

## Making Number Count: Numeracy Workshops for Teachers in Special Education

The issue of teaching numeracy to children with a moderate degree of mental handicap has been largely overlooked. Teachers who participated in one-day training workshops based on the *Count Me In* programme showed considerable enthusiasm for teaching number once they were supplied with relevant information and materials.

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### INTRODUCTION

Although counting is frequently employed in every day number use (Tizard and Hughes 1974) it can be a confusing and difficult task for the child with a severe learning difficulty. For example, McConkey and McEvoy (1986) found that just over 50% of senior pupils attending a school for children with moderate mental handicap could count aloud to 20 without making a mistake, however, 50% were unable to count out 10 objects accurately or reliably.

Adult attempts to teach counting can be disorderly and can lead to frequent misunderstandings (Durkin *et al* 1986). Indeed, the issue of teaching counting and basic number skills to children with a moderate degree of mental handicap has been largely overlooked. Furthermore, children's teachers are seriously hindered in their efforts to teach number by a lack of suitable assessment instruments and the scarcity of materials and programmes designed specifically for these children (McEvoy 1990). Provision of in-service training to fill this vacuum seems obvious. However, there is often insufficient training opportunities or educational provision for teachers of children with special needs. Unfortunately, many schools are under severe financial pressures with little money available for in-service training (McGee 1990).

As an alternative training option in the teaching of number skills to children with severe learning difficulties. McEvoy and McConkey (1986) developed a training

package concentrating on teaching counting via simple number games in the classroom (See also McEvoy 1989). The course, known as '*Count Me In*' employed video-recordings and incorporated some of the features of 'microteaching' (Borg 1971).

## **TRAINING WORKSHOPS**

In order to encourage more widespread use of the '*Count Me In*' package throughout Ireland, it was decided to introduce teachers to the programme by means of brief one-day workshops. The main aim of the workshops was to encourage the widespread use of the '*Count Me In*' package throughout Ireland. Of equal concern was the establishment of a forum, which would enable teachers to plan and implement their own usage of the '*Count Me In*' package in the classroom.

## **ORGANISING THE WORKSHOPS**

A small brochure, describing the '*Count Me In*' programme and a covering letter giving details of the 'tutor workshops' were sent to special schools throughout Ireland. This information was forwarded, well in advance of the proposed workshops and teachers were urged to book as early as possible.

Three workshops were organised throughout the country, in Dublin, Limerick, and Belfast and the approval of the Department of Education, (Republic of Ireland), permitting teachers to attend during school hours was sought and granted.

## **ATTENDANCE AT THE WORKSHOPS**

The three workshops were attended by 51 participants, of whom 28 were teaching in special national schools, 9 were remedial or resource teachers attached to Adult Vocational training centres. The remaining 14 participants consisted of 4 psychologists, 4 Nurses in Mental Handicap, an Occupational therapist, 3 child-care assistants, a psychology student and a parent. Attendance at the workshops was quite varied with Limerick receiving the largest attendance (N=28), followed by Dublin (N=16). Attendance at the Belfast workshop was rather small (N=7), but consisted entirely of teachers.

## **WORKSHOP CONTENT**

Each workshop lasted a full day, (9.30a.m. - 4.00p.m.), and the content of the

workshop was designed to encourage teachers to use the technique of simple number games in their teaching approach. The topics covered during the morning session included classroom screening and assessment and the making and playing of number games. Teachers were required to make their own simple number games and to role play teaching with a colleague. The afternoon session concentrated on giving teachers information about the number abilities of children with a severe learning difficulty, encouraging teachers to plan their usage of the programme in their schools, and gauging the participants response to the workshop.

## **EVALUATION OF THE WORKSHOPS**

A series of nine open-ended questions sought participants' comments on their training experience: the aspects they liked best, the points not covered in sufficient detail, their suggestions for improvements, and any other comments they cared to make. In addition, participants were asked about their involvement in and the difficulties they encountered in teaching number. The questions were non-directive and encouraged a full response. Inevitably, there was some degree of overlap between responses to different questions. Of the 51 participants, 6 failed to complete the evaluation forms.

## **PARTICIPANTS' RESPONSES**

Many of the participants commented on the Video-programmes (N=24), with one of the participants appreciating the fact that the programmes portrayed real children with real difficulties. 5 people reported that they valued the opportunity for discussion and the exchange of views with others. One person found the research component "interesting" and another enjoyed making the games. Ten of the participants "enjoyed it all".

Two questions in the evaluation sought to pin-point inadequacies in the workshop training: "aspects of the day which you didn't like" and the request for suggestions for improvements. Six of the participants requested an additional course, covering more advanced aspects of number work and three would have liked information on "pre-number" for the preschooler with a severe learning difficulty. Two people suggested that more information on teaching materials and the playing of simple number games might have been made available and one person felt the video-programmes should have catered for adults with learning difficulties as well as children.

For many of the participants, the workshop acted as an introduction to the topic of teaching number to children with a severe learning difficulty. The majority of participants suggested that the workshops “gave them ideas on teaching number to children with a Mental handicap” (N=30), other respondents focused on the opportunity to gain access to teaching materials (N=5) and a “structured, simplified approach to counting” (N=4). The workshop offered some participants “encouragement” and made them more enthusiastic (N=3) and confident (N=6) about teaching number. Two people felt the workshop had helped to make them more aware of the need to motivate their pupils by making number tasks more interesting (N=2) and one respondent commented positively on the use of play as a learning device.

Participants were also asked about the difficulties they had encountered in teaching number to-date and the possible uses they might make of the ‘*Count Me In*’ programme. Eleven of the respondents, referred to the very slow progress they felt their pupils were making, three remarked that “the children could rote count but couldn’t count objects.

The existence of different ability levels (N=3) and difficulties in “holding” children’s attention (N=4) were also mentioned. Some participants suggested that parent and staff expectations for the children were often unrealistic (N=5), and comments were made about “the lack of a system for teaching numbers” (N=4) and the failure of traditional teaching methods (N=1). Twenty of the participants commented that they would use the materials directly in the classroom, while others suggested that they would use the ‘package’ for teacher/staff training (N=7). Three people planned to use the materials as a guide for parents, and another respondent felt that the number games would be useful in a leisure club setting.

## CONCLUSION

The results described indicate that for many of the workshop participants this was their first introduction to the topic of number, particularly in the context of teaching number to children with severe learning difficulties. Participants rated the video-programmes particularly highly, since it was felt the programmes gave a realistic portrayal of these children’s counting and the difficulties they experience. Many of the participants claimed to have gained confidence and encouragement from the workshops.

These findings are further confirmation of the usefulness and informative function of the ‘*Count Me In*’ package. The findings also demonstrate, the feasibility of

offering in-service training on a self-instructional basis. The response of participants to the package, following the short training workshops, was very positive and suggested that there was considerable enthusiasm for teaching number, once teachers were supplied with relevant information and materials. A number of the participants remarked on the package as a source of ideas and that the approach adopted simplified the topic of number.

Despite the encouraging outcome of the workshops a note of caution is necessary. In view of the scarcity of information and resources on the topic of teaching number skills to children with severe learning difficulties, such positive feedback is only to be expected. Moreover "Count Me In" is limited in that it may only appeal to certain groups of children at particular stages in their numerical development. Therefore, it is advisable to use the package as a starting point or source of ideas. On the positive side, "Count Me In" was well received by teachers and has been used successfully with groups of children. Hopefully it offers a focus for debate on how to tackle a necessary but complex area of the curriculum for children with special needs.

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