

# Exploratory Study of Home–School Partnership: Numeracy

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This article summarises the findings from an exploratory study about the Home–School Partnership for Numeracy (HSPN) pilot. This study involved interviews with lead parents and lead teachers, focus groups with parents, and observations of the community sessions in three case-study schools. This data was supplemented by surveys to all the Numeracy Development Project facilitators associated with the HSPN. Findings indicated that there was strong support for the HSPN from parents, teachers, and the facilitators. Some ideas about improving the training workshops and community sessions were also suggested. Developing a home–school partnership is argued to be of great importance, and achieving the balance of inviting, involving, and informing parents is different for each school community. Important components of a successful ongoing effective programme identified were the careful selection and retention of the lead parent, responsiveness and incorporation of parents’ contributions in the community sessions and the training workshops, whole-school involvement in the programme, and flexibility to enable each school to accommodate the needs of their community.

## Introduction

Home–School Partnership: Numeracy (HSPN) is part of an initiative designed to raise achievement for Pasifika and other bilingual students by enhancing family and community engagement in their children’s learning. In 2006, the HSPN pilot was developed by the Ministry of Education to explore the issues around implementing and sustaining a home–school partnership programme as an ongoing initiative. The pilot involved approximately 40 primary schools in six regions, co-ordinated by 15 facilitators. The philosophy (kaupapa) underlying the HSPN is expressed by two whakataukī:

He aha te mea nui o te ao? He tangata, he tangata, he tangata!

What is the most important thing in the world? It is people, people, people!

Nāu te rourou, nāku te rourou, ka ora te iwi.

With your food basket and my food basket, everyone will have enough.

(Ministry of Education, 2003, pp. 121–122)

The essence of the first whakataukī is the importance of all people in the programme: the parents, families, children, teachers, principal, school staff, and wider members of the community. The second whakataukī illustrates the importance of partnership – “genuine sharing, hospitality, and reaching out to others” (Ministry of Education, 2003, p. 122).

The HSPN was derived from a similar programme for literacy developed in 2003, Home–School Partnership: Literacy (HSPL). Both programmes use a similar structure and share a significant amount of support information from the HSP resource folder (Ministry of Education, 2003 for literacy and 2004 for numeracy).

The HSPL had its origins in the 2001 Pasifika Education Plan, which identified a number of important goals for the focus of “increasing achievement in early literacy and numeracy, attainment of school qualifications, and reducing at-risk factors” (Ministry of Education, 2001, p. 2). The importance of developing closer relationships between home and school was stated as one of these goals, and home–school partnerships was identified as one way “to increase and strengthen school liaison with Pacific parents and communities” (Ministry of Education, 2001, p. 2). The idea of involving parents

in their children's learning is clearly stated in the Ministry of Education's statement of intent, which emphasises the importance of "family and community engagement in education" (Ministry of Education, 2006, p. 12). The Literacy Task Force (1999, p. 4) further identifies that "children's learning is enhanced by effective partnerships between school and home" and involves good communication and shared understandings.

Many aspects of the HSPN have been informed by a plethora of literature, home-school relationship initiatives, and mathematics education and are well grounded in contemporary research. Some key findings are the benefits of:

- involving parents in a two-way partnership (Alton-Lee, 2003; Biddulph, Biddulph, & Biddulph, 2003; Literacy Task Force, 1999; Anthony & Walshaw, 2007)
- catering for diversity in a genuine relationship (Alton-Lee, 2003)
- considering parents' and students' first language (Biddulph et al., 2003; Alton-Lee, 2003)
- having bilingual parents support other bilingual or ESOL parents (Mara, 1998)
- effective home-school partnership leading to improved mathematical dispositions and achievement (Anthony & Walshaw, 2007).

The mathematical content of the HSPN drew heavily from the strategies and knowledge in the Number Framework (Ministry of Education, 2002), which is well grounded in current mathematics education literature.

In 2006, the HSPN involved three or four training workshops run by the HSPN facilitators for a lead team of teachers and selected parents from the community (referred to as lead parents). These workshops included activity-based learning, whole-group and small-group discussion, opportunity for reflection, feedback, and time for planning. The activities presented were linked to the stages of the Number Framework. The facilitator, the lead team, and the school used the HSP resource folder to support the organisation and content of the workshops. Each workshop was followed by two or three community sessions that were modelled on the training workshops and were run at school for parents.

The community sessions were, ideally, organised by the lead team with support from the facilitator. The dates and times for the community sessions were decided by the lead team and the school. The incorporation of languages from the community could be achieved by running the sessions in the appropriate first language or by parents working in language groups as required. The suggested content of the sessions derived from the Numeracy Development Projects (NDP) and involved counting strategies, part-whole thinking, grouping, place value, multiple strategies, sharing ideas, visualising, and developing number sense.

## **Methodology**

### *Research Questions*

The aim of this study was to explore the impact of the community sessions on parents and their children and on teachers and the school. This involved canvassing the views of parents about their involvement in the HSPN pilot and the impact on their children's attitude towards and learning of mathematics. It also incorporated the perceptions of facilitators and lead teachers about the home-school partnership model.

The specific research questions that were addressed were:

1. How well do the processes of the HSPN deliver intended outcomes to parents and families?
2. In what ways is the programme perceived to have an impact on the students' attitudes to and learning of mathematics in and out of school?
3. In what ways is the programme impacting on the partnership between the school and parents and families?
4. What are key areas of the HSPN programme that require further exploration or evaluation?

### *Case Studies*

A case-study approach was used to gather in-depth information from the different groups of people involved in the programme. We visited three schools (called A, B, and C) for the case studies. In addition, we interviewed two lead teachers from a fourth school (D) and attended their training workshop. This school did not continue with the community sessions, so further interviews were not conducted. Auckland and Wellington were chosen as the regions from which to select schools because of their large proportion of Pasifika students.

### *Community sessions*

It was planned to visit two community sessions at each of the three case-study schools<sup>1</sup>. The purpose of the first visit was to build relationships with the parents, school staff, and facilitators and to introduce the scope and the purpose of the study. Observations of the content of the session and the interactions between the parents, teachers, and facilitators were also made. The second visit was similar, but interviews were conducted with volunteer parents, lead parents, and lead teachers.

In all, 11 volunteer parents, two lead parents, and five lead teachers were interviewed. The parents interviewed were identified as Sāmoan, Tongan, Cook Island, Niuean, Māori, Dutch, Ethiopian, and New Zealand European. All lead parents and teachers were female, as were all but two of the 13 parents, although men made up about one-third of the parents at the sessions. The selection of people was based on the participants' availability and willingness to participate.

### *Survey*

Facilitators were mailed a survey about their views of the workshops, community sessions, roles, impact of the NDP approach to mathematics, and issues for implementing and sustaining the programme. Two-thirds of the surveys were returned and analysed.

## **Results and discussion**

### *Implementing the Programme: the Training Workshops*

The purpose of the workshops was to prepare the lead team for running a series of six community sessions for parents. The workshops were often clustered with other schools to provide support and opportunity for sharing with other lead teams. The workshops, to plan the next three community sessions, involved the lead teachers for the whole day and the lead parents for the afternoon.

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<sup>1</sup> In school B, a significant community event fell on the day planned for the final session, so only the interviews were conducted.

The feedback from lead parents, most of the lead teachers, and the facilitators all suggested that the training workshops prepared them well or extremely well for the community sessions. Lead teachers from all schools found the resources and activities useful and relevant. Lead teachers and lead parents expressed how good it was to hear the experiences of lead parents from other schools. Lead teachers also benefited from sharing with other lead teachers and commented that it was useful to hear what other schools were doing.

Lead teachers and facilitators identified some potential ways to improve the workshops so that they would cater better for parents. These are outlined below.

- *Pace:* A number of facilitators and some lead teachers commented that the pace of the workshops was too fast. Several facilitators stated that more time could be spent on reflection. As one facilitator suggested, "Do less, well."
- *Content:* One concern identified by facilitators and some lead teachers was the difficulty of the content in the workshops. Although lead teachers from all four schools commented that "the games were engaging", the activities were useful, and "the take-home pack was good", some facilitators and lead teachers identified that the content difficulty of the workshops could be better managed to cater for the range of parents' mathematical dispositions.
- *Number Framework stages:* Some facilitators and lead teachers also commented that there was a need to make the Framework stages more understandable for lead parents, so that they could pass this knowledge on to other parents. One facilitator stated:

Make the delivery and content as clear and as simple as possible ... Once this is established, extension and embellishment seem to follow.
- *Partnership and roles:* Facilitators had a variety of ideas about balancing the contribution from lead parents and lead teachers at the workshops. One suggestion was to bring the lead parent and the lead teacher to the workshops at the same time so that they feel they are an equal part of the lead team, thus supporting the relationship building.

### *Implementing the Programme: Community Sessions*

The purpose of the community sessions was to introduce parents to the Number Framework, NDP language, and classroom delivery. This was done by exploring and discussing the activities and then relating them to the developmental stages of the Framework. The sessions involved a combination of whole-group introduction, activity-based learning, sharing, and small-group work. Almost all of the facilitators agreed or strongly agreed that the sessions were effective for parents, families, teachers, and lead parents. Similarly, all parents and lead parents were very positive about the sessions. Most parents identified the welcoming atmosphere, the mathematics activities, and the fun of the sessions as three features that worked well.

#### *Timing of the community sessions*

The timing of the community sessions appeared to be an important factor in determining the number of parents available to attend and was influenced by local factors, the time of the year, and local events. All schools were running these sessions in late winter, so 6:00 p.m. was not a popular time for parents. Schools A and C found 1:30 p.m. a better time for getting parents. These afternoon sessions would finish at 3:00 p.m., and the parents could then take their children home. School A also held successful meetings at 9:00 a.m. The best time to include as many parents as possible seemed to depend upon many factors. These are best discovered by schools sending a brief survey to parents asking what times would be convenient.

### *Finding lead parents*

Essential to the HSPN is the lead team: a lead teacher and a (bilingual) lead parent. This is described as “crucial to the successful implementation of the programme” (Ministry of Education, 2003, p. 16), providing the “essential links” between the home and school. Most schools asked around their staff and then approached potential lead-parent candidates based on recommendations. Approaching a known parent seemed to achieve a more successful result than an advertisement in the school newsletter. School D had difficulty finding sufficient lead parents. The lead teacher approached a number of parents with previous HSPL experience, but they were reluctant to participate because the focus was mathematics. This lack of lead-parent leadership resulted in school D discontinuing the community sessions.

### *Parents attending the community sessions*

Getting parents to attend sessions was the first of a number of challenges because without parents, there is no one to have a partnership with. One facilitator stated “attracting new and different parents” was an important issue for sustaining the HSPN. The HSP resource folder provides a range of ideas for promoting the programme, such as advertising through the local radio, placing an advertisement in the local paper, involving local leaders, and setting up a phone tree. The most common ways that the community sessions were communicated to the parents was by school newsletter, notices, and children writing letters home. Other ways included a phone call from the lead parent or being informed about it at a previous parent meeting. One key way to get parents attending was through the lead parent. At school A, the lead parent approached parents at their church, telephoned, and talked to them on the street to let them know about the sessions. This type of lead-parent “network” was also promoted by the HSPL. Other classroom teachers in two schools used their students to network by reminding their classes of community sessions.

### *Incentives*

Schools used a variety of incentives to encourage parents to attend their sessions. All four schools had prize draws after each session. At one school, a brightly coloured notice was sent home with the children. Parents could use the notice as a ticket in a prize draw at the community session. Many parents stated that the prize draw and the food were things they liked about the sessions. Including children was another successful way to get parents attending. Children were present at the sessions for a range of purposes: they performed a welcome, modelled mathematics done in class (set up as learning stations), or participated in the sessions with their parents (as recommended for two out of the six sessions). School A began each community session with a performance from the children. The parents we observed noticeably enjoyed this. The primary reason parents were at these sessions was for their children, and so it makes sense that involving their children was a positive influence in getting parents to attend.

### *Sharing*

Most parents identified sharing their experiences and ideas with other parents as a successful feature of the community sessions. They found it helpful to hear what other parents had tried and about similar problems they might be having. This sentiment was echoed by lead parents about the workshops.

## *The Roles of Lead Parent, Lead Teacher and Facilitator*

### *The facilitator*

Our findings revealed that building relationships with parents was an important aspect of the facilitator’s role that could be highlighted more in the HSP resource book. Their role is described as

preparing the school to undertake the programme, training the lead team (in the training workshops), and providing guidance and support for the lead team (in the community sessions). Additionally, lead teachers and a number of facilitators noted that it was also important for the facilitator to build relationships with the lead parents and other parents. One lead teacher identified that her facilitator's concern for "relationship building before the maths" was an important aspect of their role. Another noted that their facilitator modelled the two-way relationship needed for the community sessions by listening and responding to lead parents' ideas. This was in addition to modelling, "dealing with tricky questions", and talking about the importance of parents for their children's learning.

### *The lead team*

The choice of the members of the lead team is important. Almost all facilitators reiterated the critical role of the lead team or the lead teacher. One facilitator said:

Lead teachers are pivotal to the success of community sessions ... Training workshops carefully planned to meet their needs are essential.

Three of the lead teachers described their responsibilities in the community session as providing the structure and organisation and deciding what happens in the sessions. The lead teachers described the lead parent's role as liaison with parents, "facilitating, going around the groups", and "introducing the activities". One lead teacher identified that it was important for lead parents to "make connections with other parents" and that this was needed for them to return. A lead parent described their role as introducing the activities, explaining to parents, and joining in with the other parents.

### *Changing roles as time went by*

Our observations of the community sessions indicated that developing the lead parents as leaders changed over time and was dependent upon the skills and competencies of each person and what they felt confident to do. Some facilitators recommended adapting the community sessions by giving "more responsibility" and opportunities for "more input from lead parents".

In schools A and B, we noticed a change in the dynamic of how the sessions were being run. At the earlier sessions, the facilitators took a more up-front role in leading and presenting. In the latter sessions, the facilitators had handed over the leadership role to the lead team and stepped back into a support role.

In school A, this handover of leadership was predominantly to the lead parents. From the beginning of the earlier community session, the lead parents had stood up briefly to introduce and explain several activities. During our second visit, we observed that the lead parents were taking an even more active role and they appeared more confident presenting activities. We were also informed by the lead teacher that the lead parents had been involved in selecting and planning the activities. The lead teacher identified that encouraging the "lead parent [to] take control of the direction of the session" was working well and was important for the success of the programme.

At school B, the leadership of the sessions was handed over to the lead teacher and the lead parents were almost indistinguishable from other parents. They were, however, pre-informed about what was happening and positioned at table groups to support discussion. School C had a similar dynamic, where the lead teacher led the session, with the small-group facilitation conducted by the lead parents, but there was no visible evidence of "handing over" the leadership or decision making to the lead parents.

### *Building lead parent confidence*

The HSP resource folder material states that the lead parent has, ideally, amongst other criteria, the confidence or potential confidence to co-lead and introduce and model activities. From the interviews with lead parents and lead teachers and surveys from facilitators, it was very evident that many parents who were selected for the role of lead parent gained in confidence. One facilitator stated, “[I] love how parents have grown in confidence and maths understanding.” A lead parent from school A stated that she “used to be shy, but [is] confident now”. Some lead parents also overcame the fear of coming into school, of talking to large groups, and of mathematics itself. As well as gaining in confidence, many parents developed their knowledge of numeracy. One lead parent had a complete turnaround, from being not interested in school to passionately getting involved, and she attributed her gain in confidence to participation in the programme:

If I didn’t get involved ... I wouldn’t have the courage to stand up and talk in front of people and to open up and help others.

She was also very keen to step into more of a leading role than greeting, sharing, and working with the small groups.

Lead teachers and facilitators noted that a number of lead parents went on to become teacher aides, gain employment, or even begin teacher training as a result of their involvement with the HSPN. This empowerment of the lead parent was a notable outcome of the HSPN and may also play an important part in sustaining the connection between the community and the school.

### *Need for explicit information about the lead-parent roles*

The HSP resource folder material indicates the importance of stating clearly what the lead parent’s role is expected to be: co-leadership. It identifies the role of the lead team as planning and organising the community sessions and maintaining contact with the community. However, there is no explicit statement describing the separate roles of lead teacher and lead parent. In one school, some of their lead parents were not aware of their role for the community sessions and subsequently lacked the confidence to grow into co-leadership. This highlights the need for more discussion about the role of lead parent as co-leaders. The lead parent and lead teacher are vital to the HSPN, so it would seem important to not only make the specific expectations of their role more explicit at the time they are recruited but also to identify the benefits of participating in the HSPN and the opportunity for personal growth.

### *Supporting First Language*

Two features of the HSPN are the facility to incorporate parents’ first language into the sessions and the flexibility for schools to adapt the programme to cater for their community. Most parents involved in the programme had a first language other than English, and consideration of this when promoting and running the community sessions may avoid overwhelming parents with too much information. A balance of oral and written key messages seemed to be effective for introducing and supporting parents. How first languages were catered for was worked out by the lead team, with guidance from the facilitator, principal, and community. The model suggested for the HSPN programme is to have each language group supported by a bilingual lead parent.

All three case-study schools ran their sessions with the introduction and modelling done predominantly in English. In all community sessions we observed, parents chose where they sat and which groups they worked in. In one school, the parents were asked if they would be interested in grouping into language groups. They said they would rather mix with other people, but during the sessions, most of the Tongan parents gradually gravitated together to share and discuss things in Tongan. In another

school, some of the Sāmoan parents grouped themselves together and spoke mainly in Sāmoan when they were working on the different activities. The lead parent at the same school considered it was important to give parents the opportunity to speak in their first language and further argued that English is one barrier and mathematics is another. Together, they could be an intimidating reason not to come to the sessions. She noted, "Some [parents] can't make it [because] they are too embarrassed about the language." Parents from school B also agreed and commented that some parents were "scared of English". This illustrates the importance of having a bilingual lead parent for each language group (the HSPN model) and providing support for the different languages in the school.

### *Whole-school Involvement*

Engaging in whole-school professional development is associated with positive learning outcomes for students (Timperley, Parr, & Higginson, 2001). The HSP resource folder material states that "all staff need to take ownership" of the programme (Ministry of Education, 2003, p. 17) and recommends that "all members of the school community are kept informed and are involved with the programme" (p. 8). It also suggests including the principal, other staff in the school, and other parents who may not be attending for whatever reasons. It is hoped that this wider involvement of the school and the community will provide:

- opportunities to share the workload of the lead team with other staff
- better school-wide promotion of the programme because the classroom teacher is more informed
- more visible people to develop and support the partnership
- raised awareness of the programme within the school and in the community.

However, at the schools we visited, the school staff had various degrees of ownership of the programme and attendance at the community sessions.

The HSP resource folder material states that implementing the home-school partnership involves the parent and the classroom teacher; further, that teachers learn by:

getting a better understanding and insight into the backgrounds, cultures, and home numeracy practices of the children they teach.

(Ministry of Education, 2004, p. 7)

This indicates the importance of the teacher learning about the child and the parent and appropriately incorporating what they have learnt into the classroom programme. For that to happen, both the parent and the classroom teacher need to be involved in the HSPN in some way. It follows that the HSPN should be a whole-school initiative, otherwise the relationship building may be limited to only those who attend the community sessions.

The HSP resource folder material reinforces the need for the principal's attendance or endorsement. Their absence may suggest that the programme is a low priority and therefore the relationship with parents is also a low priority (Gorinski, 2005). In three of the schools, the principal was involved in the programme, attending or making an appearance at the sessions. School D was initially signed up for the programme by a principal who had since left the school. The responsibility for implementation fell to two teachers who were not previously aware of the programme. This may have contributed to the programme being less successful at this school.



### *Parents and the Number Framework*

The community sessions were about experiencing and exploring mathematics and learning through doing, discussing, and enjoying. The mathematics used was derived from everyday mathematics used in the home or the community and was about making connections to prior learning and real situations. One of the key messages was that “maths is everywhere”; the HSP resource folder material includes an extensive list of examples of “daily life maths” (Ministry of Education, 2004, p. 51). The range of learning strategies, the use of materials and visualising, the sharing, and discussion involved in the community sessions address a significant number of the attributes identified for quality teaching of diverse learners (Alton-Lee, 2003). Overall, parents responded positively to the mathematics in the sessions. They noted that the mathematics was fun, more interesting and engaging, and helped develop their understanding of the learning of mathematics. One parent stated the mathematics was “more understandable”.

### *Traditional mathematics and the NDP approach to mathematics*

The community sessions focused on contemporary classroom mathematics and therefore were not likely to endorse parents’ own experiences and ideas about mathematics. Research suggests that this difference between the mathematics parents know and the mathematics their children bring home could lead to frustration (Eyres & Young-Loveridge, 2005) and that when home and school practices are significantly different, there could be negative effects on children’s achievement (Wylie, Thompson, & Lythe, 1999). It was recognised by almost all parents and teachers that the mathematics content in the sessions was very different from parents’ expectations. Most parents interviewed described their own mathematics experience as what might be called traditional mathematics: the vertical algorithm using renaming or carrying and borrowing. A few parents had initial concerns about the NDP approach to mathematics. They commented that they were trying to teach their old mathematics when the children were bringing home “new maths”. One parent from school B described her reaction to the mathematics at the sessions:

At first I thought this was a waste of time because they were teaching maths in a way that I was not taught when I was at school. This made it hard to agree with how things were added or multiplied ... It was trying to change old habits that made things frustrating.

Despite the potential for parents to feel frustrated about their concept of mathematics being challenged in the sessions, almost all the parents in our study got involved with the mathematics activities and started to develop their understanding. One parent stated,

[I was] scared to come at first ... shamed because [I’m] not good at maths, but now [I’m] very happy.

Many parents stated that as a result of the sessions, they now know what they can do to help their children with numeracy. One parent stated it was “clear understandable maths”.

### *The language of mathematics*

The sharing in the community sessions exposed parents to mathematical discussion and supported them to begin learning the language used in the NDP. This is important because the NDP employ some different mathematical language from traditional mathematics, with strategies such as part-whole, halving and doubling, place value partitioning, and tidy numbers. This alignment of language and understanding enabled parents to ask more targeted questions about the strategies or knowledge children had, thus getting parents and teachers to focus on the same thing, children’s learning. As a result, one lead teacher stated that parents were more confident to say what they want to see and were looking at a “deeper level” of mathematics.

## *Influencing Children's Learning*

### *Parental influence*

One of the goals for the HSPN is that parents recognise that they are an important part of their children's success at school. In the HSP resource folder, "You are your child's first and most important teacher" (Ministry of Education, 2004, p. 40) is one of the key messages. There is significant literature that argues the importance and benefits of parental involvement (Alton-Lee, 2003; Biddulph et al., 2003; Eyres & Young-Loveridge, 2005; Merttens, 1999). Parents can influence how children utilise their time and are therefore important influences on their children's learning at many levels, directly and indirectly, not only by spending quality time with their children but also by their influence on a significant amount of children's time outside of school for activities such as holidays, television viewing, and many other experiences (Biddulph et al., 2003).

Almost all lead parents, lead teachers, and parents stated that parents were important in influencing their children's learning. Parents were clearly aware of this message, with one commenting that "parents are the first teachers."

### *Influence of the HSPN*

Although no children were interviewed, parents and teachers were asked about their perceptions of the impact of the HSPN on their children. Many parents from all three schools made a range of comments such as the children were "happy to do maths now", the games improved children's knowledge, the activities made mathematics easier, children were working more easily, and they were having more discussion about mathematics at home. Others were not sure about the impact of this approach to mathematics and commented that there were "still problems with their times tables" and that it was "harder to know if they're doing better". The latter point should be expected, as the NDP approach to mathematics is not about final marks but about strategies and understanding and is, accordingly, harder to quantify.

Two lead teachers noted differences in students that they attributed to the HSPN. They commented that students had better attitudes towards mathematics, improved self-esteem, less fear of making a mistake, and a "definite improvement on attainment". One lead teacher had used a diagnostic test before and after the community sessions, had noted improvements, and attributed these to the HSPN. At three schools, we heard a number of anecdotal statements about children who previously were not interested in learning and who had changed their attitude and were participating with more enthusiasm because their parents were involved. Parents from school B stated that their children were using the mathematics strategies more effectively and that they were solving mathematics problems faster as a result.

### *Developing the Partnership*

The HSP resource folder material defines a mutually beneficial partnership as one in which:

teachers learn about the children's language and culture and how to incorporate this prior learning in school programmes. The parents learn the culture of the school, its processes and its expectations.

(Ministry of Education, 2003, p. 8)

This indicates the importance of both the parent and the teacher learning from each other.

At the community sessions, there was opportunity for contribution, sharing, and feedback. Parents, teachers, and facilitators described the environment as relaxed and comfortable, one in which parents

began to feel they could share their answers with other parents in their small group, as well as with the lead team and the facilitator.

These community sessions seemed to offer what the parents wanted and were comfortable with. They found out about mathematics going on in the classroom and how they could work with their children. However, these aspects of the community sessions, although open and helpful to parents, did not appear to encompass the attributes of a two-way partnership. Lead teachers from one school described one of their sessions as being more like a “parent-information evening” than a partnership evening. In another school, the idea that teachers teach and parents practise at home what the children have learned in school was reinforced in the community sessions. Two parents from school A stated that, although the programme was called home–school partnership, the relationship was not a partnership. They acknowledged that it was a positive step in that direction, but that “we’re not there yet.” The HSPN goal of “sharing and working together” could be seen as an intermediary step towards the goal of “establishing a partnership”.

Essentially, none of the parents or lead parents interviewed had come across the NDP approach to mathematics and, accordingly, the topics were new to them. This “intermediary step” of informing parents gives them some understanding about contemporary teaching of mathematics; from this, they can begin dialogue with the classroom teacher. Many parents stated they were starting to feel more confident with mathematics and were developing the understanding and vocabulary to ask questions about learning.

A genuine, two-way partnership involves developing a shared vision, mutual respect, making decisions together, and sharing the responsibility. These attributes were not fully apparent at any of the three case-study schools. Evidence from our observations of the community sessions, interviews and conversations would indicate that there were beginnings of a partnership to varying degrees in all four schools. Research indicates that developing this into a genuine partnership is likely to take time (Merttens, 1999).

## **Issues for Sustaining the Programme**

### *Encouraging Parents into the Community Sessions*

All four schools (A, B, C, and D) developed a range of ways to encourage parents to attend the community sessions. However, although some of the initial community sessions had 60–100 parents attending, subsequent sessions had well under half those numbers. This variation in parental attendance may indicate that there is still room to develop further strategies to continue building parent involvement and highlights the need to ensure that the sessions are still useful for the parents who attend sporadically. In three of the case-study schools, the number of parents who did attend was a small proportion of the parents that could attend in each school. There could be a range of reasons for this: content, timing, fear of mathematics, fear of English, local events, or general busyness. If the HSPN is intended to be an ongoing programme, getting parents to attend the sessions is vital. Schools may need to identify possible barriers that parents may have to coming into school. If the community sessions meet the needs of parents and make them feel welcome, respected, and valued, then it makes sense that they will come again or at least share their experiences and encourage other parents to attend subsequent sessions. The school could also include the lead parents in the campaign to promote the HSPN and utilise their connections to the community. Essentially, schools need to continue developing ways to reach their community.

### *Retaining the Skills, Experience, and Relationships*

If the first partially-funded year of the HSPN is regarded as “training for the lead team”, it follows that this team should be involved in the subsequent year. Many facilitators identified the importance of retaining the experience of the lead parent and lead teacher. One facilitator stated, “The biggest problem appears to be the selection and retention of lead parents.” Most of the lead teachers commented that supporting the lead parents was important for sustaining the HSPN. It follows that the lead parent is a fundamental part of the HSPN because they provide the link between the school and the community. This parent “liaison” was identified as important for maintaining momentum and sustainability (Gorinski, 2005).

If the HSPN is to be an ongoing programme, then it makes sense to utilise and build on the experience gained for the subsequent years. Some facilitators also identified the importance of the continued involvement of the facilitator to support the programme. This may entail the facilitators maintaining the relationships they had built on an ongoing basis.

### *Funding the Programme in the School*

Several facilitators made the point that the workload exceeded the time allocated, and others indicated that time for planning and preparation was an important issue. Lead teachers acknowledged that their role involved a lot of work. Although having more teachers involved on the programme may help to share the workload, getting classroom teachers to attend the school-time community sessions would require significant funding and resources. Of the four schools visited, only one school “required” staff to attend the sessions. Notably, these were all evening sessions and did not involve organising and funding release time for teachers. These aspects highlight the need to balance the involvement of school staff with the development of the partnership with parents, yet still remain affordable and sustainable for the school.

Ongoing funding of the HSPN is the responsibility of the school. The HSPN pilot was partially funded by the Ministry of Education on the understanding that it was for the start-up of the programme, that the school would also contribute, and that subsequent years of the programme would be supported by the school and the community. Although all schools involved in the HSPN are made aware of this, the reality of providing funding from the school budget may be problematic. A number of facilitators stated the funding for release time for lead teachers and funding for lead parents was important for sustaining the HSPN. Many facilitators identified the importance of allowing sufficient time for the lead team to plan. It seems likely that schools may still welcome further support to maintain the HSPN until it becomes an integrated part of their school culture, which may take years. This support could involve some continuing facilitator support, funding for the lead parents, or one-off grants for resources.

## **Further Exploration**

This study was a small exploration into the HSPN in three schools. The schools were not necessarily representative of all the schools involved in the HSPN. Each school was in its first year of the HSPN, so sustainability issues can only be predicted rather than experienced. Therefore, there are limits to generalising the findings.

This initial study suggests that the following investigations could be conducted to extend the study further:

1. Explore how successfully the HSPN continues to operate in subsequent years.

2. Involve a wider range of schools to make the study more representative. Select several new case-study schools or survey all schools in their first year of the HSPN.
3. Include feedback from stakeholders not formally included in the 2006 evaluation, such as all the parents and lead parents who attended the community sessions, the parents who did not attend the sessions, and children of parents who attended community sessions.
4. Because the programme is premised on partnerships and parent involvement leading to improvement for student learning and achievement, explore the development of more direct measures of student outcomes over a longer term.

## Conclusion

Underlying the HSPN were five outcomes. These outcomes were used as points of reference for this study. A brief summary of the evidence we collected in relation to each outcome follows.

*Reinforce the fact that parents and families are one of the greatest influences on children’s learning and development and are essential to their success at school.*

The key messages throughout the community sessions reinforced the influence that parents have over their children’s learning. All parents understood this message and stated that they were an important influence on their children’s learning.

*Endorse what families and teachers are already doing for children’s numeracy development.*

The HSPN endorses parents spending time with their children and using the NDP approach to mathematics. These sessions did not endorse parents’ prior experiences and understanding of school mathematics. However, our findings suggested that although there was initial hesitancy about the NDP approach, it was not the issue it could have been. This is likely to be because the mathematics in the programme is “real life” and parents found it accessible, inclusive, engaging, and helpful. They took this mathematics home and began to integrate it into their home practice.

*Increase parents’ and families’ understanding of the NDP approach to mathematics and practical ways of helping children learn.*

At the sessions, parents were provided with a wide range of practical activities and encouraged to get involved with their children and to use and adapt what they had learnt. Parents noted their own increased confidence to do mathematics with their children. All case-study schools gave out packs of activities and support materials for parents to take home. These were very popular, and parents stated they were using them at home.

*Share ways in which families and teachers working together can make an even greater impact on children’s numeracy development.*

The NDP mathematics that parents learnt in the community sessions aligns with the mathematics that teachers are likely to be using in the classroom. A number of parents described using these activities at home and noted an improvement in their children’s achievement and attitude. They also stated they had more confidence to talk to the teacher about their children’s learning.

*Establish a caring working partnership between school staff and the community.*

The three case-study schools (A, B, and C) had progressed in different ways, but all exhibited some fundamental elements of a partnership: respect, inclusion, and developing a shared vision. To achieve the partnership advocated by the HSPN, teachers need to actively seek knowledge about their parents’ and children’s home numeracy practices and to incorporate it in their teaching and learning

programme in the classroom. This aspect of a partnership was not obvious in any of our interviews, surveys, or conversations in the case-study schools. However, our findings suggest that it is likely that the HSPN is a first step that could support this partnership to occur.

### *Success Factors and Enhancements*

The HSPN model is founded on a number of aspects of good practice that are likely to have a positive impact on learning: catering for diverse learners, family involvement in education, and learning for understanding in mathematics. The evidence we collected from this small-scale study gives some indication that the goals for the HSPN were either achieved or were being worked towards. Key factors that were identified as important for successful implementation of the HSPN involving content, processes, and people were:

- careful consultation and selection of the lead parent
- support from the school community and school leadership
- sharing the leadership with the lead parent and supporting the lead team into the role
- developing marketing strategies appropriate to the school and the community
- ensuring the community sessions are social and enjoyable and engaging to parents
- mathematical exploration that is accessible and relates to life
- providing a flexible HSPN structure that the school and community can adapt to suit their needs.

Some of the enhancements that were identified were:

- incorporating and respecting parents' contributions to develop a genuine, two-way partnership
- developing more opportunities to support community sessions in first language
- having a succession plan to ensure continuity, including retaining the experience of the lead team
- fully informing the lead team, the school, and the community about the scope and purpose of the HSPN
- developing further ways to maintain attendance of the HSPN, for example, reaching parents who did not come or researching when parents can attend.

In general, most of the lead teachers from the case-study schools and most of the facilitators considered that the HSPN was a successful model. Similarly, all the parents and lead parents we talked to or interviewed rated the programme as a success. Any earlier fear of mathematics or tensions between traditional mathematics and the NDP approach to mathematics were quickly resolved because almost all parents realised the accessibility and benefits of exploring and sharing mathematical ideas. Almost all parents finished the sessions with increased confidence in doing mathematics with their children. For lead parents, the sessions could have additional benefits. Facilitators and lead teachers described a number of situations in which lead parents were empowered through the HSPN.

Each case study school was unique and had individual challenges for implementation of the HSPN in 2006. They each had a different community, different people, different relationships, and a different mix of cultures to accommodate when developing a relevant and useful series of community sessions. The HSPN model has the flexibility for schools to adapt the programme to their needs and the needs of their community.

The HSPN is about people and getting people together to grow relationships into partnerships. “With your food basket and my food basket, everyone will have enough.”

Nāu te rourou, nāku te rourou, ka ora te iwi.

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