



**The Village Community School Philosophy for Children Project**

# **Evaluating the Effects of Philosophical Enquiry in a Secondary School**

**Steve Williams  
1993**

## PREFACE

This report is an evaluation of the effects of 27 one hour sessions of philosophical enquiry on a group of pupils aged between 11 and 12. My priority has been to report the results of the evaluation to our own staff, governors and parents. Outside readers may feel that not enough space has been given to describing the background of the school and pupils and to the content of philosophy lessons. I apologise for this but I had to produce the report as a 'working teacher' with other pressing duties. I hope that does not prevent it from being a useful contribution to debate about curriculum development and evaluation in this area.

This project received no money from any source outside of the school but it did require time, patience and good will from those involved.

With this in mind, I would like to thank Les Jamieson, the Headteacher of Village Community School, for allowing us to undertake the project and for agreeing to be on the steering committee that supervised the evaluation.

I am grateful to Laura Chase, Educational Psychologist with Derbyshire County Council, for encouraging me to undertake this research and for giving advice and help with the teaching of the course and with the evaluation as a member of the steering committee. Mike Pomerantz, Senior Educational Psychologist with Derbyshire County Council, gave valuable advice on statistics without which we would not have been able to complete the project.

I would also like to thank Peter Preidnicks, Training Manager at Courtaulds Chemicals, Helen Knox, Training Manager at British Rail Research, and Geoff Pickup, a parent governor, for agreeing to join the steering committee and for their helpful suggestions and encouragement. They gave their own time very generously. It was especially heartening that Peter and Helen were interested in the course, the pupils and the school, not just as potential future employers, but as significant members of the wider community with an interest in people and education.

Diana McKeown and John Golding agreed to teach the course with me. I thank them for their continuing efforts and enthusiasm.

Finally I'd like to thank the pupils of 7AB and 7JC who we all enjoyed teaching and from whom we learned a lot.

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# INTRODUCTION

## **The Philosophy for Children Project.**

In October 1992 the English Department of the Village Community School began teaching a course in Philosophy to two groups of year 7 pupils. We were impressed by reports of the effects that philosophical enquiry seemed to have had in other contexts on the skills and dispositions of young people.

Our aim was to try to improve the reasoning abilities, confidence and argument skills of our pupils. We also wanted to encourage the development of co-operative and communicative virtues such as active listening, developing criteria with others and sensitive questioning.

We decided to use Matthew Lipman's philosophical novel *Harry Stottlemeier's Discovery* as the stimulus material. Here, logic and ethics are brought to children via the story and structured discussions rather than lectures about philosophical theories. The story is about fictional children who discover how to reason more effectively and how to apply their reasoning to real life situations. It is full of problems that stimulate the children to ask questions and talk about their own ideas. A supporting manual helps teachers to follow up the pupils' enquiries with discussion plans and exercises that aim to deepen the philosophical elements within them.

The teachers were able to have two days of training from an experienced practitioner and teacher trainer. We also met to discuss progress throughout the year.

## **The pupils**

The pupils were of mixed ability and ethnic background, as is the population of the school as a whole. To give a rough idea of the reading ability range, the results of *The London Reading Test* showed that out of 31 pupils, 19 had reading scores that would have placed them in the bottom 30% of a nationally standardised sample. 13 pupils had scores in the bottom 20%. Seven pupils had scores over the 50% mark.

## **The Steering Committee**

We thought it would be valuable to invite colleagues from industry and education to evaluate the course and to make sure that the research was carried out in a professional way.

Representatives from British Rail and Courtaulds volunteered, together with one of Derbyshire's educational psychologists, a parent governor and the school's headteacher. The steering committee agreed to evaluate the course using the following means:

1. *The London Reading Test*, a common test of reading comprehension for 11 year olds.
2. A questionnaire was devised to assess the pupils' intellectual confidence in response to 10 statements on a 7-point scale.
3. Small group discussions were evaluated using pre-determined criteria relating to cognitive and inter-personal performance.

## Chapter 1

# TEACHERS' IMPRESSIONS OF THE COURSE

### Philosophy and reading

The basic lesson structure of the Philosophy for Children programme is built around the reading of episodes from the novel which is packed with possibilities for philosophical exploration and the development of reasoning skills. It is read aloud, usually around the class, and students are invited to ask questions or identify topics for discussion. A good starting point is negotiated by a variety of democratic means and a conversation is begun. The teacher's role is to make sure that the group enquiry is moving forward and that communicative and cognitive virtues are being developed.

We were worried that reading around the class might be a problem. A recommended practice is that pupils who don't want to read are invited to 'pass' but, even so, weak readers are highlighted. Our classes were of mixed reading ability. Approximate reading ages would range from 13 down to 6. In practice, the reading aloud problem did not seem as off-putting for poor readers as we thought it might be. The rest of the class in both groups were very helpful and tolerant, much more so than in discussion. Pupils 'passed' for a variety of reasons, not just because they were poor readers. Good readers rarely passed but some were quiet in discussion and were keen to make a positive and distinctive contribution through their reading. Some pupils proved good at helping weak readers and this had a positive impact on classroom relationships. There was scope for follow up in English lessons using paired reading initiatives. In a sense, weak readers were not too worried about being identified. They already had been. The context and the reaction of others was and is important however. Most pupils were pleased that they were learning new vocabulary in reading that was followed up and used in discussions. They were proud of being able to use new and, for them, difficult words like 'distinction' and 'assumption' appropriately. Some poor readers excelled in discussions and were able to make their own distinctive contributions.

Usually, English teachers avoid reading around the class. It destroys such literary effects as suspense, pacing and good dialogue. In philosophical children's novels this is not an issue as they do not use these effects to the same degree.

### Questioning

The pupils enjoyed having the power to devise their own questions on the text and those issues that were suggested by it. They did so individually and in groups. This was a distinctive feature of philosophy sessions for them. It hadn't happened much in their schooling before and the link between problem finding and problem solving seemed to be a factor in keeping the pupils motivated. Sometimes their commitment to struggling through their own questions was sustained over several hours of discussion. In this way, they tackled some very abstract topics which adults might have thought beyond them.

Questioning was also developed in discussion where pupils were encouraged to establish meaning by asking questions like: 'what do you mean by.....?' or 'how do you know?' Some of the pupils saw these kinds of questions as signs of hostility at first but later on they began to use and see the value of them.

### **Discussions and follow up**

Both groups found the discipline of discussion work demanding at first. In one group, disagreement was often seen as a form of insult and tempers were sometimes quite frayed. It took at least ten weeks to establish a reasonable working atmosphere and a tolerance of different perspectives. Some pupils needed to be coached quite specifically in how to phrase a statement of agreement, disagreement or questioning without belittling or insulting another child. This, in itself, became a topic of ethical discussion in lessons.

There was a variety of different responses to discussion. In some, the pupils would be very intense and engaged. Surprisingly, these sessions could often take off from quite abstract topics like 'what is space?' In other sessions, the pupils seemed to be less interested in the topic they had chosen and needed prompting with the teacher's own questions and exercises.

There was a difference between the two classes in how they responded to the repeated lesson format of reading followed by questioning and discussion. One class came to experience this as a peaceful oasis in a hectic week. They liked the predictability of the lessons. The other group found it repetitive and wanted more variety. They also wanted 'something to show' in addition to the practice of group reading and discussion work. Philosophy teachers came to believe that more variety was necessary and have added a wider range of activities to the course this year, including some written work, role play, bookmaking and 'realistic' decision-making activities.

### **Pupil responses**

About three quarters of the pupils who did philosophy liked it. About half of the pupils liked it a lot. Some parents commented at parents' evenings that it was their son or daughter's 'favourite subject'. The attraction seemed to be in the process of the enquiry itself and the space it gave for student questioning, topic identification and rigorous argument. The idea that they were coping well with difficult ideas was also a motivating factor for students. The self-esteem of some pupils was noticeably raised.

About a quarter of the pupils said that they found the course 'boring' at some time or another. However, on those occasions when a philosophy class was replaced with another school event, they were keen not to miss a second. For some of them, the rest of school was even more boring. The main source of boredom in philosophy was the sometimes repetitive nature of lesson formats mentioned above. The teachers were also less experienced than they are now at sensing when a discussion or exercise had run its useful course. Some pupils were also frustrated at being required to discipline themselves to give reasons for their views or to refrain from insulting their classmates at will. It wasn't that they didn't see these as 'good things', rather that the effort required to do them often outweighed the interest they were getting from the particular discussion to hand.

The quality of inter-personal relations improved considerably during the course. At first, some pupils got very angry when others disagreed with them. Insults of one kind or another were common. As time went by, the pupils' behaviour towards each other improved a lot. Even the most aggressive pupils were prepared to listen to other points of view and reasonable

criticism of their ideas. Comments designed to belittle others had almost disappeared. The group members had definitely become 'supportive' and patient over the course. In this sense, a 'community of enquiry' began to emerge. Pupils valued this progress and it became an additional motivating factor.

These changes in behaviour were achieved largely through the setting of clear standards, teacher and pupil modelling and positive feedback (1). These are built into the pedagogy and procedures of the course. In addition, the characters in the story itself model ways that conflicts can be solved sensitively and rationally. This is not to say that only specially written stories such as these could be used to stimulate good discussion behaviours but that modelling using fictional characters and situations may be useful. These points were emphasised in background reading. Bandura, a famous exponent of behaviour change, stresses the point that the combination of modelling and reinforcement procedures is probably the most effective method of 'transmitting, eliciting, and maintaining social response patterns'. (2) The pupils see that the consequences of 'good behaviour' in this context are worth striving for. Their discussions become more enjoyable and worthwhile. Most pupils were proud that they could achieve this. It was another way that their self-esteem could be raised.

On the whole, teachers felt that all the pupils who did philosophy had become more thoughtful, confident or reasonable to some degree.

## FOOTNOTES

1 For an explanation of these terms see Appendix 1, p

2 A. Bandura, *Principles of Behaviour Modification*, New York: Holt, Rinehart and Winston, 1969

## Chapter 2

# TESTING THE EFFECTS OF PHILOSOPHICAL ENQUIRY ON READING ABILITY

### Aims and discussion

The aim was to see if engaging in philosophical enquiry through reading and structured discussion could improve reading ability significantly. Other studies (1) suggested that it could, although they recommended that philosophy should be studied for three hours a week. We had only one hour available but we decided to go ahead and test reading improvement for three reasons:

- 1 The data would be relatively easy to come by. Each year, the school tests its incoming year 7 pupils using *The London Reading Test* (2), to assess their reading competence and identify pupils with reading problems. By testing them again at the end of the year, it would be possible to see if improvements had been made. The test had parallel forms to enable this to be done.
- 2 Some people might consider making space for Philosophy a luxury in a curriculum increasingly judged by how well pupils perform in "the basics". The replacement of one English lesson a week with Philosophy would be hard to justify if it removed opportunities to improve the pupils' reading skills.
- 3 Though our school would not be in favour of over-emphasising basic-skills teaching at the expense of other initiatives, we do try to improve the reading accuracy and comprehension of our pupils. We wanted to see if philosophical enquiry could contribute to this effort.

### Organising the study

Available staffing and time allowed us to carry out only a small-scale study using two year 7 mixed ability form groups totalling 42 pupils at first.

We decided to split each form into two groups of equal numbers. One of these would be taught philosophy once a week for an hour. The other group would have an extra English lesson. By doing this, we ensured that the pupils experienced the same teachers in all other subject areas, as form groups stay together for all subjects in year 7. Comparing different form groups would have meant that different combinations of teachers might have affected the outcome and the conclusion would have been less clear.

The two halves of each form group were "balanced" according to sex and the rankings of their initial scores on the *London Reading Test*. This was done to try to lessen the potential influences of "floor and ceiling effects" (3) on the reading test scores and the possible different reactions of boys and girls to philosophy sessions.

The philosophy and non-philosophy groups from each class were then combined when recording the results to form the experimental group and the control group respectively. The first reading test (pre-test) was given before the philosophy sessions began and before any of the pupils knew they would be doing philosophy. The second test (post-test) was given after

27 hours of philosophy sessions spread over an eight month period from November to June. Pre- and post-test results were then compared to see if any improvements had been made. The results of the experimental (philosophy) group and the control (non-philosophy) group were then compared to see if there was any difference in the scale of improvement between the two groups (4)

### **The London Reading Test.**

This was chosen as a suitable test as it had been used by the school for a number of years and so was familiar to teachers. It was written with a multi-racial population in mind. It consists of three passages.

Reading is tested in the first two passages by cloze technique. "This involves deleting words from the passage at regular intervals, then asking the child to 'fill the gap'. The technique therefore treats reading as a process, wherein the child uses his knowledge of language to decode the passage." (5).

The third passage is designed to test the reader's higher order comprehension skills. It does not involve cloze procedure but asks the reader to answer questions on the passage. "These are designed to test: literal comprehension, re-organisation, inferential comprehension, evaluation and appreciation." (6)

### **Understanding the scoring**

In the test, each correct answer is given one mark. These are added together to give a total "raw score". This test uses the common practice of converting these raw scores to "standardised scores". This is because the raw scores do not relate the child's performance to any well-defined standard, nor do they make any allowance for age.

Standardised scores relate to the average (mean) score of a national sample of children separated by age to the nearest month. A score of 100 is assigned to the mean. So if a child achieves a standardised score of 100, we can say that 50% of pupils of the same age in years and months are likely to do no better. But if a child achieves a standardised score of 70 we can say that only 2% of children are likely to do no better. These percentage figures are called "percentiles".

### **The Problem of re-testing**

Re-testing could be carried out using raw scores. After all, we could ask not how pupils have done in relation to a national sample but whether they have scored better on their second attempt, indicating an improvement in reading ability. This would be misleading however, because pupils would be expected to improve anyway given the passage of time and more schooling.

Standardised scores need to be used to find out if the pupils have improved over and above what would be expected over a given time span in a normal school situation (7). In this way it would be possible to achieve a higher raw score on the second test but still achieve the same standardised score. This would not mean that the school had failed and that no improvement had been made but rather that the improvement was in line with what could be expected in a normal school setting and that most schools would do no better.

## The Results

A full list of pupils with raw scores, standardised scores and percentiles for pre- and post-tests is set out in Table 1

**TABLE 1**

Name	Raw Score		St. Score		Percentile	
	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>
<b><i>Philosophy Group</i></b>						
Student 1	54	56	117	119	88	90
Student 2	47	56	102	115	57	85
Student 3	34	43	90	94	26	35
Student 4	33	38	89	90	24	26
Student 5	32	27	89	80	24	10
Student 6	34	37	87	86	20	18
Student 7	27	36	81	86	11	18
Student 8	25	37	78	85	8	17
Student 9	21	30	79	83	9	14
Student 10	54	54	114	110	83	75
Student 11	46	52	103	110	59	75
Student 12	42	49	94	100	36	51
Student 13	41	45	95	96	38	41
Student 14	28	39	81	87	11	20
Student 15	17	26	74	77	4	7
<b><i>Non-Philosophy Group</i></b>						
Student 16	24	23	86	74	18	4
Student 17	49	50	108	106	71	67
Student 18	38	38	95	91	38	28
Student 19	36	41	89	89	24	24
Student 20	35	27	87	76	20	6
Student 21	34	50	89	107	24	69
Student 22	31	35	84	84	15	15
Student 23	29	30	85	82	17	12
Student 24	47	48	104	102	62	57
Student 25	48	51	105	106	64	67
Student 26	41	43	98	97	46	43
Student 27	42	37	97	87	43	20
Student 28	34	49	87	101	20	54
Student 29	21	23	79	76	9	6
Student 30	24	30	77	78	7	8
Student 31	16	22	76	75	6	5
Student 32	17	41	72	89	3	24

## Testing the significance of the scores

In order to make sense of these scores we need to use the appropriate statistical test, which in this case is the "t" test. This evaluates the change in scores and asks whether any changes that do occur could be caused by chance or random factors. More specifically, it takes the means of the pre- and post-test scores and assesses the likelihood of the post-test scores being, in effect, the scores of a more competent group of readers. The results are deemed to be significant only when we are more than 95% confident that they are from a more competent group. The results are then said to be significant at the 5% level.

The factors affecting this calculation are the size, consistency and variance of the gains or losses. The strength of the "t" test is its ability to take all of these factors into account, balancing them against each other before reaching a conclusion.

If the result of the comparison of pre- and post-test scores of the experimental (philosophy) group is significant at the 5% level or below, the next step is to look at the scores of the control (non-philosophy) group. If these are also significantly better, we could conclude that both philosophy and english lessons had been successful in thier own ways. It could also be that something else that they shared had helped both groups to improve - the general quality of teaching, for example.

## Results

The results of the "t" test are given in table 2, including the mean scores and the levels of significance.

**TABLE 2**

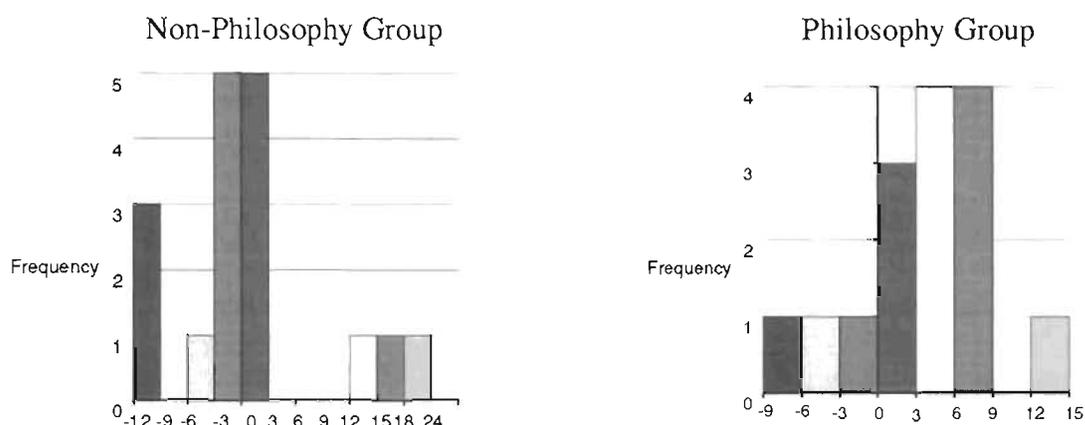
Group	Mean		Mean Difference	Significance Level
	<i>Pre</i>	<i>Post</i>		
Philosophy Group (Experimental )	91.5	94.5	3	4%
Non-philosophy (Control)	89.3	89.4	0.1	46%

## Conclusion

The pupils in the philosophy (experimental) group made gains that were significant at the 5% level on a "t" test (8). It must be stressed that, using standardised scores, these gains were over and above what could have been expected in a normal school situation over the passage of time. The pupils who did not do Philosophy, but had an extra English lesson, made no such significant gains. Therefore, we can conclude that the philosophy sessions had a modest though reliably positive effect on the reading ability of year 7 pupils as tested by the *London Reading Test*. Figure 1 gives some further detail.

**Figure 1**

*Showing the gains and losses made in standardised scores by the two groups.*



12 out of 15 pupils in the philosophy group improved their standardised scores. Only 8 out of 17 pupils in the non-philosophy group did so and 5 of these made gains of less than 3. One third of pupils in the philosophy group made gains of more than 6. (9)

There were a few large gains in the non-philosophy groups. These can partly be explained by changes in the pupils' degree of motivation towards completing the test on each occasion. We decided to include these large scores because this motivational factor would be present to some extent in both groups. However, two pupils in the non-philosophy group who made large gains reported that they 'gave up' during the first test.

## Discussion

I think we have established that pupils who did Philosophy instead of English did not lose the opportunity to make gains in reading. In fact, they made greater gains over and above what might be described as 'normal progress'.

If we accept that English is the mainstream subject most likely to improve reading skills, then the results would support the decision to put philosophy on the timetable with the expectation that its effect on reading would be positive. The gains made by the philosophy group were modest but reliable. It is not surprising that greater gains weren't made given that the pupils experienced only 27 hours of philosophical enquiry over 8 months.

Most remedial reading schemes have at least three times that amount of instruction (10) or pack the same amount into an intensive short course (11). But philosophy is not a remedial reading scheme. It aims to do many other things besides improve reading.

Exactly how it contributes to improved reading is open to debate. We were surprised that the results were significant. Certainly, a variety of comprehension strategies are involved in philosophy sessions. Inference and flexibility in using language are practised and meanings are analysed. There is a lot of structured discussion about the reading material. These may have had an effect even given the short time each week spent in lessons. Increased intellectual confidence and the disposition to question and persevere in solving problems may also have had an effect.

We would advise against arguing for adopting philosophy as a kind of remedial reading programme or to hold out the promise of large gains in reading competence. We would also reject the view that doing philosophy with children is a luxury. What we can say with some

confidence is that philosophy can play a valuable part in improving reading ability within an overall school approach to enhancing literacy.

## Footnotes

1. *Philosophy for Children: Where are we now.* Supplements One and Two of *Thinking: The Journal of Philosophy for Children*
2. *The London Reading Test* (NFER Nelson)
3. Ceiling effects happen when someone scores near to the top of of the range in a test. Room for improvement is limited. Floor effects happen when a test is simply too hard for some pupils so that it cannot differentiate with any reliability between.
4. Some pupils with very low scores on the first test were selected for an intensive course in remedial reading. They were removed from the study because it was felt that their scores might have an uneven effect on the results, given the relatively small number of pupils involved in the experiment as a whole. This also meant that any floor effects were eliminated. Other pupils left the school during the year and some were absent for one or other of the tests. These factors reduced the number of pupils involved to 32 (15 in the experimental group and 17 in the control group).
5. *London Reading Test Manual* (ibid)
6. *London Reading Test Manual* (ibid)
7. Some of the pupils were several months too old at the time of the second test to be covered by the standardised scores provided by the *London Reading Test*, Their standardised scores had to be extrapolated by using a 'scientific guess'. This practice is described in Vincent and Cresswell, *Reading tests in the classroom*, NFER, 1976
8. The test was a two-tailed test
9. This is more than twice the zone of error (standard error) of the test as quoted by the distributors (NFER)
10. Eg. *The Corrective Reading Scheme* (SRA)
11. Eg. *The Somerset Talking Computer Project* (Somerset LEA 1993)

## Chapter 3

# TESTING THE EFFECTS OF PHILOSOPHICAL ENQUIRY ON INTELLECTUAL CONFIDENCE

### **Aims and discussion**

Doing philosophy with children aims to develop their rationality and clarity of thought and expression. It also works to improve their understanding of how to use thoughtful criteria in order to make good judgements.

It is no less important, however, to enhance their confidence in their own abilities to question, to persevere, to solve problems, to take part in public discussion and to defend their beliefs against unreasonable challenges. If people do not possess this confidence then they will be disabled as citizens and will be unable to achieve a satisfactory degree of intellectual and moral autonomy. The idea of an *educated and participating democracy* assumes such confidence. Even in a straightforward work situation, dangerous mistakes could be made when employees don't have the confidence to clear up misunderstandings by asking relevant questions.

### **Recognising intellectual confidence**

It is not easy to assess intellectual confidence. We can either observe what children say and do or ask questions about what they think and feel. Our feeling during philosophy sessions was that pupils were more confident. However, it would be difficult to assess whether this was true in other areas of school and life due to the sheer number of people we would have to ask and the differences in attitudes and criteria of these potential evaluators.

Also, the degree of opportunity available in other school settings for pupils to display intellectual confidence of the kind we were interested in was unclear. (1)

We decided to ask the pupils about their ideas and feelings using an attitude questionnaire or scale (2). This would be relatively easy to administer and could provide indications of the pupils' levels of confidence in certain areas. These could confirm or call into question the informal observations we had made during philosophy sessions.

### **Choosing and developing an attitude scale**

We found most existing self-concept scales that were widely used to be rather too general for our purposes. We did not expect to influence broad areas of self-concept with 27 one-hour sessions in philosophy. Improving perceptions of relationships with friends and parents, for example, was outside the scope of our initiative. Even scales which focussed solely on school life (3) depended on assessing areas like general motivation towards school where we thought other influences would be equally if not more important. (4)

We decided to develop our own scale. To do this, I read available literature on designing scales, took some questions from other scales and made up some new ones. The completed scale is shown in figure 1. (5)

## Figure 1 Intellectual Confidence Scale

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If someone disagrees with me I am able to defend my point of view  
I am able to give good reasons for my views  
I enjoy asking questions about all sorts of things  
I give up when my work is too hard  
I enjoy trying to solve problems  
I am happy to question other people's ideas  
I feel I answer questions well  
When I get stuck I can think my way through a problem  
I feel I am making progress in my learning at school  
I worry when I don't know the answer to something

---

Students were asked to indicate their level of agreement with each statement by placing a cross on a seven-point Likert (6) scale either:

*not at all/ hardly ever/ not very often/ some of the time/ often/ very often/ all of the time*

### Grouping pupils and administering the scale

Experimental (philosophy) and control (non-philosophy) groups had already been organised (7). The intellectual confidence scale was given to all pupils in October before the philosophy sessions began (pre-test). It was given again in June (post-test) after the philosophy group had taken part in 27 one-hour-a-week sessions of philosophical enquiry (8). The non-philosophy group had an extra English lesson. Pupils did not know that the attitude scale had anything to do with any particular lesson.

### The results

Pupils were given a score ranging from one to seven for each question as appropriate. This meant that the scoring for negative questions had to be reversed. For example, an answer of *not at all* to the question *I give up when my work is too hard*, would receive a mark of seven.

Pre- and post-test results were then compared to see if any improvements had been made. The results of the experimental (philosophy) group and the control (non-philosophy) group were then compared to see if there was any difference in the scale of improvement between the two groups. A list of results is given in table 2.

**Table 2**

Name	<i>Philosophy Group</i>		Name	<i>Non-Philosophy Group</i>	
	Total Score			Total Score	
	<i>Pre</i>	<i>Post</i>		<i>Pre</i>	<i>Post</i>
Student 1	49	53	Student 1	57	61
Student 2	44	53	Student 2	34	30
Student 3	40	59	Student 3	47	53
Student 4	39	43	Student 4	48	32
Student 5	41	39	Student 5	46	42
Student 6	52	60	Student 6	28	32
Student 7	41	39	Student 7	49	49
Student 8	31	37	Student 8	38	40
Student 9	37	45	Student 9	47	46
Student 10	48	53	Student 10	35	37
Student 11	36	45	Student 11	49	54
Student 12	33	36	Student 12	41	44
Student 13	37	39	Student 13	46	60
Students14	58	60	Student 14	52	46

**Testing the significance of the scores**

The score totals of the pre -and post-test results were again analysed using the "t" test in the same way as the reading score totals. The results of the "t" test are given in table 3, including the mean scores and the levels of significance.

**Table 3**

Group	Mean		Mean Difference	Significance Level
	<i>Pre</i>	<i>Post</i>		
Philosophy Group (Experimental)	41.9	47.2	5.3	0.2%
Non-Philosophy (Control)	44.1	44.7	0.6	73.4%

**Conclusion**

The pupils in the philosophy (experimental) group made gains that were highly significant (9). In other words, we could be 99.8% confident that the philosophy group had changed for the better. The pupils who did not do philosophy, but had an extra English lesson (control group), made no significant gains. Therefore, we can conclude that the philosophy sessions had a very reliable positive effect on intellectual confidence as tested by our attitude scale.

## Analysing the individual questions

It is generally accepted that the same total scores on a Likert scale can be achieved in many different ways. For this reason, the pattern of responses becomes as interesting as the total score (10). We have therefore calculated the responses of pupils in both groups to each individual question. These will be discussed below.

Comparisons between groups have normally been made in terms of the combined percentages selecting the three most positive and negative options. Where appropriate, the percentages for other combinations of options or for single options have been highlighted. It must be remembered, however, that the percentages refer to a small number of pupils. There were 28 altogether; 14 in each group. Percentages that look large need to be seen in this context. Numbers in brackets refer to actual numbers of pupils.

### Q. If someone disagrees with me, I am able to defend my point of view

	Non-Philosophy		Philosophy	
	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>
Not at all	(0) 0%	(1) 7%	(0) 0%	(0) 0%
Hardly ever	(1) 7%	(0) 0%	(0) 0%	(0) 0%
Not very often	(6) 43%	(2) 14%	(4) 29%	(1) 7%
Some of the time	(5) 36%	(4) 29%	(10) 71%	(6) 43%
Often	(0) 0%	(3) 21%	(0) 0%	(5) 36%
Very often	(0) 0%	(1) 7%	(0) 0%	(1) 7%
All of the time	(2) 14%	(3) 21%	(0) 0%	(1) 7%

*Only 14% in the non-philosophy group and none in the philosophy group opted for the most positive three responses on the first occasion. This increased in both groups to 49% and 50% respectively. Pupils in both groups seemed to become more confident about the idea of defending their point of view. One possible reason was that, early on in the year, the students didn't know each other very well and were uncertain about their abilities in relation to other students. By the end of the year only 7% of the philosophy group had responses of 'not very often' or worse to this question whereas the non-philosophy group had 21% at this level.*

**Q. I am able to give good reasons for my views**

	Non-Philosophy		Philosophy	
	Pre	Post	Pre	Post
Not at all	(0) 0%	(0) 0%	(1) 7%	(0) 0%
Hardly ever	(1) 7%	(1) 7%	(0) 0%	(0) 0%
Not very often	(2) 14%	(2) 14%	(5) 36%	(5) 36%
Some of the time	(7) 50%	(4) 29%	(2) 14%	(2) 7%
Often	(1) 7%	(4) 29%	(3) 21%	(4) 29%
Very often	(2) 14%	(2) 14%	(3) 21%	(4) 29%
All of the time	(1) 7%	(1) 7%	(0) 0%	(0) 0%

*Both groups made some gains on this question, and ended up with more than half of their members opting for the most positive three responses. Those pupils in the philosophy group who responded 'never' to the question at first seem to have grown in confidence and there is more upward movement at the bottom end generally than in the non-philosophy group. Some pupils who answered 'some of the time' in both groups seem to have gained in confidence.*

**Q. I enjoy asking questions about all sorts of things**

	Non-Philosophy		Philosophy	
	Pre	Post	Pre	Post
Not at all	(0) 0%	(0) 0%	(1) 7%	(1) 7%
Hardly ever	(1) 7%	(0) 0%	(1) 7%	(1) 7%
Not very often	(1) 7%	(2) 14%	(1) 7%	(1) 7%
Some of the time	(3) 21%	(5) 36%	(3) 21%	(2) 14%
Often	(3) 21%	(2) 14%	(2) 14%	(4) 29%
Very often	(3) 21%	(2) 14%	(4) 29%	(2) 14%
All of the time	(3) 21%	(3) 21%	(2) 14%	(3) 21%

*The philosophy group made gains at the top end of the scale, with the number of pupils answering more than 'some of the time' rising from 57% to 64%. At this level, the non-philosophy group's responses fell from 63% to 49%. Both groups retained the same percentage of pupils at the bottom, though the non-philosophy group had 7% falling to 'hardly ever' on the post-test. There were none as low as this on the pre-test.*

**Q. I give up when my work is too hard**

	Non-Philosophy		Philosophy	
	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>
Not at all	(5) 36%	(3) 21%	(5) 36%	(3) 21%
Hardly ever	(2) 14%	(3) 21%	(2) 14%	(3) 21%
Not very often	(2) 14%	(1) 7%	(1) 7%	(4) 29%
Some of the time	(4) 29%	(5) 36%	(3) 21%	(3) 21%
Often	(0) 0%	(0) 0%	(1) 7%	(0) 0%
Very often	(1) 7%	(1) 7%	(1) 7%	(0) 0%
All of the time	(0) 0%	(1) 7%	(1) 7%	(1) 7%

*Gains were made by the philosophy group and losses by the non-philosophy group. Pupils choosing the three most positive responses to this question rose from 57% to 71% in the philosophy group but fell from 64% to 49% in the non-philosophy group. Only 7% of philosophy pupils said they gave up more than 'some of the time'. This had fallen from 21%. This figure went up in the non-philosophy group from 7% to 14%.*

**Q. I enjoy trying to solve problems**

	Non-Philosophy		Philosophy	
	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>
Not at all	(0) 0%	(2) 14%	(5) 36%	(1) 7%
Hardly ever	(2) 14%	(1) 7%	(0) 0%	(0) 0%
Not very often	(3) 21%	(0) 0%	(3) 21%	(3) 21%
Some of the time	(2) 14%	(4) 29%	(4) 29%	(1) 7%
Often	(1) 7%	(4) 29%	(1) 7%	(1) 7%
Very often	(4) 29%	(1) 7%	(0) 0%	(5) 36%
All of the time	(2) 14%	(2) 14%	(1) 7%	(3) 21%

*Gains were made in the numbers of philosophy group pupils opting for the three most positive responses. The numbers rose from only 14% in the pre-test to 64% in the post-test. In fact, 57% answered this question 'very often' or 'all the time' at the second attempt. The non-philosophy group's responses remained constant for the top three options overall, but the number that answered 'very often' or 'all the time' went down from 43% to 21%. At the bottom end, 57% of philosophy pupils answered 'not very often' or worse initially. This was reduced to 28%. The number of philosophy pupils answering 'never' to this question went down from 36% to 7%.*

**Q. I am happy to question other people's ideas**

	Non-Philosophy		Philosophy	
	Pre	Post	Pre	Post
Not at all	(1) 7%	(2) 14%	(0) 0%	(0) 0%
Hardly ever	(2) 14%	(2) 14%	(1) 7%	(2) 14%
Not very often	(4) 29%	(3) 21%	(2) 14%	(1) 7%
Some of the time	(1) 7%	(4) 29%	(6) 43%	(2) 14%
Often	(1) 7%	(1) 7%	(1) 7%	(5) 36%
Very often	(4) 29%	(1) 7%	(0) 0%	(3) 21%
All of the time	(1) 7%	(1) 7%	(4) 29%	(1) 7%

*Gains were made by the philosophy group and losses by the non-philosophy group. Pupils answering 'often' or more to this question rose from 36% to 64% in the philosophy group but fell from 43% to 21% in the non-philosophy group. Disappointingly, the number of pupils answering 'hardly ever' or worse rose by 7% in both groups, though the overall number opting for the three least positive options remained almost the same. In this question then, those pupils in the philosophy group who seemed to be reasonably confident already improved further. Similar pupils in the non-philosophy group got worse.*

**Q. I feel I answer questions well**

	Non-Philosophy		Philosophy	
	Pre	Post	Pre	Post
Not at all	(1) 7%	(0) 0%	(1) 7%	(1) 7%
Hardly ever	(1) 7%	(1) 7%	(1) 7%	(0) 0%
Not very often	(0) 0%	(2) 14%	(1) 7%	(2) 14%
Some of the time	(8) 57%	(3) 21%	(10) 50%	(3) 21%
Often	(3) 21%	(6) 43%	(0) 0%	(4) 29%
Very often	(1) 7%	(1) 7%	(4) 29%	(3) 21%
All of the time	(0) 0%	(1) 7%	(0) 0%	(1) 7%

*Both groups made gains but is worth noting that pupils in the non-philosophy group who answered 'not very often' or worse rose from 14% to 21%. In the philosophy group, the number opting for the three least positive responses remained constant at 21% and the number opting for 'hardly ever' or worse fell from 14% to 7%.*

**Q. When I get stuck I can think my way through a problem**

	Non-Philosophy		Philosophy	
	Pre	Post	Pre	Post
Not at all	(1) 7%	(2) 14%	(0) 0%	(2) 14%
Hardly ever	(0) 0%	(0) 0%	(2) 14%	(1) 7%
Not very often	(4) 29%	(0) 0%	(6) 43%	(1) 7%
Some of the time	(4) 29%	(5) 36%	(3) 21%	(3) 21%
Often	(3) 21%	(3) 21%	(2) 14%	(4) 29%
Very often	(1) 7%	(2) 14%	(0) 0%	(3) 21%
All of the time	(1) 7%	(2) 14%	(1) 7%	(0) 0%

*Pupils from both groups made gains but the philosophy gains were particularly impressive. The number of pupils who opted for the three most positive responses rose from 21% to 50% and the numbers choosing the least positive responses dropped from 57% to 28%. It is disappointing that in both groups, the number choosing 'not at all' rose by 7%.*

**Q. I feel I am making progress in my learning at school**

	Non-Philosophy		Philosophy	
	Pre	Post	Pre	Post
Not at all	(0) 0%	(1) 7%	(0) 0%	(0) 0%
Hardly ever	(1) 7%	(1) 7%	(0) 0%	(0) 0%
Not very often	(1) 7%	(1) 7%	(1) 7%	(0) 0%
Some of the time	(2) 14%	(4) 29%	(3) 21%	(3) 21%
Often	(5) 36%	(1) 7%	(8) 57%	(4) 29%
Very often	(3) 21%	(2) 14%	(0) 0%	(5) 36%
All of the time	(2) 14%	(4) 29%	(2) 14%	(2) 14%

*The first set of answers were given to this question when pupils had just arrived at the school and seemed keen to make progress. Some pupils obviously looked forward to making a new start. Understandably, positive responses were common. However, it is worth noticing that the philosophy group retained their confidence and even showed gains, while the non-philosophy group lost some confidence. 71% of pupils in both groups chose the three most positive responses. This figure rose to 79% for the philosophy group but fell to 50% for the non-philosophy group. Few pupils chose the least positive responses initially: 7% and 14% respectively. However, this figure went down to zero for the philosophy group and rose to 21% for the non-philosophy group.*

**Q. I worry when I don't know the answer to something**

	Non-Philosophy		Philosophy	
	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>
Not at all	(1) 7%	(2) 14%	(2) 14%	(2) 14%
Hardly ever	(2) 14%	(3) 21%	(1) 7%	(2) 14%
Not very often	(1) 7%	(1) 7%	(3) 21%	(4) 29%
Some of the time	(5) 36%	(4) 29%	(2) 14%	(3) 21%
Often	(1) 7%	(7) 7%	(3) 21%	(0) 0%
Very often	(2) 14%	(7) 7%	(1) 7%	(1) 7%
All of the time	(2) 14%	(2) 14%	(2) 14%	(2) 14%

*Both groups gained in confidence here indicating that they can either live better with uncertainty or don't care about getting things right.*

**Summary and discussion**

This study is on a small scale. Where percentages are quoted, about 7% is equal to one pupil

- Pupils doing philosophy made gains in their total scores on 10 statements that were very consistent and sometimes quite large. The non-philosophy group did not make any significant gains. Some interesting responses were as follows:
- In the philosophy group, the percentage of pupils answering 'not very often' or less to the question: *I give up when my work is too hard*, rose from 57% to 71%. In the non-philosophy group, it fell from 64% to 49%. Only 7% of philosophy pupils said that they gave up more than 'some of the time'.
- In the philosophy group, the percentage of pupils answering 'often' or more to the question: *I enjoy trying to solve problems*, rose from 14% to 64%. The percentage of pupils answering 'never' went down from 36% to 7%.
- In the philosophy group, the percentage of pupils answering 'often' or more to the question: *I am happy to question other people's ideas*, rose from 36% to 64%. In the non-philosophy group, it fell from 43% to 21%.
- In the philosophy group, the percentage of pupils answering 'often' or more to the question: *I enjoy asking questions about all sorts of things*, rose from 57% to 64%. In the non-philosophy it fell from 63% to 49%.

- The philosophy pupils built on their early sense of achievement at the school. The percentage answering 'often' or more to the question *I feel I am making progress in my learning at school* rose from 71% to 79%. It fell from 71% to 50% for non-philosophy pupils. No pupils in the philosophy group felt they were making progress less than 'some of the time'. 21% in the non-philosophy group did.
- The percentage of philosophy pupils answering 'often' or more to the question: *When I get stuck I can think my way through a problem*, rose from 21% to 50%.

The results of the questionnaires confirmed teachers' observations in the philosophy lessons that pupils were becoming more confident about their own performance at school and about their abilities to fulfil more particular requirements of society and academic life, like the ability to ask questions, to provide reasons for views, or to persevere with a problem. We also felt that the gains made on questions like: *I am happy to question other people's views* did not suggest that the pupils had become more argumentative or bombastic. On the contrary, they were much more willing to listen to the views of others and to consider them on their perceived merits (11). This is important, not just because pupils respect each other more but because so many misjudgements in life and work can be traced back to the too-quick dismissal of other people's opinions or solutions.

## Footnotes

- 1 See for example J.T. Dillon: 'The remedial Status of Student questioning' in *The Journal of Curriculum Studies*, 1988, Vol. 20, No. 3, pp. 197-210. Dillon's research in America found that classes of students together asked an average of only two questions per hour while the teacher asked around two questions per minute. I accompanied one year 8 class around my own school for a day and found that they were not invited to ask any questions in the whole day and that the few questions they did ask were mostly procedural eg. 'what do I do when I've done section A.'
- 2 The reliability of such scales is the subject of continuing debate. See R.B. Burns : *The Self-Concept*. 1979. However, the use of attitude scales has a long history and the consensus of opinion seems to be that they are probably the best indicators of 'real attitudes' available for groups of people that we don't know intimately.
- 3 Eg. Walter Waetjen: *Self-concept as a learner scale*, University of Maryland 1963. Quoted in Open University Unit E281, Unit 10, PP. 165-166
- 4 For example, in a recent survey using attitude scales, the National Foundation of Educational Research (NFER), identified some of the factors that they thought contributed to positive motivation towards school. They include mostly whole-school and home factors that obviously could not be tackled in a single lesson. W. Keys and C. Fernandes: *What do students think about school? NFER 1993*
- 5 A seven point scale was chosen rather than the usual 5 point scale in order to give scope for change on the re-test. Most Likert scales seem to be intended to be used only once.
- 6 This scale is now under further development to try to calculate its internal consistency on a larger sample. It could be changed in the light of this. The scores of all of the questions used correlated well with the total scores (ie. above 0.4). Other possible questions were eventually rejected because of inappropriateness, repetition or unclear wording.
- 7 They were the same as for the reading test. Numbers were reduced from 31 to 28 because of absences for one or other of the answering sessions.
- 8 We were confident that the danger of recall of students of earlier results was very small, given an eight month interval. For confirmation of this in an experimental situation, see R.S. Adams "A further approach to attitude scaling,' *British Journal of Educational Psychology*, 32, 1962, 201-8
- 9 In other words well below the 1% level on a two-tailed "t" test
- 10 See A.N. Oppenheim: *Questionnaire Design and Attitude Measurement*, 1966, London, Heinemann
- 11 This is confirmed by our work on discussion analysis in chapter 1

## Chapter 4

# TESTING THE EFFECTS OF PHILOSOPHICAL ENQUIRY ON REASONING IN DISCUSSION

### **Aims and discussion**

It is very difficult to come up with a good way to test reasoning ability. It is possible to give verbal reasoning tests or even tests of formal logic. However, the philosophy course does contain some formal logic and it would not be surprising if pupils who had done such a course performed better on tests of logic than pupils who hadn't. We would also have still had to prove that there was a relationship between their performance on these tests and their achievements in more practical activities which required reasoning.

We decided that some form of discussion analysis would be the nearest we could get to observing the process of reasoning. We hoped that by setting groups of pupils tasks that required the application of criteria, decision making, the giving of reasons for views and so on, we would be able to gauge how well they were reasoning. Some support for this could be found in background reading. This is the psychologist Deanna Kuhn:

'The efforts of those seeking new ways to assess intelligence originate from a wide range of psychological traditions.....Yet all of these efforts are united by the conviction that intelligence must be identified in the real-life contexts in which it occurs. Researchers have become hesitant to judge people's **thinking abilities** by their performance on problems presented to them by psychologists. Instead, it is argued, **we need to identify the problems that arise in people's lives and the kinds of thinking they have developed to deal with them.**' (1)

### **The discussion task**

We decided to split the philosophy and non-philosophy classes we had already established into smaller groups of four or five. They were set a task before the philosophy course began, and another at the end of the course. The tasks were as follows.

#### **Group Task 1**

Your group gets the chance to plan a day of activities for your class at school. You will be able to choose:

1. What the activities will be
2. Who will lead each activity
3. How long the activities will last

You have 5 hours not counting dinner time and you should plan the day so that it will be :

1. Interesting
2. Useful
3. Good for your education

Try to agree on a timetable for the day. Write out the timetable and **make it all fit into the 5 hours that you have.**

## Group Task 2

Imagine that you are a group of pupils that the headteacher has asked to help him. He wants you to suggest 5 school rules that you think would be important. He wants you to make sure that:

1. Pupils are able to understand the rules
2. Pupils will accept that they are good rules
3. The rules will make the school a good place for learning
4. The rules will help people to get on well together

You should discuss your ideas together fully and then write them down. Try to write down the exact words that mean what you want to say.

These tasks were not real life situations but they were designed to be within the pupils' scope of experience and interest. They required reasoned discussion and the application of criteria. We looked around for a method of assessing the group discussions and found the most useful and interesting tools within the tradition of work on oracy that English teachers and lecturers had developed. The method we decided to use has been devised by Geoffrey Robinson and is presented in *Spoken English Illuminated* (2). More items were added to the Reasoning skills section to suit our needs better. The final criteria we used are as follows:

### INTERACTIVE SKILLS

#### Positive roles

1. Encourages others to make a contribution
2. Persuades well
3. Challenges in a positive and mature way
4. Monitors / responds to the needs of listeners
5. Is confident
6. Puts group needs high
7. Co-operates with others
8. Negotiates well to sort out group roles
9. Uses humour in a positive way
10. Mediates / negotiates well
11. Uses strategies to give the group a forward momentum
12. Shows attentiveness and response when listening.
13. Shows knowledge of the rules of turn taking and applies them
14. Can sustain a longer turn and maintain confidence
15. Exploits turn taking intelligently / sensitively, and encourages others in the group to do so by asking questions etc.
16. Shows patience towards the situation and towards others

#### Negative roles

1. Discourages others from making a contribution
2. Doesn't try to persuade. Gives up or just repeats opinion
3. Fails to challenge even glaringly wrong statements or challenges all the time
4. Fails to understand/ adapt to listeners' needs
5. Badly under confident or over dominant
6. Self comes first
7. Disrupts
8. Unaware of his/ her or others' roles in the group
9. Clowning: messes around and jokes at others' expense
10. Lacks diplomacy, provokes others in disputes.
11. No attempt to take the group forward
12. Inattentive. Show lack of response when listening
13. Lack of understanding of the rules and courtesies of conversation
14. Can only sustain short turns and is not confident.
15. Unable to make turn taking work for him / her
16. Impatient with the situation or with others

## REASONING SKILLS

### Positive roles

1. Readily introduces ideas and questions
2. Responds to others' ideas and: supports, builds on, modifies, challenges, questions etc.
3. Able to provide reasons for views or actions
4. Able to concede an argument for good reasons
5. Will consider alternative ideas and counterexamples
6. Thinks about consequences of judgements
7. Develops or uses criteria for judging
8. Examines assumptions
9. Hypothesises
10. Explains and elaborates well
11. Asks questions which seek information, challenge, move discussion on etc.
12. Uses anecdote, illustration or analogy to illuminate a topic
13. Summarises and compares
14. Is sincere and honest in approach
15. Makes distinctions

### Negative roles

- Few ideas or questions forthcoming
- Fails to respond to others' ideas: ignores, changes topic etc.
- Unable to give reasons, or reasons do not support views
- Never concedes a case even when obviously wrong
- Not sensitive to possible alternatives. Impulsive
- Ignorant of consequences. Wants to proceed anyway.
- Evaluates superficially or impulsively
- Cannot identify assumptions or leaves them unchallenged
- Fails to think in abstraction
- Confuses matters
- Asks few questions. When he does, they are irrelevant, poorly framed, have already been answered.
- If uses anecdote or illustration at all, irrelevant or unilluminating
- Signs of having failed to grasp or compare group ideas
- Not sincere. Will make comments 'for effect'
- Unable to make distinctions when they are necessary

It was a deliberate decision to retain Robinson's inter-active criteria to contribute to the overall evaluation of the groups. We agreed with Catherine McCall that:

'Reasoning itself involves more than the use of and facility with analytic or logical **thinking skills**. Reasoning involves both the ability to reason (in terms of what are often called **thinking skills**) and the **disposition** to reason with others (to be reasonable in one's argumentation). It seems to me that a person **lacking in either** cannot be deemed rational. (3)

### Carrying out the analysis

The pupils' discussions were videotaped. A ten minute section of each video was chosen at random by the evaluators who were the members of the steering committee. Each evaluator looked at the same pupils for both tasks. This was meant to ensure a consistency in the judgements made. The ten minute section was studied and criteria were assigned to each utterance. So for example, if a pupil gives reasons for her views, the code **R3P** is written next to her name. In this analysis 'R' indicates Reasoning, 'I' interactive, 'P' positive and 'N' negative. Thus 'R3P' indicates the third Positive role in the Reasoning area.

All the utterances over the ten minutes were assigned an appropriate code. The proportion of positive and negative roles displayed by each pupil and for the group as a whole was worked out. The range of roles was also noted. Then each evaluator made an overall comment on the performance of the group in his or her own words.

## **Difficulties**

One problem was the limited time and resources available to us. We had sixteen discussions to analyse and we did not have the resources to get transcripts done from the videos. It was not a problem to code the utterances straight from the video but it would have been useful to have transcripts to reflect on and quote from.

There was also a problem about how many roles to assign to a single utterance. There were some differences in the way the evaluators interpreted this task. They had been able to meet once to discuss strategies but further detailed meetings were not possible.

Some pupils had left school and so did not take part in the second discussion. We assume this will have changed the balance of contributions. However, the experiment was useful in the sense that we could say that there was evidence that particular groups and individuals could take certain positive roles. There was no evidence that others could, even when required to do so by the framework of the task.

## **Summary of results**

On the first task, the better groups had a wider range of interactive skills. Though some pupils and groups showed a conspicuous lack of interactive skills, most roles were in evidence somewhere. This was not the case with the reasoning skills. The most frequent reasoning roles were 1, 2, 10, 12 and 14. Some pupils were able to introduce ideas, build on the ideas of others and introduce anecdotes. They were often sincere in their approach and they were sometimes able to elaborate on what they said. However, no groups showed they were able to develop or use criteria and examine assumptions. They generally avoided challenging each other's ideas. They preferred to introduce new ideas or repeat old ones rather than explore the reasons for any disagreements that arose.

When the discussions of the second task were analysed 8 months later, the pupils who had not done philosophy displayed most of the same roles that they had in the earlier sessions. There was still no development or use of criteria (R7P) and the range of reasoning roles was limited. No pupils seemed to have developed greater confidence or inclination to speak and their interactive competence remained static. The proportion of negative roles was unchanged.

The groups who had done philosophy showed signs of change. More reasoning roles were in evidence. In particular all the groups who had done philosophy showed greater attention to the criteria (R7P). They were also able to examine some assumptions (R8P), give examples and consider alternative ideas (R5P) in more depth. They were able to make distinctions between rules and needs (R15P). To illustrate this, when ideas for good school rules were being collected together, some pupils would say things like 'we need more litter bins'. If this happened in the one of the non-philosophy groups, it would just be accepted and often added to: 'yes, and lockers.' Philosophy groups always questioned these kinds of confusions. Someone always pointed out that these were not rules but needs. The philosophy groups had maintained their interactive skills but married them to greater reasoning ability. The improvement was not dramatic but it was in evidence.

Some particular pupils in the philosophy groups improved a lot. They made more contributions and showed more positive interactive skills. Generally speaking, pupils who were prepared to talk a little for the first task made progress. Those who didn't talk at all remained quiet. This presented a problem.

## Quiet children

If reasoning is to be tested via discussion analysis, the shy or quiet child cannot be assessed. Deanna Kuhn uses individual interviewing in her research. This leaves the shy subject with less of a choice about whether to speak or not and perhaps poses less of a threat. In our research we were unable to assess the reasoning skills of shy and quiet children. We accept this as a weakness. We would, however, point out that in the intellectual confidence questionnaire, quiet pupils who had done philosophy felt themselves to be more confident at being able to challenge other people's views and at defending their own. Their total scores on this scale went up. In the philosophy lessons themselves, quiet pupils maintained their interest and were sometimes the most positive about the lessons. They were also more willing to speak in philosophy sessions than in the test situation. Nevertheless, in a discussion-dominated course, the needs of shy and quiet children need to be considered and reviewed. The use of one-to-one interviews and written work need to be planned into teaching and evaluation.

## Conclusion

This part of the research was not as satisfactory as we had hoped, partly because we bit off more than we could chew. It would have been more manageable to have limited our evaluation to one or two groups only but no overall picture could have emerged from such a small sample. In the end we were confident that philosophy did have a positive effect on the range of reasoning skills that pupils were able to use. We would also suggest that these kinds of skills can be generalised into a range of contexts, not just in philosophy lessons. It follows from this that philosophical enquiry can help children to reason better in other subject areas and in real life contexts.

This conclusion would seem to be supported by Kuhn's research into the reasoning ability that people showed in relation to the current affairs topics she selected. She looked at the way her subjects evaluated evidence and reacted to counter-arguments and alternative theories. In doing so, she tried to distinguish between unexamined opinions and reasoned ones.

'However imperfectly, we have tapped something about the way people think, above and beyond what they are thinking about. The performance of the expert participants supports this conclusion. The philosophers reasoned well overall, as we expected, but the domain expertise of the others did not influence reasoning ability. Parole officers reasoned no better about the crime topic than they did about the other topics, nor did teachers reason better about the school topic.' (4)

## Footnotes

1. Deanna Kuhn, *Thinking as Argument*. Harvard Educational Review, Vol 62, Number 2 Summer 1992
2. Geoffrey Robinson, *Positive and Negative Roles (13-15)* in Wilkinson, Davies and Berrill (Eds.), *Spoken English Illuminated*, OUP 1990
3. Catherine McCall, *Stevenson Lectures in Citizenship*, University of Glasgow 1991.
4. Ibid

## SUMMARY AND AFTERWORD

Two Year 7 classes were split in half to give a balance of boys and girls and reading ability. One half were given one hour each week of philosophy for 27 weeks using 'Philosophy for Children' materials and methods. The other half were given an extra English lesson. Before and after these lessons, the children were tested using a variety of methods:

1. *The London Reading Test*, a common test of reading comprehension for 11 year olds, was given.
2. A questionnaire was devised to assess the pupils' intellectual confidence in response to 10 statements on a 7-point scale.
3. Small group discussions were evaluated using pre-determined criteria relating to cognitive and inter-personal performance.

### Reading Test Results

- Overall, the philosophy sessions had a modest though reliably positive effect on the reading ability of our year 7 pupils as tested by the *London Reading Test*. 12 out of 15 pupils in the philosophy group improved their scores by more than would have been expected over the eight months. Only 8 out of 17 pupils in the non-philosophy group did so and 5 of these made very small gains. One third of pupils in the philosophy group made large gains. We would conclude with confidence that, far from philosophy being a luxury, it can play a valuable part in improving reading ability within an overall school approach to enhancing literacy.

### Questionnaire Results

This study is on a small scale. Where percentages are quoted, about 7% is equal to one pupil

- Pupils doing philosophy made gains in their total scores on 10 statements that were very consistent and sometimes quite large. The non-philosophy group did not make any significant gains. Some interesting responses were as follows:
- In the philosophy group, the percentage of pupils answering 'not very often' or less to the question: *I give up when my work is too hard*, rose from 57% to 71%. In the non-philosophy group, it fell from 64% to 49%. Only 7% of philosophy pupils said that they gave up more than 'some of the time'.
- In the philosophy group, the percentage of pupils answering 'often' or more to the question: *I enjoy trying to solve problems*, rose from 14% to 64%. The percentage of pupils answering 'never' went down from 36% to 7%.
- In the philosophy group, the percentage of pupils answering 'often' or more to the question: *I am happy to question other people's ideas*, rose from 36% to 64%. In the non-philosophy group, it fell from 43% to 21%.

- In the philosophy group, the percentage of pupils answering 'often' or more to the question: *I enjoy asking questions about all sorts of things*, rose from 57% to 64%. In the non-philosophy it fell from 63% to 49%.
- Only 7% of the philosophy group answered less than 'some of the time' to the the question: *If someone disagrees with me I am able to defend my point of view*.
- The philosophy pupils built on their early sense of achievement at the school. The percentage answering 'often' or more to the question *I feel I am making progress in my learning at school* rose from 71% to 79%. It fell from 71% to 50% for non-philosophy pupils. No pupils in the philosophy group felt they were making progress less than 'some of the time'. 21% in the non-philosophy group did.
- The percentage of philosophy pupils answering 'often' or more to the question: *When I get stuck I can think my way through a problem*, rose from 21% to 50%.

### **Discussion analysis**

The pupils who did philosophy showed a wider range of reasoning skills and used them more consistently. They also showed a wide range of inter-personal skills. Improvements were made in both these areas by the philosophy group but not by the other group. In particular, the philosophy group showed a greater ability to apply relevant criteria before making a judgement and could make distinctions between concepts in their discussions.

- The results of the reading test and questionnaire were analysed statistically and found to be 'significant' and 'highly significant' respectively.

### **The problem of class size**

Our experiment involved using half-classes so that control and experimental groups could be tested. This gave us the luxury of teaching groups of between 10 and 12 pupils. One question that arises is: could the course have been taught effectively to whole classes? Last year, we didn't think so. Many of our Year 7 pupils had arrived with low self-esteem, poor reading skills, and a range of behavioural difficulties. Teaching a group of 10 was hard work. The teachers were also developing and experimenting with the content and pedagogy of the course. To have imposed the additional burden of effective whole-class control and motivation would have been too great a demand.

This is not necessarily an obstacle. In other areas of the curriculum, the case for small classes has been accepted. The school is prepared to fund small GCSE option groups in order to maintain choice. It is willing to fund a remedial reading scheme using small groups. We believe that starting philosophy with small groups can be justified. This year, we began teaching philosophy to all our new year 7 pupils in half-classes. This demanded an extra staffing commitment that our headteacher was prepared to give. However, as soon as the half-classes have reached a reasonable level of skill and motivation, they will be combined into whole classes. The teachers now feel that they have the expertise to do this, given an initial 'start-up' in smaller groups. Teaching whole classes should have benefits in developing a class's identity and ethos and in establishing disciplined working practices.

It is still our view though, that it will be difficult to establish the kind of involvement, motivation and trust that a successful course, based on whole-group discussion, requires with groups of more than 20 of our pupils. Some teacher modelling, scaffolding and feeding back will have to be sacrificed in favour of breaking the class into smaller groups with teacher time

shared between them. Class control and monitoring will be more difficult and teacher preparation will have to be of a high order. Nevertheless, we will be experimenting with the teaching of larger groups soon, and hopefully adapting our pedagogy and organisation in appropriate ways. In doing so, we will be trying to retain the overall aim of developing a 'community of enquiry' in each class as a whole.

### **Other approaches and links**

Since starting the Philosophy course with year 7 pupils, efforts have been made to encourage a 'philosophical dimension' in other subject areas and with other year groups. I have written a whole-school curriculum model explaining this and other relevant concepts in Appendix 1. It has not yet been accepted by the school but is due to be discussed.

The English department has developed some units of work around ethical issues for year 8 pupils and sees the need for giving argument and oracy greater weight.

It has also been suggested that 'time out' from the normal timetable could be taken for several whole-days of activities that would have some aspect of philosophical enquiry at their heart but which might also include drama, conferences, simulations or design-and-making sessions. At significant moments, pupils would be able to use open, yet rigorous questioning and discussion in small groups to deepen their experience and understanding of the days' events. This kind of idea could link in very well with a cross-curricular theme like citizenship.

Philosophy teachers have also offered to provide some experience of philosophical enquiry to pupils who go on residential trips with the school.

The skills and dispositions that the pupils gain from doing philosophy in year 7 will be essential for the success of these and other attempts to develop co-operative or enquiry-based work with pupils further up the school.