The STEP Programme

SINCE February 1989 autistic children in Singapore have been offered structured behavioural teaching at the STEP (Structured Teaching for Exceptional Pupils) Programme. The programme was initiated by the author since special services for autistic children had not been available in Singapore at that time.

Presently 37 autistic children below the age of 12 years are served on a daily basis. A one-to-one teacher-pupil ratio is provided for lower level children, while four higher level children are taught in a classroom setting by one teacher only.

Distraction-free cubicles as well as group and play areas (including a pool and a softplay room with sensory effects ("Snoezelen room")) are available. During the two-hour programme, teaching is conducted in half-hour segments offering one-to-one as well as group teaching. Teachers are individually assigned to the children.

Prior to the intake of a child, behavioural and teaching goals are discussed with the parents/care-givers, the teacher, the involved speech therapist and the Head of the STEP-programme (the author). A social worker assesses the general family situation. Parents are encouraged to participate in a video assessment of their child at the observation lab of the Department of Social Work and Psychology, National University of Singapore. Here the child's interaction with parents, care-givers and a clinician is assessed under different demand situations. An analysis of the child's pragmatic behaviour under these conditions and over a period of structured teaching is conducted. Psychological testing and parent/care-giver training is also offered. (Please see also article on page 2 by Adrian Kok & Sharul Sapuan.) In cases of severe behaviour problems, a behaviour analysis is conducted using parents' and teacher's observation as well as an experimental analysis.

Sessions at the STEP Programme start with so-called "Language Songs". These are songs that are related to concrete objects, persons or activities. Greeting, turn-taking, imitating or specific communicative acts are some of the teaching targets. This group activity is followed by one-to-one sessions, focusing on individual goals such as expanding communication through speech, pictures or word cards, improving compliance or listening skills, facilitating concepts, visual motor, preacademics, play or other functional skills. Teachers gather data to monitor learning progress and the effectiveness of behavioural interventions.

"Pragmatics" has become a regular part of the teaching schedule. (Please see also article on page 3 by Adrian Kok). Children work in small groups on specific language functions like requesting objects, actions or assistance. Using play settings like a shop or a cooking situation, the non-verbal children apply their hand signs, picture or word card booklets. In a similar setting the higher level children might be prompted to ask questions (like "where", "who", "why") or might practise specific social skills like joint attention or offering help (Ong, 1989). When teaching goals are reached, spontaneity and generalisation over other tasks, settings or persons is systematically programmed (Secan, 1989).

For some autistic children Computer Assisted Instruction or communication devices have been effective. Programmes have been designed to assess individual sensory preferences (Chen & Bernard-Opitz, in print). Other children have benefitted from participating in weekly swimming, art or workshop activities, music therapy or even horse-riding. Individual teaching goals like modelling other children, expanding language use or social skills are also generalised to these activities.

For lower level subjects the programme follows the Discrete Trial Format, but allows for the child's initiative by giving the child control over the selection of tasks and reinforcers (Kok & Bernard-Opitz, submitted). Since severe behaviour problems often interfere when a child starts the programme, compliance is reinforced with preferred items like food or toys with sensory effect. To fade the reinforcers tokens have been useful.

For the higher level children more natural teaching interactions are provided with the opportunity to incorporate problem solving, thinking aloud and self control into the teaching programme. Setting events is used as a strategy to elicit appropriate communication (eg hiding the child's shoe or bag to elicit the question "where?"). If possible natural consequences are applied in structured teaching as well as incidental teaching situations.

The close links between Margaret Drive Special School and the Department of Social Work and Psychology of the National University of Singapore have benefitted the involved children, parents, teachers as well as the psychology students. Teachers, parents and students are trained using the observation lab of the university. Research is conducted, that is relevant to teaching methods (eg Computer Assisted

Instruction, Facilitated Communication, Natural Language Paradigm) or contents of teaching (eg Pragmatics).

Due to the long waiting list of children (presently more than 80 children), an expansion of the programme as well as the position of the parent trainer are being considered. Training is also expanded to principals and teachers of other special schools catering for autistic children.

In the Singapore context child rearing practices, bilingualism and cultural beliefs have to be considered when setting up a programme for autistic children. Since most Singaporean women work, foreign maids or members of the extended family are usually the child's main care-givers. Therefore training and consultation have to involve the maids as well as the family members.

In this multi-ethnic society, autistic children are often exposed to two or three languages. If they make it to the regular school, they are expected to cope with a highly demanding curriculum, two languages and big classrooms (usually of 40 children). While special provision for integration of autistic children (like reduced classroom size) is presently not provided in Singapore, five autistic children from the STEP Programme have made it so far into the regular school.

Even though this will not be the future for the majority of autistic children, structured teaching and behaviour modification have made a difference to all of them. Over a 20-month period in the STEP Programme, even low level children became more compliant, acquired some basic form of communication and improved in social, cognitive, play and self help skills. (Please refer to the table on page 2.)

Dr Vera Bernard-Opitz, NUS

References

1. Chen, A. & Bernard-Opitz, V. (1993), **Comparison of Personal and Computer Assisted Instruction in Autistic Children**, in print in Mental Retardation.

2. Kok, A. & Bernard-Opitz, V. (1993), **The Influence of Choices and Sensory Reinforcement on the Hand Signs of Non-verbal Autistic Children**, submitted to Research in Developmental Abilities.

3. Ong, K.W. (1993), **The Spontaneity and Generalisation of Questioning Skills in Autistic Children**, Student project, National University of Singapore, Department of Social Work and Psychology.

4. Secan, E.E. et al (1989), **Acquisition, Generalisation and Maintenance of Question-answering Skills in Autistic Children**, Journal of Applied Behaviour Analysis. Vol 22, pp 181-196.

Above: Reinforcer for the STEP Programme. What a surprise to get a box with all kinds of latches and locks made by the pupils of MDSS for the STEP pupils. Thanks to Hussein, an MDSS teacher, and all his workshop pupils for the extra effort and the caring spirit!