see also Miller et al, 1986). Bus et al (2000) examined (own language) literacy-related interactions in (Dutch) native families and two groups of immigrant families (Turkish and Surinamese), and found the interactions in the latter two groups were much less decontextualized than those in the former group (see Ninio [1980] for two subgroups in Israel).

It can thus be concluded that children’s literacy development is partly determined by the experiences to which they are exposed at home. In some families, children’s opportunities to participate in high-quality literacy activities are limited. These children run a greater risk of falling behind in formal reading and writing education. Attempts to counteract such deficits can take various forms. Given the strong relationship between home variables and literacy development, however, efforts to foster literacy development may particularly target the family. This article examines the potentials and challenges of family literacy interventions.

Potentials, Effects, and Challenges of Family Literacy Interventions

The general idea underlying family literacy interventions is that providing parents with the necessary content, pedagogical and didactic tools to engage their child in stimulating reading and writing activities can have profound, long-term effects on the child’s literacy development. Family interventions are argued to have a number of important advantages over, for example, interventions in the (pre-) school context (Van Tuijl et al, 2001; McElvany, 2008). Among others, these advantages concern:

1. The intensity of intervention. Family-based interventions (in contrast to group or classroom settings) provide ample opportunity for one-to-one teaching and learning interactions, and thus for intensive practice and individual feedback (cf. Van Tuijl et al., 2001).

2. The duration of impact. Family literacy interventions aim to make permanent positive changes to families’ literacy practices and habits, and ideally to establish these changes within the routines of family life. They are thus assumed to have long-term effects on reading habits and hence on reading literacy.

3. The role of parents as models. Learning by observing others (‘model learning’; see Bandura, 1977) is known to be an important form of learning. With parents being children’s closest developmental actors, approaches that enable parents to function as positive reading models and that guide children to learn from their parents within the intervention and beyond seem very promising.

4. The ecological appropriateness of the intervention. Kağıtçıbaşı (1999) argues that using the home as the primary medium of intervention enhances the intervention’s sensitivity to the social and
cultural context of child development. This factor seems particularly relevant when there are discrepancies between home and school culture (e.g. in some immigrant families).

Although early interventions often draw on a deficit model (compensating for a perceived lack in families of at-risk children by means of intervention programmes), the home-based approach, though compensatory in essence, moves away from this model ‘by incorporating parents in a nontrivial way, as shareholders and as instructors interacting with the child’ (Van Tuijl et al, 2001, p. 149). Rather than identifying deficits, strengths of families and family interaction are the focus (cf. Grolnick [2003] for the question of power dynamics in parent–child interactions).

Various studies have been conducted to establish whether the assumed benefits of family interventions lead to positive effects. Evaluations of individual programmes have confirmed positive outcomes in three main domains: children’s literacy skills (cf. Leslie & Allen, 1999; Jordan et al, 2000; St Clair & Jackson, 2006), parental literacy activities (Morrow & Young, 1997), and the quality of parent–child interaction (Neuman & Gallagher, 1994).

This is only part of the picture, however. Over the past two decades several meta-analyses have been published on the effects of family literacy interventions on child development. Although these meta-analyses are most often broad in nature – i.e. they incorporate family literacy programmes as well as other types of family interventions – it can be argued that because they integrate the results of individual studies, they provide a more generalizable estimate of effectiveness. Overall, the results of these meta-analyses challenge optimistic assumptions with regard to the benefits of family literacy interventions.

A well-known meta-analysis was conducted by White et al (1992). The authors examined the effects of home-based interventions and compared them with the effects of centre-based programmes. For centre-based programmes, they found no additional effects for programmes with a home-based component compared to programmes without a home-based component. Additionally, the effects of home-based interventions conducted by parents proved to be significantly smaller than those of home-based interventions conducted by professionals.

More recently, Mattingly et al (2002) analysed the results of 41 evaluations of parent involvement programmes. The mean effectiveness ratio of the number of measures on which effects were found and the number of measures on which no effects were found was 0.22, indicating that programme participation had positive effects overall. However, closer inspection of the studies showed that many had methodological flaws (no pre-testing, no control group, or, if a control group was present, no procedure to maximize comparability between programme and control groups). Additional analyses limited to the methodologically adequate studies showed no effects of programme participation.

Blok et al (2005) conducted a meta-analysis in which evaluations of home-based programmes were compared with evaluations of centre-based programmes. They found that the overall effects of the former were considerably smaller than those of the latter.

In a meta-analysis focused solely on family literacy programmes, Sénéchal (2006) did find an overall positive effect of intervention (the mean weighted effect size was 0.68), but also observed large variation among the studies she analysed, with some studies showing no effects whatsoever.

The fact that results from meta-analyses are mixed at best, raises the question why family literacy interventions do not always yield the expected effects. One possible explanation is constituted by the issue of implementation quality: it may be that the implementation of certain programmes – i.e. the way they are put into practice – is not optimal, for example because they are hampered by practical issues. Despite the clear need to take the implementation quality of family literacy intervention programmes into account, this aspect has attracted surprisingly little research attention to date. The present study takes first steps to close this gap in the literature by aiming to identify critical implementation issues in the specific context of family literacy interventions. It discusses examples of recent programme evaluations conducted in two European countries – the Netherlands and Germany – in which, in addition to effectiveness results, programme implementation data are available. The programmes differ in terms of intervention procedure, target groups, duration and intensity. They are used as illustrative cases in order to investigate and discuss several core issues in regard to implementation quality. Before analysing and discussing measures of implementation quality in detail, we provide an overview of the conceptual
framework of each programme, the methodology of the evaluation, and findings on the programme’s effectiveness.

Example 1: effects and implementation of the Dutch ‘Opstap Programme’

Programme Description

Opstap (‘Step-up’ in English) is a publicly funded, family literacy intervention for kindergartners (aged 4-6 years) from disadvantaged backgrounds and is offered to families across the Netherlands. It was developed as an adaptation of the Israeli HIPPY programme (Lombard, 1981). Parents and children engage daily in a series of stimulating activities (five daily activities per week) over a two-year period. Mothers are approached as the primary actors and participate on a voluntary basis. They are supported by paraprofessional parent trainers, who usually have the same social and ethnic background, but who are somewhat better educated. The parent trainers receive introductory training and are supervised by professionals. They visit the participating families every two weeks, assisting parents by explaining programme activities and providing examples of stimulating interaction strategies. Additionally, two-weekly parent training sessions are organized by professional programme managers.

Opstap covers a diversity of early literacy activities (shared reading, discussing picture books, playing language games, rhyming, singing songs) and is, in principle, a ‘home language programme’. It is available in Dutch as well as in Turkish and Arabic, the mother tongues of the two major non-native target groups. Parent–child discussions of picture-book stories are a recurrent activity in Opstap. The basic procedure generally consists of three phases (Kurvers & Vallen, 1995). In phase 1, parent and child look at the pictures accompanying the story. They discuss the pictures to activate the child’s background knowledge and – particularly in the later stages of the programme – to make predictions about the story’s theme and contents. In phase 2, the parent reads the story. In phase 3, parent and child discuss the story. The parent is provided with sample questions. In the initial stages of the programme, these questions tend to be limited to the context of the story; for example, the child may be asked to describe a character’s actions. In the later stages, they become increasingly decontextualized; for example, the child may be asked to connect events in the story to his or her own experiences.

Effect Study: summary of the results

Between 2000 and 2005, a programme evaluation of Opstap was conducted, in which the school results of participating children (n = 54) were followed longitudinally (in the course of three school years), and were compared to those of a control group (n = 62). The primary objective was to set up an ecologically valid assessment (cf. Cohen et al, 2007), in which the programme was examined as it was conducted in daily practice. Since participation in Opstap is the result of self-selection, randomly assigning children to experimental and control conditions was impossible. Instead, a matching procedure was followed to make the programme and control groups comparable: from the classes the programme children attended, control children were sought that resembled them on critical demographic variables (gender, age, SES, ethnicity). Unfortunately, perfect matching was not feasible: the programme and control groups were comparable in gender distribution (programme: 30 boys, 24 girls; control: 32 boys, 30 girls; \( \chi^2(1) = 0.18, p = .671 \)) and mean age (programme: 6.5 years; control: 6.4 years; \( t(113) = 0.96, p = .339 \)), but differed with respect to SES [2] (programme: 2.8; control: 3.5; \( t(114) = -4.30, p < .001 \)) and the distribution of native and non-native children (programme: 7 native, 47 non-native; control: 41 native, 21 non-native; \( \chi^2(1) = 33.63, p < .001 \)). Therefore, these demographic variables, together with more detailed information about the children’s backgrounds (home literacy environment), were used as control variables in the effect analyses.

The children’s (Dutch) language and literacy development was monitored from the end of kindergarten until the end of grade 2, using standardized tests to measure conceptual skills, vocabulary, reading comprehension, word decoding, and spelling. Additionally, teacher assessments and grades on report cards were obtained. Since the study aimed to examine long-term programme effects, a post-test-only design was used: the first measurement was taken when the
families had nearly finished the programme. Statistical comparisons were made using Analysis of Covariance (ANCOVA). Because the programme and control groups were not fully matched, three background characteristics known to be highly related to early literacy development were entered as covariates, in order to control for the effects of possibly confounding variables as much as possible: SES, ethnicity (see earlier), and a home literacy environment (HLE) variable, which was constructed on the basis of the results of a parent questionnaire. The ANCOVAs revealed that programme children did not score significantly higher than control children on any of the literacy measures; on two variables the programme group even scored significantly lower. For further details of the effect analyses the reader is referred to Van Steensel (2006b).

Quality of Implementation: Method

Since the programme was conducted ‘in real life’ and implementation was not controlled by the researchers, it was hypothesized that the absence of positive programme effects was caused by the way programme activities were carried out. Information on the quality of implementation was gathered through interviews conducted with the parents (n = 54) and with the parent trainers (n = 17; two parent trainers did not participate) at the end of the final programme year. Questions addressed were:

- the intensity and quality of parent–child interactions. This refers to the accuracy of implementation (i.e. the average number of weekly activities that were actually carried out by families), the quality of parent–child interactions within the learning situation, and the implementation conditions within the home (i.e. the match or possible discrepancy between the language background of the family and the language of the programme, as well as the involvement of others besides the primary actors);
- the intensity and quality of the support and training provided for parents. This was assessed by examining the actual frequency of home visits, parents’ attendance at parent trainings, and the match/discrepancy between the language background of the family and that of the parent trainer.

The parent interviews were conducted either by the researcher and a trained student assistant, or by the parent trainers employed by the Opstap programme. The latter were involved for two reasons. First of all, they had frequent contact with the families, and therefore had gained their trust and were thus less threatening than an unknown researcher. Second, many of the parent trainers were recruited from the same ethnic and language communities as the families they supported, and were thus able to conduct the interviews in the families’ mother tongues. The parent trainers received extensive training including test interviews with (other) parents participating in the Opstap programme. The interviews with the parent trainers were conducted by the researcher.

Quality of Implementation: results

Intensity and quality of parent–child interactions. As an indication of accuracy of implementation, the parent trainers were asked to estimate from experience, on average, how many of the five weekly activities each family would usually carry out. The mean was 4.45 (SD = 1.04), indicating that according to the parent trainers the overall accuracy of implementation was quite high.

Information on the quality of parent–child interactions was obtained in the parent interview. Parents were presented with a picture and asked to describe how they would discuss it with their child. Two aspects of these (reported) interaction patterns were coded. First, it was determined whether the interaction was reciprocal (with both parent and child contributing to the interaction), or not (with only the parent or the child making substantial contributions to the interaction). Second, the interaction was categorized according to its level of abstraction. Based on the coding scheme by Blank et al (1978; see also Nap-Kolhoff & Van Steensel, 2005), four levels of abstraction were distinguished: (i) ‘matching perceptions’, where the child is required to focus on specific perceptually available information (e.g. naming objects in the picture); (ii) ‘selective analysis’, where the child is required to draw relationships between perceptually available items without going beyond the context of the picture; (iii) ‘reordering representations’, where the child is
required to invoke concepts that are not perceptually available (e.g. when the parent asks the child to relate a situation in a picture to his or her own experiences); and (iv) ‘reasoning about representations’, where the child is required to discuss what may, might, could, or would happen to people or objects in the picture. Because the questionnaire was administered at the end of the final programme year, it was hypothesized that the programme families’ interactions would be characterized by reciprocity and relatively high levels of abstraction.

The results for reciprocity and level of abstraction are presented in Table I. The scores of 18 families (all non-native) on the abstraction variable are missing due to unclear or non-categorizable answers. The latter might have been due to the fact that, in spite of extensive training, the open questioning was too unfamiliar for some of the parent trainers who conducted the interviews, or that some of the interviews with the non-native families were conducted by interviewers who did not speak their mother tongue; as a result, these interviews had to be conducted in the parents’ second language, Dutch.

<table>
<thead>
<tr>
<th>Reciprocity of the interaction</th>
<th>n</th>
<th>%</th>
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<tbody>
<tr>
<td>Both parent and child contribute to the interaction</td>
<td>38</td>
<td>73.1</td>
</tr>
<tr>
<td>Interaction is dominated by the parent</td>
<td>12</td>
<td>23.1</td>
</tr>
<tr>
<td>Interaction is dominated by the child</td>
<td>2</td>
<td>3.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of abstraction</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matching perceptions</td>
<td>23</td>
<td>63.9</td>
</tr>
<tr>
<td>Selective analysis</td>
<td>3</td>
<td>8.3</td>
</tr>
<tr>
<td>Reordering representations</td>
<td>4</td>
<td>11.1</td>
</tr>
<tr>
<td>Reasoning about representations</td>
<td>6</td>
<td>16.7</td>
</tr>
</tbody>
</table>

Table I. Quality of parent–child interaction during picture book activities in Program 1: Reciprocity (n = 52) and Level of abstraction (n = 36).

In most cases, parent–child interactions were characterized by reciprocity, meaning that according to the parent both parent and child contributed to the interaction. In terms of abstraction levels, however, interactions in most families (63.9%) were limited to the lowest level (matching perceptions), implying that parent and child did no more than simply naming the objects and/or describing the actions in the picture.

The quality of parent–child activities is probably influenced by whether or not families were able to use an appropriate language version of the programme. Opstap is available in three languages: Dutch, Turkish, and Arabic (representing the largest language communities in the Netherlands). It appeared, however, that parents from other language groups were encouraged to participate in the programme as well. Inspection of the families’ language backgrounds shows that 17 of the 54 families were required to use the Dutch programme rather than a home language version. For 15 of them, this was problematic, because Dutch was not the parents’ dominant language.

In 21 cases, the programme was partly or fully conducted by someone other than the mother (father, older child, or even parent trainer). When the programme is carried out by family members who have not received instruction in the programme and its objectives, the quality of implementation may suffer. That the parent trainer was actively involved in some families was caused by the fact that normal programme implementation was hampered by practical issues (e.g. illiteracy, severe socio-emotional problems, parents’ work).

Intensity and quality of support and training provided for parents. For each family, the parent trainers indicated how frequently home visits had taken place and how often the parents attended parent meetings. The results are summarized in Table II.

Table II shows that the frequency of home visits was, in most cases, optimal. Attendance of parent meetings was considerably lower in many families, however. Although more than 50% of parents were regular attendees, more than one-third only attended a few, if any, of the meetings. Parent trainers were asked to give possible reasons for non-attendance. Most of the reasons identified were practical – some temporary (e.g. illness, pregnancy) and others more structural in nature (e.g. both parents had day jobs and could not attend daytime meetings). In other cases,
parents (mostly mothers) were not able to combine caring for younger children with attending meetings outside the home.

<table>
<thead>
<tr>
<th>Frequency of home visits:</th>
<th>n</th>
<th>%</th>
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<tbody>
<tr>
<td>Limited (almost none of the visits took place)</td>
<td>2</td>
<td>4.1</td>
</tr>
<tr>
<td>Reasonable (about half of the visits took place)</td>
<td>5</td>
<td>10.2</td>
</tr>
<tr>
<td>Optimal (nearly all the visits took place)</td>
<td>42</td>
<td>85.7</td>
</tr>
<tr>
<td>Attendance of parent meetings:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited (participated in almost none of the meetings)</td>
<td>18</td>
<td>36.7</td>
</tr>
<tr>
<td>Reasonable (participated in about half of the meetings)</td>
<td>3</td>
<td>6.1</td>
</tr>
<tr>
<td>Optimal (participated in nearly all of the meetings)</td>
<td>28</td>
<td>57.1</td>
</tr>
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Table II. Intensity of Support Provided for Parents in Program 1 (N = 49)

The match/discrepancy between the language background of the family and that of the parent trainer was used as an indicator of the quality of parent trainer support. After all, parent trainer instruction may have been seriously hampered if the languages spoken by parents and parent trainers differed. The parent trainer interviews revealed that 20 families (43% of the non-native programme families) were supported by parent trainers from non-corresponding language groups. In 16 of these cases (34%), non-Dutch families were supported by Dutch parent trainers. In the other four cases (9%), families from one immigrant group were supported by parent trainers from another immigrant group. In all 20 cases, Dutch was used as a lingua franca. This solution was problematic for 16 families, in which the parents indicated that they were not fluent in Dutch. It can thus be assumed that about one-third of the 54 Opstap families did not receive optimal support from their parent trainers due to language problems.

Example 2: the Berlin Parent–Child Reading Programme

Programme Description

The Berlin Parent–Child Reading Programme was developed at the Max Planck Institute for Human Development (Centre for Educational Research) to foster major preconditions of reading (e.g. vocabulary, decoding, metacognitive skills), text comprehension, as well as the ability to elaborate on text content in oral communication. In addition, the programme aims to establish effective reading habits in participating families, such that the programme’s effects persist after its completion. Each of the programme’s 43 sessions over 3-4 months involves shared reading aloud of a text supplied and discussion of a set of elaborating questions (for a detailed description, see McElvany, 2008; McElvany & Artelt, 2009). Three 30-minute sessions are scheduled per week. The programme is aimed at fourth graders (usually aged 9-10 years old) and their parents. The participating families receive all materials free of charge, including separate instruction booklets for parents and children.

Each individual training session is highly structured and standardized. Sessions are generally divided into the following phases:

1. shared reading aloud of text for approximately 15 minutes to support fluency and vocabulary (the materials specify whether the text should be read by the child or the parent);
2. discussion of general metacognitive issues: ‘Was there anything in the text that you didn’t understand? Or were there any new words? Try to clear up any problems together before going on’ to teach metacognitive processes and vocabulary;
3. three to four basic comprehension questions to be answered by the child or the parent as specified in the materials to ensure basic understanding (propositional text representation) and metacognitive monitoring;
4. conversations based on elaborative questions and tasks (situational text representation) to train how to use elaboration strategies, metacognitive processes, and vocabulary;
5. a closing task in the area of cognitive strategies or motivation.
In sum, the programme involves a combination of guided oral reading and (implicit) strategy training, thus bringing together two elements that have proven successful in other reading training contexts (e.g., Palincsar & Brown, 1984; National Institute of Child Health and Human Development [NICHD], 2000), and systematically uses parents as models.

**Effect Study: summary of the results**

An evaluation study of the programme’s effectiveness with a quasi-experimental pre-test–post-test design was conducted in 32 fourth-grade classes in Berlin, Germany, from August 2003 to January 2004 (McElvany, 2008). The families of all children in these classes were invited to participate in the programme by letter. The sample included 116 children in the programme group and 393 children in the control group. The mean age was 9.3 years (SD = 0.6), and 46% of the children were girls. The design was quasi-experimental because participation was voluntary and all interested families could participate. The first measurement point was just prior to the programme phase, with the second measurement immediately following the programme phase. Multiple regression models predicted as dependent variable the development of vocabulary and reading-related metacognition. They included as independent variables the programme participation dummy variable, the pre-test score on the dependent variable investigated, and control variables (reading comprehension level and reading behaviour at pre-test due to differences detected between the two groups regarding these variables in the pre-test). The analyses confirmed with a significant regression coefficient for the programme variable that the programme supported the development of vocabulary (Cohen’s $d = .36$) and reading-related metacognition ($d = .15$; see Cohen [1988] regarding the effect size $d$). The latter effect was stronger for children with lower pre-test scores. The results indicate a positive impact on families’ reading habits, but contrary to expectations, no significant short-term main effects were found for decoding speed or text comprehension. In sum, the results in regard to effectiveness were mixed, and a closer look at implementation seemed necessary.

**Quality of Implementation: method**

The evaluation study sample ($n = 509$ plus 156 families that were excluded; see the Results section below) was used for all analyses of implementation issues. The intensity and quality of parent–child interactions in terms of accuracy of implementation and implementation conditions was measured on the basis of individual session protocols ($n = 116$) and post-programme family questionnaires ($n = 85$) assessing the number, frequency, and duration of sessions, the participants in the sessions, and the quality of interaction between parents and children in these learning situations. The session protocols for parents and children were identically structured, included the same questions for each session, and were filled in by child and parent after each session. Very high intraclass correlation coefficients (ICC(2)) indicate the high stability of ratings across the programme phase, and hence the adequacy of calculating an average rating for all sessions.

Two scales in the session protocols measured the quality of parent–child interaction:

1. Collaboration/working process from the parental perspective. After each session, parents assessed the quality of interaction on a three-item scale measuring engagement in a two-way conversation, the active cooperation of the child, and the quality of the shared work. Responses were given on a five-point Likert scale (ICC(2) = 0.94; M = 4.12; SD = 0.46).

2. Structures and processes from the child’s perspective. Children also assessed the quality of interaction in their session protocols. Five items assessed engagement in a two-way conversation, comprehensibility of parental statements, parents’ clarifications of unclear aspects, and children’s satisfaction with answers to the text comprehension questions provided by themselves and their parent. Responses were again given on a five-point Likert-scale (ICC(2) = 0.96; M = 4.51; SD = 0.40).

Additionally, video observations of two training sessions – one at the beginning ($n = 75$) and one at the end ($n = 68$) of the programme implementation phase – were used to examine the families’ overall implementation of the conceptual framework and specific aspects of the implementation. The videos were coded mostly with high-inference ratings on a five-point rating scale for each
aspect by one or two trained raters with satisfactory inter-rater agreement following a coding scheme developed for this purpose.

The participation rate and potential selectiveness were examined by reference to registration figures and session protocols indicating whether or not each session was conducted. Differences between programme participants and non-participating families/children were analysed on the basis of parent/student questionnaire data and test performance.

**Implementation Quality: results**

Intensity and quality of parent–child interactions. Analyses of videotaped sessions confirmed that families adhered to the programme’s overall conceptual structure. Analyses of the session protocols and post-programme questionnaires provided detailed information on the accuracy of implementation, conditions of implementation, and the implementation process. On average, families conducted 35 of the 43 sessions (SD = 8), giving an implementation rate of 81.4%. Moreover, 31% of the families did not skip a single session. In line with the recommendations made in the programme manual, families spent an average of 30.09 minutes (SD = 8.38) on each session. In contrast to recommendations, however, 77.9% of the families did not work through three sessions per week. Instead, most families conducted about two sessions per week, thereby prolonging the total duration of the programme period. In 94.8% of cases, the children worked with one parent (as was recommended). Additionally, however, 23.3% of the families indicated that other persons were often present as well, although they had been advised to find a space and time where just the child and one parent could work on the programme together.

In terms of the quality of parent–child interaction, the two scales in the session protocols indicate that (1) parents judged the collaboration/working process to be successful (M = 4.12; SD = 0.46, on a scale from 1, ‘not at all successful’ to 5, ‘very successful’), and that (2) children perceived the programme structures and processes in a positive light (M = 4.51; SD = 0.40, on the scale from 1 to 5).

Video analyses of the intensity and quality of parent–child activities at the beginning and end of the programme implementation phase yielded mixed results (see Table III for means, standard deviation, and rating scale). Parent–child dyads were generally successful in the key task of dealing with unclear words or contents after reading the texts (e.g. understanding the meaning of unknown words in parent–child dialogue, using means such as drawings for explanations, or giving examples). Furthermore, parents supported the child’s autonomy during the reading session and showed few signs of trying to dominate the situation. Findings on engagement in a two-way conversation were mixed. Moreover, the quantity of parental feedback was generally low to mixed (indicating feedback given for only approximately one-third of the tasks performed in each session), and parents provided little guidance through the sessions. The latter finding may, however, be attributed to the clear and standardized structure of each session, which may have rendered further guidance unnecessary. Nevertheless, the low rate of parental feedback indicates that this element might need to be given greater emphasis in parent training and written instructions.

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<th>Video Session 1 (n = 75)</th>
<th>Video Session 2 (n = 68)</th>
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<tbody>
<tr>
<td>Dealing with unclear words or contents after reading the texts (metacognitive task)</td>
<td>4.24 0.88</td>
<td>4.03 0.75</td>
</tr>
<tr>
<td>Engagement in a two-way conservation</td>
<td>3.29 0.63</td>
<td>3.03 0.48</td>
</tr>
<tr>
<td>Parental feedback (quantity)</td>
<td>2.63 1.09</td>
<td>2.72 1.05</td>
</tr>
<tr>
<td>Guidance from parents</td>
<td>2.59 0.77</td>
<td>2.34 0.65</td>
</tr>
<tr>
<td>Supporting child’s autonomy</td>
<td>3.70 0.85</td>
<td>3.50 0.84</td>
</tr>
<tr>
<td>Parental dominance (recoded)</td>
<td>4.11 0.91</td>
<td>3.95 0.85</td>
</tr>
</tbody>
</table>

Note. Scale: 1 = ‘very bad/low’; 2 = ‘bad/low’; 3 = ‘mixed’; 4 = ‘good/high’; 5 = ‘very good/high’. Table III. Video analyses of central aspects of implementation in Program 2: means and standard deviations.
Family Literacy Interventions

Intensity and quality of support and training provided for parents. The Berlin Parent–Child Reading Programme was also designed to approximate the ‘real life’ conditions of a family reading training programme as closely as possible, but took a different approach than the Opstap programme. Working on the assumption that a programme will only enter widespread use if it is easily accessible to families and does not entail substantial financial commitment on the part of either the families or the programme provider, the families were only provided with written instructions on how to conduct the programme. No training was provided. If found to be effective, the programme could then be made accessible to the general public without any training resources being required. Participating families received an introductory letter as well as separate parent and child manuals giving instructions on the session structure, implementation guidelines, advice on practicalities (e.g. on the timing and setting of sessions) and, in the parent manual, advice on how to handle potential problems such as children’s reading errors. In addition, a telephone number was provided for participants to call in case of questions or problems. The intensity of the support provided for participating families can therefore be categorized as comparatively low.

Participation. Finally, the programme participation rate (are families willing to participate in this volunteer training programme in their free time at home and do they follow through with it?) and possible selectiveness were investigated. The overall participation rate proved to be low: 34% of all families approached by letter registered to participate. Only 13% of all families approached actually conducted the programme as intended.

A comparison of the treatment group with the control group (families who did not register) revealed a number of differences: relative to the control group, children in the self-selected treatment group came from higher SES families ($d = .61$), and they scored significantly higher on fluency ($d = .31$), vocabulary ($d = .24$), and text comprehension ($d = .53$) at pre-test. The amount of free-time reading was also significantly higher in the treatment group ($d = .35$). Second, the treatment group was compared with the group that had to be excluded from the analyses of effectiveness because the families either dropped out of the programme ($n = 44$), or could not – with absolute certainty – be assigned to either the programme or the control group because their session protocols were not returned ($n = 112$). No significant differences were found between the group that had to be excluded from analyses of effectiveness and the treatment group in terms of reading skills or reading motivation. The amount of free-time reading and SES were lower in the excluded group, however. Additionally, the percentage of single-parent homes was higher in the excluded group (36% compared to 26% in the treatment group). Analysing the session protocols of the 44 families who dropped out of the programme did not give any indications that the working process during the sessions or the motivational acceptance of the programme was significantly less positive in these families than in the group of continuers.

Discussion

This article investigated various aspects of implementation quality of family literacy programmes by using data from two recent, well-documented evaluations of family literacy programmes – one for kindergarteners (the Dutch ‘Opstap’ programme) and one for school-age children (the German Berlin Parent–Child Reading Programme). The findings of these studies in regard to effectiveness and implementation questions confirmed that family-based interventions entail serious challenges and highlight the need to take implementation issues into account when designing and evaluating family literacy interventions. We will highlight and discuss some of the most important implementation problems that were observed in the two studies. Based on investigating the implementation quality we can distinguish implementation issues of family literacy interventions on three dimensions: (i) intensity and quality of parent–child interactions, (ii) intensity and quality of the support and training provided for parents, and (iii) participation (see also Lichstein et al, 1994).
Intensity and Quality of Parent–Child Interactions

The finding that the majority of families participating in the Berlin programme did not work through the recommended number of sessions per week is an indication that family-based interventions are sensitive to the reality of families’ day-to-day schedules and commitments. Additionally, although the Opstap programme is focused at mothers as the primary actors, study 1 showed that other (untrained) family members were involved in the programme as well. It is important that the mother is not the only one involved in a child’s development, but it can be questioned whether the intended transfer of programme contents took place when activities were carried out by family members who had not received instruction. At the same time, in the Opstap programme study, a substantial number of families were not able to use a home language version of the programme. In these cases parents either had to carry out activities in a second or foreign language, or had to somehow translate programme contents to their own language, on their own or with the help of the parent trainers. It is likely that this situation had an effect on the way activities were carried out, and skills and knowledge were transferred from the programme to the parents, and from the parents to the children. In the Berlin programme, both parents and children perceived the quality of the parent–child interaction in a positive light. The video observations, however, indicated that the actual quality of the interactions was mixed: neither the structure of the conversations between parent and child, the quantity of parental feedback, nor the extent of parental guidance through the sessions proved satisfactory. Measures of the reciprocity of interactions, as implemented in the Opstap programme study, also added useful information in this regard: From the observation that the quality of parent–child activities in terms of their level of abstraction at the end of the Opstap programme was considerably lower than intended, it can be inferred that parents were not able to adopt the stimulating interaction strategies proposed by the programme.

To sum up, this first type of challenge includes aspects such as (a) the accuracy of implementation, i.e. the extent to which parents and children carry out the activities prescribed; (b) the quality of implementation/transfer of programme contents, i.e. the extent to which parents apply the knowledge and skills targeted; (c) the structural implementation conditions within the home, e.g. interfering others, language issues in non-native families; as well as (d) the quality of parent–child interactions within the learning situation. This is in line also with, for example, McElvany (2008) discussing the risks of the ‘parents as teachers’ model. First, home-based programmes aiming to foster parents’ didactic abilities may presuppose didactic skills and content knowledge that are not necessarily present, and that they cannot develop fully simply by participating in the intervention. Additionally, the sensitive parent–child relationship may be disrupted by the conflicts and pressures arising from a ‘teaching–learning’ situation (see Grolnick, 2003). Finally, the busy schedules of everyday family life may limit the intensity of programme participation.

Intensity and Quality of the Support and Training Provided for Parents

The Berlin programme was set up as a realistic ‘real life’ intervention in order to make it available later on for large groups of parents without needing a strong administrative and financial structure around it, and with requesting as little additional commitment and activities from participating families as possible. As a consequence, parents only received the programme materials by mail including instructional booklets and a telephone help line number, but were not actually trained face to face. The selectiveness and drop-out observed in the Berlin study may be partly attributable to this lack of comprehensive support and training. Had more intensive back-up been offered, other types of families might have participated, and fewer families might have dropped out. Provision of training or support facilities does not necessarily maximize participation, however: a substantial number of families participating in the Opstap programme did not attend many of the parent meetings offered, which probably detracted from the intensity and quality of the support and training provided for these families. Looking more closely at the reasons parents gave for their absence, it was clear that activities such as (non-home-based) parent meetings have to compete with other aspects of family life (work, education, care for other children). Additionally, a number of families in the Opstap programme study were not supported by a parent trainer from their own
ethnolinguistic community. In most of these cases the lingua franca between parents and parent trainers – Dutch – was not the language parents were most proficient in, which is likely to have hampered the transfer of programme contents from trainers to parents.

To conclude, the second type of challenge comprises (a) the provision and intensity of parental training and support; (b) the frequency of contact between parents and parent trainers/participation in training sessions; and (c) the expertise of parent trainers. Programmes vary in the amount of support and training they provide for parents. Not providing training is clearly a risk where less experienced or skilled parents are concerned. Even when training is provided, however, its quality is not necessarily optimal. In some cases, families participating in home-based programmes are supported by parent trainers (cf. Gomby et al, 1999) who are not always educated in the field of child development. Gray & Wandersman (1980, p. 997) argue that these ‘paraprofessionals may have difficulty in grasping the theoretical base of what they are attempting to accomplish or in showing flexibility in matching the theory to specific situations’. Similarly, graduate research assistants acting as parent trainers may impose their personal views on education, which do not necessarily correspond with the programme’s didactic model. The transfer of programme contents to participating families by parent trainers is clearly an important topic to investigate in further research studies.

Participation

Particularly, the analyses within the Berlin study showed that family literacy programmes can be in danger of not reaching the intended population. The findings of both studies implicated that it is important to be specific about the needs of potential target groups. First, the material provided should correspond to the language situation of the family (cf. Opstap programme) and cater to various (student and parent) ability levels. Second, efforts should be made to avoid selectivity in programme participation (cf. Berlin programme). Implementation studies clearly need to gather comprehensive data on the potential selectiveness of programme participation. If selective participation is not intended, there must be a strong focus on ways of tackling the problem of selective participation in the first place.

In summary, the third type of challenge identified is concerned with (a) the rate of (target) families participating in voluntary programmes, and (b) the potential selectiveness of participation based on aspects such as socioeconomic background. Training programmes in schools can be mandated for all students, while participation in home-based programmes is voluntary. Among other factors, such as time and space allowing families to participate, the value of these interventions therefore depends on the consent and cooperation of the parents (and children) in the target group. The consent and cooperation concern the shared activities between parents and children as much as the consent, cooperation and shared understandings between parents and programme facilitators – this also reflected in a change of terms from ‘parent education’ to ‘family support’, implying a more equal power differential.

Limitations

Based on the assumption that the effectiveness of family literacy interventions is dependent – apart from the conceptual quality of the programme – as a main component of its implementation in families, this article sought to identify and analyse aspects of implementation quality that warrant consideration. Observations were based on data from two family literacy programmes, in which multiple sources for measuring implementation quality were available (interviews, videos, session protocols, post-programme questionnaires, and participation rates) and in which multiple perspectives were included (parents, children, observers). Nevertheless, both studies have certain limitations. Most importantly, both studies presented were originally designed to examine the programmes’ effectiveness and not to systematically investigate implementation quality (e.g. by experimentally varying the matching of language used in the materials with the families’ language, or systematically including families with different family configurations). Additionally, both studies were faced with the methodological problem of non-randomization of participants in the
programme and the control groups due to the voluntary nature of participation in family literacy programmes.

**Conclusion and Outlook**

As outlined above, the quality of implementation is crucial to a programme’s outcomes. This article illustrates how the implementation of family literacy interventions can be hampered by problems on various levels. The observations presented have consequences for both programme developers and researchers. Programme developers need to be aware of the backgrounds, knowledge levels and needs of the various families they wish to serve, and have to find effective ways of incorporating programme activities in families’ daily schedules. Future research would benefit from designs focusing specifically on implementation issues, as opposed to programme evaluations including only selected implementation measures. Additionally, future studies should not only examine implementation variables, but also systematically analyse their effects on programme effectiveness. Finally, in order to get a full picture of programme implementation, a multimethods approach is recommended in which various instruments are used to measure a range of implementation variables; examples of such instruments were discussed in this article.

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**Notes**

[1] Scaffolding can be defined as the creation of ‘supported situations in which ... children [can] extend their current skills and knowledge to a higher level of competence’ (Neuman & Gallagher, 1994, p. 387). Contingent responsivity implies that the parent adapts his or her utterances to those of the child in such a way that the child can expand his or her contribution to the interaction (Van Tuijl, 1993).

[2] The SES variable consisted of a five-point scale: 1 = no education ... 5 = higher/university education.

[3] None of the effect measures concerned Turkish or Arabic skills, even though a considerable number of families had used the Turkish/Arabic programme version. There were two reasons for this. First, the study focused on the relationship between programme participation and school success, and proficiency in Turkish/Arabic is not viewed as indicative of school success in the Dutch educational context. Second, promoting proficiency in Turkish or Arabic was expected to foster children’s proficiency in Dutch.

[4] This variable had three values: ‘rich HLE’, ‘poor HLE’ and ‘child-directed HLE’. For further details on the construction of these variables, see Van Steensel (2006a).

**References**


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