

## The Keyhole® Rainbow Resource Kit: meeting the needs of parents of newly diagnosed preschoolers with ASD

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A resource kit containing information booklets about ASD, selected toys and playthings, and communication aids was developed and evaluated with 29 volunteer mothers supported by service personnel who visited on an average of six occasions. A mix of qualitative and quantitative methodologies was used in the evaluation. Nearly all mothers found the kit helpful to their child, to them personally, and to some extent to the wider family. On post-testing, mothers reported that the child had fewer problems relating to play as a result of using the kit. The child's relationships with others and difficulties with imitation had also improved. Mothers felt less stressed in their interactions with the child. On average, the mothers had received around 10 hours of home-based support and the costs of the kits were also modest. This approach offers a value-for-money, practical approach to meeting the needs of families awaiting diagnosis and those who have recently been diagnosed.

**Keywords:** ASD; preschool; parent; intervention

### Introduction

In the UK, as in other affluent countries, increasing numbers of preschool children are being identified as having an Autism Spectrum Disorder (ASD) (Rutter, 2005). Prevalence rates of 11.6 per 1000 have been reported among 9–10-year-olds in London (Baird et al., 2006).

By a child's second birthday, the signs of an Autism Spectrum Disorder (ASD) are usually present and concerned parents often seek a professional assessment and diagnosis (McConkey, Truesdale-Kennedy, & Cassidy, 2008). However, a scarcity of appropriately trained and experienced personnel often leads to delays in formal assessments being undertaken and even when a diagnosis is made, there may be a further wait before any intervention programme commences (McConachie & Robinson, 2006). Families often feel helpless as to how best to help their child and often services are more child- rather than family-focussed (Carpenter, 2007). Yet, past research has found that parents are eager to be given information about ASD and for guidance on what they might do to assist their child (Cassidy, McConkey, Truesdale-Kennedy, & Slevin, 2008).

Equally parents are clear about the types of support they value (Christie & Chandler, 2002). Their preference is for professional assistance to be given in the

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home. This provides a secure and familiar environment for the child and for the parents as well as being a natural context in which teaching can take place. They value a flexible approach that is sufficiently adaptable to children's needs and family circumstances over time but which addresses the specific ASD challenges they face. As difficulties in communicating with the child are often a particular concern to parents, they want practical guidance on how to develop the child's understanding and use of language in communication. Finally, families are keen for their child to have the same opportunities as their other children, notably in accessing preschool facilities.

To date most attention has been given to the designing and evaluating of autism-specific interventions such as ABA and TEACCH which focus primarily on the developmental needs of the child once a diagnosis has been made (Bodfish, 2004). There have been few systematic attempts to provide an information resource to parents who either are awaiting a diagnosis of ASD or who have recently been given such a diagnosis (McConachie & Diggle, 2007). Likewise comparatively few studies have focussed on the child's interactions within the family and the potential for play-based interventions in the home setting as a means of furthering the child's development (Boucher & Wolfberg, 2003). Yet, the value of enriched play environments is well attested for children with a range of developmental problems and disadvantaged backgrounds (Yawkey & Pellegrini, 1984). Play activities can more easily engage the whole family: fathers, siblings and grandparents as well as mothers. They can be more ecologically valid in that they can be adjusted to the culture and circumstances of the family. Activities can be chosen to match the child's developmental level and interests, and hence increase the child's intrinsic motivation to join in rather than relying on extrinsic reinforcement. Children's play at home provides a link for them into the activities that they will experience in playgroups and preschools. Hence a play-based approach meets many of the criteria valued by parents which were noted previously.

Moreover, there is a growing research literature that has identified the links between play and language development in normally developing children (e.g. Lewis, Boucher, Lupton, & Watson, 2000). However, it is not known the extent to which play activities per se can assist the child with ASD and the family or whether more structured approaches are required either to facilitate the child's spontaneous play or to assist the child's learning when spontaneous play does not happen (Toth, Munson, Meltzoff, & Dawson, 2006).

It was against this background that the idea for the Keyhole® Rainbow Resource Kit was conceived. It had the dual aims of providing basic information about Autism Spectrum Disorders in a user-friendly format alongside suggestions for play activities and communication aids for use by families at home. The kit was not intended as a formal intervention programme but rather formed a resource for parents to use within their usual play routines.

Moreover, it was considered important that parents would be guided through the kit on an individual basis by a person with expertise in ASD and working with preschoolers. Up to five meetings were proposed. These not only provided opportunities for parents to discuss issues and to have their questions answered but also gave an opportunity for the support worker to observe the child and monitor his or her progress. Advice about suitable play activities and adjustments to interactions could then be better tailored to the child and family setting.

The aims of the present study can be summarised as follows:

- To describe the content and delivery of the resource kit so that other practitioners can avail of it.
- To evaluate the impact of the kit on parents as well as on the child thereby providing an evidence-base for its use.
- To identify improvements to the kit and how it might be used within the various health, social and educational services available to families.

### **Development of the resource kit**

A panel of practitioners consisting of speech and language therapists, community paediatricians and special educators was recruited by AutismNI to advise on the contents of the kit based on their experience in the assessment and diagnosis of ASD in preschool children. Members from this group piloted elements of the resource kit with children from the target age range as part of the development process. They also consulted with various groups of parents who had been through the assessment process in order to learn from their experiences. From these consultations, three parents wrote the 'Parent-to-Parent' booklet that provided the insights they had gained from their experiences during their child's preschool years. This has since been published by AutismNI as well as being included in the kit.

The kit has three types of resources. First, information booklets about ASD as well as three booklets with suggested play activities to promote communication, socialisation and sensory awareness. Second, a selection of toys and playthings to encourage a variety of different play activities or ideas as to how commonly available toys might be used with the child. Third, communication aids such as visual symbols. (The Appendix at the end gives a detailed listing of the final contents which have been refined after the evaluation of the kit.)

### ***Using the kit***

The parents were introduced to the kit by service personnel with experience of ASD. Three had been involved with the development of the kit (a speech and language therapist and two early years educators). A further eight staff were recruited who were involved in assessment and diagnostic services or in preschool provision. They undertook to approach up to three families who were willing to use the kit over a period of weeks and to take part in the evaluation of it.

Of the 29 families who had used the kit, 26 (90%) were introduced to it through home visits but for three it was at the play group or nursery school that the child attended. Each had an average of six visits (range 4–10). Contact was mainly with mothers as visits tended to take place during the day. The child was usually present and this provided opportunities for the key workers to model some of the play activities. Each visit lasted around 90 minutes.

The visits were also spaced unevenly: Visits 1 and 2 were one-week apart; Visits 2 and 3 were two weeks apart as were Visits 3 and 4. One month elapsed then until Visit 5 and Visit 6 took place three months later. This pattern of visits was designed to give families time to establish their use of the materials provided and adapt them to the child's progress.

During the first visit, information was gathered on the child and the family. Parents were given the information booklets on ASD and the second visit was used to answer any questions based on their reading. In this session, suggestions for possible play

activities were also made and a selection of playthings from the kit was given to the mothers.

Subsequent visits were made to check on progress and mothers were further guided on the choice of activities and how they might introduce them to the child. As mothers became more familiar with the support workers, they talked more freely about the impact of the child on them and the family. Plans were made for future courses of action, including participation in intervention programmes, attendance at suitable preschool facilities and further support options for parents. On the final visit, information was collected on the mother's reactions and ideas for improvements to the contents of the kit.

### **Evaluation procedures**

The aim was to undertake both a formative and summative evaluation of the use of the kit by families through a mix of quantitative and qualitative methodologies. This entailed the support workers gathering information from mothers on their initial visits using a combination of structured interviews and self-completion questionnaires. Mothers posted the latter directly to university staff.

The interview questions covered information on the child's characteristics, particular problems mothers encountered with the child and details of the play activities the child currently engaged in with various family members as well as when alone.

The self-completion questionnaires included an assessment of the child's developmental level, as measured by the Vineland Adaptive Behaviour Scales (Sparrow, Balla, & Cicchetti, 1984) and of the child's Autism characteristics, as measured by the Gilliam Autism Rating Scale (Gilliam, 2001). Both have good psychometric properties. In addition, mothers completed the General Health Questionnaire – 28-item version (Goldberg & Williams, 1978) as an indication of their emotional well-being along with the Parenting Stress Index (Abidin, 1995) which focuses on child-related stresses experienced by the mothers.

Three months after the final visit by the support worker, a university researcher visited the family at home to hear at first-hand their reactions to the Project and to repeat the interview and questionnaire information gathered at the outset of the project. This enabled pre- and post-comparisons to be made using a person who had been uninvolved in providing the kit to the families.

In all, 35 mothers initially agreed to participate in the evaluation however one subsequently withdrew, three mothers declined to participate in the final part of the evaluation and two were not contactable in the time available despite repeated attempts to contact them. Complete data were available on 29 families (83% of those enrolled initially).

### **Participants in the evaluation**

Of the 29 families, all were white British-Irish and bar one, were two parent families. For most children ( $N = 22$ ; 76%) the mother was the primary carer while four families (14%) reported that both parents were the main carers (this data was missing for three families).

The median number of children in the families was two (range 1–7). Twenty families (69%) reported a wage earner in the household but six (21%) did not. Three did not disclose this information.

The age of the main carers was mostly between 30 and 39 ( $N = 22$ ; 76%), with two carers (7%) over the age of 40 and a further two (7%) carers under the age of 30. Three carers did not report their age.

Around half the carers ( $N = 14$ ; 48%) had left school at 15 years or attained O-Levels/GCSE's compared to 13 (45%) who had either taken A-Levels or attended higher education. This data was missing for two parents.

### ***Characteristics of children***

The majority of the children ( $N = 26$ ; 90%) were male. Their mean age at the commencement of the study was 3.6 years (range 2.3–4.9 years). However, most families (90%) had recognised their child's problems by two years of age.

Seven (24%) were only children; one (3%) was the eldest in the family; 12 (41%) were middle children and eight (28%) were the youngest in the family.

In all 29 children, 20 (69%) had been given a confirmed diagnosis of ASD (usually by a community paediatrician) and eight others stated they were awaiting professional assessment of a suspected ASD (28%). However, one parent (3%) made no mention of ASD commenting on her child's difficulties in terms of social skills delay, feeding difficulties and pronunciation of speech.

## **Results of using the kit**

### ***Parental reactions***

All parents mentioned one or more things they liked about the kit, although two of the 29 did not find that it had been of help to them. These mostly centred around the ideas they had been given for a variety of activities and having the playthings to use with their child. Others commented on their child's progress and how the child's strengths and weaknesses had been highlighted to them:

The ideas on how to work with my child and breaking down the different areas of play. (L6)

All the wonderful ideas and fun objects inside it was like Christmas day for us as we opened it. (S4)

It gave us structure to work to. It was very well laid out and clear. Knowing now that N doesn't learn the same way (as other children). It also gave you lots of ideas. (L11)

It was good to see the things that N couldn't do because it highlighted the area that needed development. (L7)

The booklets provided to parents were particularly well received as they covered topics they may not have considered. The Parent-to-Parent booklet was especially praised:

The parent guide – it was humorous. I keep it in my handbag. (N2)

All were very good but we benefited most from the sensory booklet because it was not something that we had thought about before. Also the physical play booklet, because that is what he loves. (L11)

Another parent booklet could have been written by parents of older kids, e.g. regarding toileting, sleep patterns with more real-life examples, e.g. this is how I potty trained my child, it worked or it didn't work. (L6)

Nonetheless, parents made a variety of suggestions for improvements to the kit. Two parents requested more real-life examples in the booklets and another two wanted more suggestions for using the materials in the kit or having more objects supplied, such as a structured progression chart, musical tape/CD and more imaginative play items. Two parents desired a wider range of activities – more for the younger child and for the older child. One parent would value more explanation as to why certain issues needed to be addressed and another would have valued more advice on toileting and feeding difficulties.

In all but three families, other family members became involved in the play activities, most commonly fathers and siblings but also grandparents and other relatives. Many felt that the family as a whole had benefited:

N has a lot of contact with my parents and sister. The techniques helped our wider circle understand Autism better and I think it made them feel better knowing they could make an input into his life even through play. (S4)

We started with just mum and dad but then involved his brother and sister. They did the creative activities with him, turn taking and posting activities. (L11)

The main thing that helped the family was (we now realise) that everything N did was for a reason and now we ask – why did this happen? – and try to fix it rather than pointing the blame at him. (S5)

Parents also reported benefits for them personally in that they knew more about Autism, they named at least one new teaching skill or way of managing the child they had learnt, and many believed that their attitude to the child had changed mostly because they were being calmer and more patient:

A lot of the terminology has become a lot clearer. They are terms that you hear from the start but it takes you a long time to work out what they mean. (L2)

I know how to deal more with managing him; I know now how to structure up things more now than I did six months ago. (N2)

Distraction techniques when out shopping/eating. We always carried the distraction toys with us. We have to word things properly so not to set off tantrums. (L9)

It was like being let into a secret, a secret that would change everything for the best. N suffers badly from lack of speech so it was great to get my mind and eyes open to the Autistic Spectrum Disorder. I'm not as frightened of the effects of Autism and it has given me more strength and confidence in whatever is thrown at me by N. (S5)

Nearly all parents reported benefits for the child, although four felt more time was required before this happened. The most commonly mentioned comments were in relation to the child's interactions with others and this had extended into preschool settings. Improved communication along with better concentration and more sustained activity were other benefits reported:

It brought her out of herself and helped her to mix with others. I have had great reports from school about her playing with other children. (L3)

His motor skills have improved. N now likes different activities like painting, Playdoh, and things that we didn't think that he liked before. (L19)

Now I can set a toy or work in front of N and he knows what to do with it. He also listens a lot more to what is being said and learnt so many new things like his animals, jumping, skipping and the concept of finish. (S5)

Because he is drawing a lot more, he can express himself more, e.g. saying the boy is happy while drawing a picture of a boy with a big smile. (L8)

All parents, even the two who did not find the kit particularly helpful to them, would recommend it to other families. Similar reasons echoed throughout their comments:

Yes, but at a much earlier stage. The kit focuses on things that you can do with your child and you definitely need this especially at the start when you feel like you have no control. (L2)

Yes, because of what I learnt from it and because there is such a big gap from diagnosis, this was something practical to do. (L11)

Yes, it helps to get the child interacting with family members and other people. (L14)

A recurring theme was the need for the kit to be available from an earlier age and some parents wanted to be put in touch with other families who were using the kit to share experiences:

Bringing together other sets of parents and discuss how others used box and their ideas for using toys (S3).

Most parents valued having a support worker to take them through the kit. Indeed, some would have liked more visits and for the supporter to work more on a one-to-one basis with the child:

Because it were the things like having the breakdown of play, visual structure and ideas that were important. It was probably more the talking that I found most valuable. (L6)

Without X we wouldn't have bothered doing half of the activities. (L9)

It was better to have someone there to explain it. (L11)

But five parents felt they could have used the kit by themselves because the books were excellent and the kit was self-explanatory, although two did admit that having the support worker added to the experience. However, two parents felt the supporter had not been much involved with them, either because she did not know the child or her visits were too far apart.

Finally the future needs that parents commented on were for continuing home support, ideas on managing behaviour and also that the child would receive appropriate therapeutic and educational support:



Follow up visits to help assess progress on a long term basis, help with reinforced techniques and extinction activities. Help to encourage verbal communication strategies and tips. (S4)

How to help him deal, and me deal with the outbursts, and to distract him back to normal behaviour. (L16)

I worry about (his future) school teacher; N needs help and primary school is hard and how he will cope. (S2)

### *Changes in the children and parents*

Using a list of behaviours commonly found with children who have ASD, parents were asked to rate if each was a problem for their child; or if it had been a problem but was now getting better. The ratings were done before and after they received the kit. Table 1 gives the percentages of parents who had rated their child on both these indicators.

Overall parents reported a mean of 4.9 problems (range 1–9) before with a small drop to an average of 4.1 problems (range 0–10) afterwards. However, the average number of problems that were rated as ‘getting better’ rose significantly from 1.4 items (range 0–5) before to 2.9 (range 0–7) afterwards ( $t$ -test 3.96:  $df$  28;  $p < 0.01$ ).

The three most commonly mentioned problems at the outset were relating to people, problems with language and with play. The behaviour that parents rated as showing the most change over time was problems with play as evidenced by the reduction in the parents reporting this as a problem but also the higher proportion reporting this as getting better ( $t = 2.6$ ;  $p < 0.05$ ). In addition, two further behaviours showed significant changes over this period: the child’s relations with other people ( $t = 2.12$ ;  $p < 0.05$ ) and difficulty in imitating ( $t = 2.21$ ;  $p < 0.05$ ). On the remaining items, there were no statistically significant changes in parental ratings. Nonetheless, around half the children continued to have problems with language, in relating to other people and had an unusual interest in toys/objects. These behaviours are common symptoms of ASD.

The Vineland Adaptive Behaviour Scales were used to assess each child’s developmental progress based on mother’s ratings. This has four sub-scales and on the socialisation sub-scale the children showed a statistically significant increase in the children’s scores (pre-mean 65: range 51–102; post-mean 72: range 52–102;  $t$ -test

Table 1. The number and percentage of children with reported ongoing problems and ones that were getting better, before and after using the resource kit.

Behaviour	Problem before (%)	Problem after (%)	Getting better before (%)	Getting better after (%)
Relating to other people	22 (79)	15 (52)	2 (7)	10 (35)
Problems with language	21 (75)	15 (52)	5 (18)	12 (41)
Problems with play	18 (67)	6 (21)	4 (15)	16 (55)
Unusual interest in toys/objects	16 (55)	15 (53)	4 (15)	7 (24)
Unusual reaction to pleasant situations	15 (56)	10 (35)	1 (4)	3 (10)
Problems with sleep/going to bed	12 (43)	10 (35)	5 (18)	8 (28)
Adaptation to change	12 (43)	11 (38)	5 (18)	10 (35)
Difficulty in imitating	8 (21)	12 (41)	5 (18)	8 (28)



2.45;  $p < 0.05$ ). On the other three sub-scales the children showed no significant change in scores. On all these measures there were large variations in the children's scores which makes it difficult to ascertain an overall effect with small numbers of cases. Nonetheless, certain children showed marked improvements whereas others did not.

Parents also rated their children on the Gilliam Autism Rating Scales (GARS) which gives an indication of the likelihood that the child has Autism; a score in excess of 90 is more indicative of the ASD, although recent studies suggest that this may be set too high (South et al., 2002). In this study there were no significant differences in the ratings of autistic behaviours on the GARS scale after the Project. The mean autism quotient of the children before was 93.1 (range 67–122) and after was 92.7 (range 67–137). At both time points, 17 of the 29 children had scores that were indicative of autism but the scores of 12 suggested milder forms of ASD.

Two measures were used to detect possible changes in mothers' health and well-being. Mothers' overall scores on the Parenting Stress Index did not change significantly over the two time points but there was a significant reduction in their scores on the parent-child dysfunctional sub-scale (pre-mean 33.8: range 18–53; post-mean 30.7: range 16–49;  $t = 3.69$ ;  $df 27$ ;  $p < 0.01$ ).

In relation to the mother's emotional well-being as measured by the General Health Questionnaire (GHQ-28 items), there were no statistically significant differences pre and post using the kit (mean score 6.45 range 0–29). At both time points, nine mothers (31%) scored over the threshold scores which is indicative of poorer mental health and wellbeing: a finding that has been reported in previous research (Bromley, Hare, Davison, & Emerson, 2004).

## Discussion

The outcomes of the evaluation can be summarised as follows. Nearly all mothers found the kit helpful to their child, to them personally, and to some extent to the wider family. The regular home visits by the project workers were also welcomed. Mothers reported that the child had fewer problems relating to play as a result of using the kit. The child's relationships with others and difficulties with imitation had also improved. Mothers felt less stressed in their interactions with the child. On average, the mothers had received around 10 hours of home-based support provided by a range of available personnel in health or preschool service. The costs of the kits were also modest. In sum, this approach seems to offer a value-for-money, practical approach to meeting the needs of families and which brought about similar outcomes to other parent interventions (McConachie & Diggle, 2007).

A number of issues are worth underlining. The kit and the accompanying home visits were designed to guide and empower mothers especially in managing their child's difficulties. This concurs with conceptual frameworks for early intervention that emphasise the importance of family characteristics and parental interactions on a child's developmental outcomes. In particular, this approach recognises the additional stresses placed on these families by the child and the need to provide additional support in terms of information and tangible resources, while boosting maternal confidence and reducing the level of felt distress (Guralnick, 2005).

Not surprisingly, family responses to a child with prospective ASD will vary as data from this study also indicate; some mothers reported greater changes in themselves and their child than did others. It may be that further visits and intervention

resources more suited to the child's needs would have resulted in greater gains across all families; issues that further research could usefully elucidate. Meantime the variations across families underscore the need to provide adaptable and probably ongoing supports to them (Bromley et al., 2004).

An important feature of this support seems to be regular contact with a named worker (Sloper, Greco, Beecham, & Webb, 2006). During the project, the kits were introduced to mothers in their homes or in preschool centres by support workers most of whom had expertise and experience of ASD. The evaluation suggested that the workers were in themselves a valuable support to mothers because of the information, guidance and emotional support they provided. Only a minority of mothers felt that they could have successfully used the kit without an introduction from a supporter, citing the good documentation provided in it. It may be tempting when faced with scarce human resources, for services to distribute kits to families without allocating them a named worker but the risk is that the kit will be less effective, although this remains to be tested. Moreover, there are a range of professionals who could fulfil this support role including health visitors, community nurses, preschool leaders and nursery school teachers and perhaps also parents who have successfully used the kit themselves supplemented with additional training (Symon, 2005). AutismNI currently provides a two-day training course on the use of the resource kit.

One common outcome across the participating families in this study was the improved participation of the children in play activities and in their interactions with others. This could derive from various aspects of the kit, for instance the provision of actual playthings, suggestions given in the booklets and modelling of activities by the support worker. But perhaps of more developmental significance is the possibility that the kit encouraged mothers to adopt a different interactional style with their child; namely being more responsive to the child's play actions and communications rather than being directive and controlling (Doussard-Roosevelt, Joe, Bazhenova, & Porges, 2003; Sussman, 1999). Play-based activities chosen by the child and suited to their developmental level provide more opportunities for parents to adopt this interactive style which has been found to produce more reciprocal social interactions and gains in the child's expressive language (Aldred, Green, & Adams, 2004). Moreover, ASD-specific interventions such as TEACCH or ABA can be built on this foundation and may indeed be more effective if this happens.

The findings also suggest that further interventions are required in order to increase the developmental gains for the child, notably in language and communication, which did not show any significant improvement in this study. Such gains have resulted from more sustained intervention programmes both delivered at home (e.g. McConkey et al., in press) and in early education facilities (e.g. Lord, 2000). However, as Stahmer, Collings, and Palinkas (2005) noted, often the programmes evaluated in empirical research studies are not as yet well established in services and further training of the workforce is required in order for this to occur. Hence the resource kit is best seen as an initial response to meeting the needs of preschool children and their families.

Finally, the kit was offered to mothers whose children were awaiting a formal diagnosis of ASD as well as to those who had been formally assessed. This was in response to parental wishes to have information from when they first suspected their child had difficulties, and makes good sense as time spent in waiting for a diagnosis can be considered as time-wasted if appropriate actions are delayed (Mansell & Morris, 2004). Nonetheless, the offer to families of this type of resource kit may lead

them to infer that their child has an ASD when this may not be the case. One solution is to make clear that the activities suggested by the kit are designed to help all children with developmental problems and not just those with ASD. Moreover, monitoring the child's progress as families make use of the kit will further inform the making of an accurate diagnosis. Hence a resource of this kind could be made available to families as they await a formal assessment. Again further research could establish the value of doing this and if any significant risks arose from doing so.

In sum then, the resource kit provided families with knowledge about ASD and practical ideas for the responding to their children at home through play activities. Moreover, it provided a vehicle for professional staff to offer emotional support to mothers and possibly redress some of the criticisms that families have made of current diagnostic and assessment services (Osborne & Reed, 2008). The kit is available commercially from AutismNI ([www.autismni.org](http://www.autismni.org)).

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## Appendix. Contents of the Keyhole® Rainbow Resource Kits

### 1. Starter kit

- 1 A Starter-for-Life booklet
- 1 Top 12 tips on ASD – pin-board poster
- 1 Diary booklet
- 1 Parent-to-Parent booklet
- 1 Structured activity (posting game)
- 1 Structured activity (matching game)
- 1 Distracter (Tangle toy and card explaining use)
- 1 Coloured play mat (with card explaining use)
- 1 ‘All Done’ visual card (with card explaining use)
- 1 ‘First and Then’ visual card (with card explaining use)

### 2. Booklets

A set of three ideas booklets written by experienced practitioners with accompanying examples of various play items. The booklets covered:

- Play
- Communication and socialisation
- Sensory awareness

### 3. Play items provided with the kit

#### *Exploratory play*

- A small selection of objects to explore, e.g. spoon/material/film reel/plastic bowls/coloured eggs
- 1 miragescope
- 1 water ball

#### *Physical play*

- 3 balls varying sizes and textures
- 6 play stepping: jumping mats
- 2 throw-rings
- 1 bean bag

#### *Messy play*

- 1 painting bag – 2 paint brushes/1 sponge for sponge painting/1 crayon for magic pictures/1 fork for pattern making
- 1 tub of play-dough/rolling pin/cutters
- 1 spade and rake for sand play

#### *Table top play*

- 1 bag of sorting and matching objects: coloured lollipop sticks/coloured pegs/monkey shapes/camera spool cases/material
- 1 threading bag: 2 laces/2 pipe-cleaners/buttons to thread
- Stacking beakers and cone
- Bricks to build and pull apart
- Jigsaw (6 pieces)

*Imaginary play*

- A bag of farm animals and farm mat

**4. Structured activity kit (for making improvised play activities and aids)**

Velcro, Glue, Coloured pens  
Scissors, Blue tack, Masking tape  
8 pages of white paper, a sample of empty food containers  
1 DIY structured kit instructions and ideas

**5. Additional materials**

A folder of visuals (pictures and photos – large and small) with instructions on how to introduce these to your child

**6. Suggested playthings to promote communication and socialisation** (NB: to be added to the kit by users)

*Eye contact:* feathers, balls, squeaky toys, bells, balloons, bubbles  
*Attention:* balloons, nesting boxes, stacking beakers, large coloured beads, jigsaws, posting boxes, crayon/paints, books, puppets  
*Imitation:* cups, spoons, bells, stacking rings, building bricks, mirror, toy animals, toy vehicles  
*Turn-taking:* balls, bean bags, posting boxes, stacking toys, fishing games, puppets, bubbles  
*Listening:* spoons/saucepans, blow toys, bells, selection of musical instruments, toy animals and cars  
*Social play:* Musical instruments, toy animals and cars, echo mike, puppets

**7. Storage box/Play table**

All the materials were stored in a large plastic box that could be doubled as a play-table