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WHAT WOULD SOMEONE ELSE THINK? A STUDY OF TRAINING IN CHILDREN'S ROLE TAKING*

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In cognitive role-taking tasks children can accept that the viewpoint of another is different from their own before they develop the flexibility to say what it might possibly be In this study, two methods of training role taking were employed which reflected this distinction between awareness and flexibility Subjects were 48 French 7 year old children The training method which emphasized awareness did not lead to decentration, but the method which promoted flexibility significantly increased role taking ability

There are a number of general reviews of the difficulties which children experience with social cognition (e g , 2, 4, 7, 8) These difficulties are evident in the answers children give in role-taking and communication tasks Role taking tasks involve having a child consider events from another person's point of view when this latter point of view is different perceptually, affectively, or cognitively from the child's own By the time a child has reached the age of about 10 years, most social cognitive difficulties in role taking will have been overcome, but in the early years in primary school most children can be shown to have problems with this type of task A number of studies have shown that young children have problems in coping with the fact that others may view things differently from themselves The ability to act on the distinction between what one knows oneself and what another knows is crucial in the solution of role taking tasks The present study on cognitive role taking is one in which two methods of training role taking are compared so as to shed light on the nature of the child's difficulty

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One method which has been used to explore the difficulties which children have in thinking about another's thoughts uses cartoon stories (2, task ID), in this method a child first describes a cartoon sequence and then is asked how another would reconstruct the story if shown only part of the sequence For example, one cartoon series is made up of five pictures, the first two show a woman leaving a house, in the third her car has a flat tyre, and in the last two she makes a phone call (it is established that this is for help) Two role-taking questions can be asked a 'next question' and a 'before question' A 'next question' is one in which the subject is shown the initial two pictures from the sequence and asked what another person, shown only this part of the sequence, would say is going to happen next A 'before question' is one in which the last picture from the sequence is shown (the woman phoning) and the subject is asked what another person, shown only this picture, would say if asked what had happened before (why was the woman phoning?) Responses in which information privilged to the subject is attributed to the other whose role is being taken are termed egocentric In the example given, privileged information on each question makes reference to the flat tyre

The operations needed to provide a decentered response to this type of role taking task can be analysed following the approach of Ceccato (1) Such decentered responding requires classification of cartoon content into both privileged meanings and alternative meanings and then a co-ordination of the results of such classification in the production of responses It has been argued that this co ordination requires that the subject adopt simultaneously the psychological status of both self and other (6)

In addition to co-ordination, the subject must produce an appropriate alternative meaning for the missing part of the cartoon When answering role taking questions, some subjects seem quite aware that the 'other' cannot know about the flat tyre, but are quite unable to think of anything else that could possibly happen in the story Very early in the pre operational period (at about 3 years of age), young children know that the visual perspective of another may be different, but a number of additional years are needed before they can describe the alternative perspective accurately

The purpose of the study described in this paper was to consider the effects of two training programmes on the role taking ability of 7-year old children One of the programmes, called the awareness programme, was disequilibrium based and was concerned with providing subjects with opportunities to realize that another person has a different perspective

The second, called the flexibility programme, involved providing a brief explanation of the reasons for difference in perspective but focussed mainly on providing children with opportunities to produce alternative meanings for parts of cartoon stories The questions of interest were (i) would training of the type provided affect children's ability to provide decentred responses in role taking tasks? (ii) would the two types of training programme have differential effects on the children's ability in these tasks? Some children may be unaware of the difference in perspective in this type of role task, however, the major hypothesis of this study is that for 7-year old children the central problem is one of producing appropriate responses for the other in role taking tasks If this is the case, then the flexibility programme ought to work better than the awareness programme

METHOD

Subjects

Forty-eight subjects were selected from the *course elementaire premiere annee* in an urban Parisian school and their mean age was 7 years 4 months The subjects were assigned randomly either to a control group or to one of two training programmes, the awareness programme or the flexibility programme There were equal numbers of boys and girls in each treatment condition There were 12 subjects in each training group and 24 subjects in the control group

Procedure

The subjects were tested and trained individually in a quiet room in their school The treatment was administered immediately following the pre-test and on the following day the post test was given The pre test consisted of two role taking questions based on one cartoon sequence and the post-test consisted of two different role taking questions based on another cartoon There were two orders of asking the 'next' and 'before' questions Half the subjects received the 'next' question prior to the 'before' question on the pre-test and this order was reversed on the post test For all subejcts, the order of these two types of role taking question was different on the pre test and the post-test

Role-taking tasks

The cartoon task is modelled on an earlier measure (2, task ID) Full descriptions of the three cartoons and procedures used are provided elsewhere (5) For the present study, two types of role taking questions were asked after the subject had described the cartoon sequence One type, a 'next' question, involved asking how a hypothetical 'other' would

reconstruct the ending if shown only the beginning, and the other type, a 'before' question, involved asking how this 'other' would reconstruct the beginning if shown only the ending The 'other' was always described as being of the same gender and age as the subject but in another school and so unknown to the subject Responses were scored as egocentric or decentred according to whether they referred to privileged information For analysis, decentered responses were assigned a score of 2 and egocentric responses a score of 1

Treatments

Awareness training The purpose of this training procedure was to show subjects that they could not know the ending of a new story and that, by analogy, the 'other' in role taking could not be expected to know a new story A cartoon was read by the experimenter The story was about a father and son who go by bicycle from their country cottage, via a wood and a big road to a supermarket They purchase various items and then return home Once home, the dinner is prepared and the washing done During the story each subject was asked a number of times to anticipate what was going to happen next These anticipations were posed as follows with subjects looking at the pictures as father and son leave home ('what do you think will happen in the story?'), as the father and son go into the wood ('what do you think they will see in the wood?'), when they are on the big road ('what do you think is going to happen next?'), as they arrive at the supermarket ('what do you think they will buy?'), and when they arrive home again ('who is going to cook the dinner?')

When a subject guessed incorrectly (and this happened very frequently), the experimenter pointed out that the guess was wrong, thus providing an opportunity for subjects to experience uncertainty After the subjects had guessed what the father and son were going to buy at the supermarket, the experimenter said 'It is hard to know exactly what they are going to buy since you don't know the story You don't know what is going to happen until you have seen the whole story do you?' At this point subjects either agreed immediately or the experimenter made reference to all the incorrect guesses made in response to the previous questions thereby eliciting agreement The experimenter continued 'Do you remember the boy/girl who didn't know the whole cartoon story because he/she hadn't seen all the pictures? Well he/she might think that something different happened ' Following this, the remaining part of the story was read and the last question was asked ('who is going to cook the dinner?') Finally, subjects were given an opportunity to try to think of decentered responses to the role-taking questions which they had answered egocentrically on the pre test

Flexibility training The purpose of this procedure was partly to show subjects that if they did not know the ending of a story they could imagine various possible endings Agreement was elicited to the following state ment 'if someone had not seen a story, they would not know how it ended' Then the role-taking pre-test was explained to the subjects, pointing out the impossibility of the other knowing the privileged infor mation The experimenter continued 'Now you are going to practise thinking of different things that might happen in this story, things that the other boy/girl might also think of' The same story was used as in the other training programme First, the subjects were asked to think of three things that the father and son might do Time and encouragement were allowed where necessary so that each child gave three possible endings or happenings for this scene Second, subjects were asked to guess three things that might be bought at the supermarket Finally, subjects were asked to predict three things that might happen when father and son arrived home

Control group The same story of the father and son and their trip was used In this case no questions were asked and the story was read The purpose of this was to allow the control subjects to have approx imately the same number of contacts with the experimenter as those in the training conditions

RESULTS

Order effects (the effect of the order in which 'next' and 'before' questions were asked) were examined by forming 2 by 2 matrices contrast- ing order and type of response (egocentric and decentred) for each item on the pre-test (two items) separately and each item on the post-test separately There were no significant order effects, neither was there a gender effect which was examined in an identical manner For each group, the mean pre test and post-test role taking score is presented in Table 1

Analysis of covariance was used to adjust for the slight group differences on the pre-test The groups differed significantly (F = 7 74, df = 2,44, $p < 005$) on their mean post test role-taking scores Two planned con- trasts, comparing each training group with the control group, were executed and showed that the superiority of the group trained by the awareness technique was not significant, whereas the improvement of the group trained by the flexibility technique was significantly superior to the control group ($p < 005$)

TABLE 1

MEAN PRE TEST AND POST TEST ROLE-TAKING SCORES FOR EACH TREATMENT CONDITION

	N	Pre test		Post test	
		M	SD	M	SD
Control group	24	2 7	0 8	2 5	0 6
Awareness training	12	2 3	0 7	2 8	0 6
Flexibility training	12	2 5	0 5	3 3	0 7

DISCUSSION

The purpose of the disequilibrium based awareness programme was to provide the children in the study with opportunities to see that the per spective of the other was different This awareness training technique produced only *non* significant increases in the post-test role-taking scores of the children in this study Cognitive developmental psychology in general and Piaget's theory in particular have been criticized recently because of their over-emphasis on structure in cognition (e g , 8) The awareness training technique is, in Piagetian terms, structural, being concerned with operative cognitive functions – that is those dealing with transformation of information Transformation was required in the present study because the task was organized so that the other must have a different perspective Therefore, the results of this study reinforce earlier criticisms of Piaget's theory for its over emphasis on structure in cognition

Following Ceccato's (1) approach to the study of cognition, I have attempted to analyse the operations needed to answer role taking questions While decentered responding requires an operative component, it seems that the flexibility of thought needed to provide alternative meanings is also necessary This type of cognitive skill is, in Piagetian terms, figurative because major structural reorganizations are not at issue What the child needs to do is to produce alternative meanings for cartoon pictures and perhaps feel free to do so In the present study, it was the flexibility training, emphasizing the production of alternative endings, which was successful in training role taking In Piagetian terms, the child's difficulty was figurative and not operative Echoing the distinction drawn by Flavell *et al* (3), it seems appropriate to suggest that it is giving children practice in producing different meanings for cartoon pictures which is

the more critical skill for these children rather than providing them with opportunities to realize that the other child's interpretation is different It will be interesting to see whether studies can be designed to demonstrate the effectiveness of figurative, non structural, techniques in the training of other types of role-taking skill

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