Title	Can primary pupils do philosophy?
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Reasoning, like problem solving, is not necessarily a complex skill that only older children or adolescents can do. Matthew Lipman, the founder of the Philosophy for Children (P4C) programme, has shown that students from K-12 can reason and do philosophy. The P4C programme introduces pupils to philosophical issues through the discussion of selected passages in the novel. It uses characters in novels to model the discovery of both formal and informal rules of thought. Henry Park Primary embarked on the P4C programme in January 1993. Henry Park feels that it is necessary to cultivate from young the skills and techniques of thinking and to teach children to question, analyze and justify their own views. The P4C programme serves as an instrument to develop good reasoning and questioning skills for the children. This paper reports the experiences of the pupils and teachers in the P4C programme in Henry Park.

Introduction

> Someone suggested to me that I somehow present logic in the form of a children's story. The possibility intrigued me: a story telling, almost as a child would relate it, of the discovery by a group of children of how their thought processes work, and how more effective thought processes could be distinguished from less effective ones.
>
> Lipman (1993)

In Singapore, as in many other countries, philosophy has always been taught in the university. Introducing philosophy to the schools, particularly to primary level pupils would appear to be a redundant and impossible task. However, Matthew Lipman, the founder of the Philosophy for Children

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(P4C) programme had successfully introduced philosophy to students (Grades K-12) in the United States. Lipman and his associates at the Institute for the Advancement of Philosophy for Children (IAPC), Montclair State University, wrote special novels (stories for children) with embedded philosophical concepts appropriate for the age level of the students. Teachers' manuals accompany each of the novels written for K-12. Currently the International Council for Philosophical Inquiry with Children (ICPIC) promotes the P4C programme in Australia, South America, Europe and Asia.

Lipman (1991) showed that the P4C programme was not about teaching students university-style philosophy or the views of specific philosophers. Instead, students 'do' philosophy in that they speculate and deliberate, using their reason to follow lines of inquiry. Students read and discuss concepts from the novels during the P4C session. In these novels, Lipman translated formal logic from what had been studied in university-level philosophy to children's stories understood by children. The students are given opportunities during the P4C session to think in various ways and at different levels in cooperative, self-reflective, and self-corrective intellectual inquiry.

Primary Pupils and Philosophy

Reasoning, like problem solving, is not necessarily a complex skill that only older children or adolescents can do. Barell (1991) pointed out that Piaget's research on object permanence showed that at eighteen months babies began to inquire about the object that, once in front of them, is now placed under a rug. In a review of the literature on analogical reasoning, Reeves and Weisberg (1993) supported the contention that human thinking was primarily concrete in nature. A child, according to Lipman (1991), could reason deductively and logically using concrete objects. In his specially written stories for children, Lipman translated the abstract formulations to reasoning in a concrete way that children could understand.

To determine whether primary and secondary pupils in Singapore can reason and do philosophy, a study was set up in 1992 to ascertain their reasoning skills. The sample for the study consisted of Primary 5 and 6 pupils from a school (N = 160) and Secondary 1 and 2 students from 3 schools (N = 887). Two instruments were used: the New Jersey Test of Reasoning (NJTR) specifically developed in the early 1980s to evaluate the P4C programme (Shipman, 1983) and the Test of Formal Reasoning (ATFR) written by Arlin (1982, 1984).

The NJTR consisted of 50 multiple choice items, each in the form of a short dialogue in simple language. It covered 22 skill areas of inductive and deductive reasoning and provided general information on critical thinking ability. As reasoning skills of students might be somewhat constrained by the Piagetian stage of development that they were in, the ATFR was also used. The ATFR was designed as a group test to measure the stage of intellectual and cognitive level of the student - concrete, high concrete, transitional, low formal and high formal. The ATFR items were applications of Piaget's principles and not a direct translation of the Piagetian tasks. There were eight subtests measuring applications of Piaget's principles: volume, probability, correlation, combinations, proportions, momentum, mechanical equilibrium and frames of reference.

Table 1 set out the Piagetian levels of the students by schools. A is a good primary school, B is an average secondary school while C and D are good secondary schools. As expected, the primary pupils were mainly in the concrete (36.9%) and high concrete (56.3%) stages. The lower secondary students of the average school, B, were mainly in the high concrete (65.2%) stage while half the lower secondary students in the good schools were mainly in the low formal stage. The ATFR appeared to classify the students of the four schools in their respective Piagetian cognitive stages.

Insert Table 1 about here

Using SAS Version 5 (SAS Institute Inc., 1985), a one-way analysis of variance (ANOVA) was used to determine whether the mean scores of the NJTR differed significantly between the 5 cognitive levels. The Student-Neuman-Keuls (SNK) test was also performed to identify where the differences lie. The mean NJTR scores of each of the 5 cognitive stages, as presented in Table 2, differed significantly ($F = 217.46$, $p < .001$). The majority of pupils in the primary school, who were mainly on the concrete and high concrete level, had a mean of 23.88 and 34.38 respectively. As the total score of the NJTR was 50 it would appear that even primary pupils at the concrete stage were able to answer about half the reasoning questions of the NJTR. This indicated that primary level pupils appeared to be able to reason.

Insert Table 2 about here

Approach of the P4C Programme

The P4C programme attempts to introduce philosophy to primary and secondary students. It creates a community of inquiry in the classroom to facilitate students in discussing philosophical issues for which there are no right or wrong answers. Students are not taught thinking rules explicitly in this programme. They develop thinking skills through the class discussion guided by the teacher. Vygotoky (1962) maintains that children are able to function at an intellectually higher level in collaborative and cooperative situations. The uniqueness of the P4C programme lies in transforming the class into a community of inquiry founded on dialogue, trust and respect. Table 3 sets out the characteristics of the community of inquiry (Splitter & Sharp, 1995). In the community of inquiry, dialogue plays a critical role in fostering critical thinking skills among the students. Teachers have to be skilful facilitators and adept in probing with suitable questions. The community of inquiry cannot be reduced to a set of skills and dispositions. Splitter and Sharp aptly described it as a "form of life" in which thinking, speaking and behaving are all interwoven".

Insert Table 3 about here

Experiences in Henry Park Primary

Henry Park Primary embarked on the P4C programme in January 1993 with a Primary 5 (EM2) mixed ability class. Currently two higher ability classes per year, one Primary 4 and one Primary 5, are doing Pixie (Lipman, 1981). Each class is divided into two groups of about twenty pupils each, with one facilitator in each group. So far, the programme is still in the infantile stage. Much has to be done to "fine tune" the existing programme.

Henry Park Primary feels that as children move progressively up the academic ladder, they are to be able to apply what they have learned to other situations. To do this, they need higher order thinking skills. Therefore, it is necessary, if not essential, to cultivate from young the skills and techniques of thinking and teaching children to question, analyze and justify their own views. The P4C programme serves as an instrument in developing good reasoning and questioning skills for the children. Based on this rationale, Henry Park Primary decided to take up the P4C programme.

Feedback from Henry Park indicated that the initial reactions of the pupils towards the P4C programme were positive. The pupils welcomed the "free and discussive" environment where they could express their opinions. They were a little restrained at the start in expressing their views as they have learnt in their academic classes that there was only one right or wrong answer. However, after a few sessions, the pupils learnt that there were many answers to a philosophical question and that there were many sides to a statement or concept. Through the discussion the pupils became aware of the processes involved in thinking:

> We notice that you have to think very deep to ask questions or answer.

> It makes me argue over my own answer to think very critically, because like, you have to check whether it's correct or not.

Subsequently, their reasoning abilities improved and some pupils were astute enough to ask good questions. They were able to share their experiences as examples or counter examples to support their views. One pupil gave a particularly good illustration in a discussion on rules:

> Like a bomber in the war. Everybody has to go to the bomb shelter. So you have to make rules like "No pushing", right, "Cannot run and smoke in the city." If you run and then you follow, even worse. Like there is a lot of crowd, there is one person fall in front, all the other people at the back all fall down, and it will stop the person to get up, right? Then there will be a waste of time, maybe the bomber come near already, then it bombs, everyone die.

They found the "free and discussive" environment refreshing and less "threatening" as they were not being tested or examined. They realised as shown in Lim (1994) the cooperative learning that was taking place in the group:

> I say it is quite fun and we can talk to each other so that we can help each other for the discussion.

> Philosophy for Children is for everyone to share their thinking. We learn to cooperate

as a group by letting each other talk first.

The text <u>Pixie</u>, one of the children's novels written by Lipman, appeared to be a good start for the pupils in stimulating their thinking. <u>Pixie</u> is designed to initiate inquiry on the acquisition of meaning. It provides the pupils in the classroom with a model of how children can engage in dialogue and form a community of inquiry (Lipman and Sharp 1982). <u>Pixie</u> depicts a group of nine- to ten-year old children considering problems of classification, definition and concept development. Philosophical puzzles are used to generate diversified classroom discussions and to develop children's awareness of logical, social, familial and aesthetic relationships. At times, the pupils were confounded by these issues. However, through the discussions, many managed to 'see the light'. The pupils were eager to read the story as they found it interesting and somewhat out of the ordinary. They had long discussions on some of the characters in the novels:

> I think Pixie mentioned that Brian was kind of very unfriendly because Brian has neve spoken, you know. Over the years, so these boys pointed out, it's not possible for any human being not to have spoken. Perhaps he might have spoken, maybe when the teacher questioned him. He had to answer but because of the frequency, you know, it's so low, so it became a generalization.

The teachers involved in the programme attended introductory workshops on P4C to learn how to facilitate a P4C session. There were mixed reactions at the beginning as the teachers were unsure as to how to conduct the programme. They did find that the pupils were very interested:

> My group, you know, always looking forward to Philosophy. They will ask, you know, when can we have Philosophy. They are the ones who don't mind staying behind for the session.

> They have very interesting ideas and they were very critical. One of them even went so far - I didn't ask anyone of them to do it - but this one went back to read more information to support his point of view. He was not contented, you see, with the arguments the other boys threw at him.

Sometimes the teachers find it difficult to facilitate:

> And then they would argue. As a teacher I have this problem, whenever they argue I have difficulty in distinguishing between philosophy and debate. I wasn't too sure on how I should lead them.

As the teachers gained more experience in guiding the P4C sessions, they acquired a better insight to the programme. Subsequently, with guidance from P4C consultants, they became more confident in conducting the programme. Many a time, the teachers had been impressed with what the students came up with:

> Where the Primary 5 group was concerned, I was actually very surprised that even though I had not taught many of them, the boys in particular, were very vocal in giving their points. In fact, after we had read through a few pages, they came out with a lot of questions. Surprisingly, the questions that popped up are really thinking questions. For children who have not gone through anything like this, the questions were very, very good. It was so good that I recorded all the questions.

Conclusion

The experiences in Henry Park indicated that once the climate was conducive, their Primary 4, 5 & 6 pupils responded well to the discussions. When the pupils were encouraged to think, they were able to generate examples and relate issues connected to various concepts of Philosophy, without prior knowledge of any philosophical concepts. There have been much anecdotal evidence to indicate that the pupils and teachers are interested in the programme. However, it is still too premature to interpret the results or reactions to the programme. Much effort, research and preparation have to be made before Henry Park can conclusively state that they have fully instituted the programme into their curriculum.

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Table 1   Frequency of Students by Schools and Piagetian Level of Reasoning

Level*	School A	School B	School C	School D
Concrete	59 (36.9%)	6 (4.4%)	1 (0.2%)	1 (0.3%)
High Concrete	90 (56.3%)	90 (65.2%)	75 (17.1%)	62 (20.0%)
Transitional	9 (5.6%)	23 (16.7%)	110 (25.1%)	67 (21.6%)
Low Formal	2 (1.2%)	18 (13.0%)	218 (49.6%)	156 (50.3%)
High Formal	0 (0.0%)	1 (0.7%)	35 (8.0%)	24 (7.8%)
Total	160 (100%)	138 (100%)	439 (100%)	310 (100%)

*   A is a primary school while B, C, and D are secondary schools.

Table 2   Means of New Jersey Test of Reasoning scores by Formal Level
as measured by the Arlin Test of Formal Reasoning

Level	Mean	SD	F value
Concrete	23.88	8.69	217.46***
High Concrete	34.38	8.32	
Transitional	40.94	4.52	
Low Formal	42.99	3.87	
High Formal	45.08	2.94	

*** $p < .001$

Table 3   Characteristics of the Community of Inquiry in P4C

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*   a shared sense of puzzlement or intellectual intrigue, which then stimulates further inquiry

*   persistence in the search for knowledge and understanding

*   giving reasons for opinions, and distinguishing good reasons from bad ones

*   students being prepared to "try out" ideas

*   fostering mutual cooperation, trust, tolerance, fair mindedness and a heightened degree of sensitivity
      to fellow participants

*   the prominence of conversation and dialogue as key dynamics in the process of inquiry

*   an abundance of open-ended questions which serve as "invitations to inquiry"

*   self-correcting thinking and thinkers who care for the procedures of inquiry

*   a growing awareness, on the part of students, that they must accept responsibility for their own
      views and learn to think for themselves.