

Paper Title

Enlivening the curriculum: the power of philosophical inquiry

Authors

Carol Collins and Sue Knight

Institutional Affiliation

School of Education, University of South Australia

Postal Address

St Bernard's Road

Magill

South Australia

5069

Australia

Email Address

Carol.Collins@unisa.edu.au

Sue.Knight@unisa.edu.au

Enlivening the curriculum: the power of philosophical inquiry

Introduction

In this paper we will argue for wide-ranging change in the school curriculum; more particularly for the inclusion of philosophical inquiry within every learning area. We will begin with this claim: **If students are to develop an understanding of the world and what there is in it, then as teachers we must engage them in philosophical inquiry.** This is our first premise. The second is that **both social and individual good depend upon the development of such understandings.** On the highly plausible assumption that education should be directed at social and individual well-being, it follows that **teachers ought to engage children in philosophical inquiry.** In the first section of the paper we will clarify these claims and defend them. In the second section we consider how philosophical thinking might best be fostered, arguing that philosophical inquiry must be embedded in every curriculum area. We conclude by indicating how this might be done.

Philosophy and Understanding

Our first premise then, is this: If students are to develop an understanding of the world and what is in it, then as teachers, we must engage them in philosophical inquiry. To make this premise clear, we must spell out the notions of *understanding* and *philosophical inquiry*. We begin with understanding. As teachers, we may talk of children understanding an arithmetical process or a set of instructions. We mean at least that the children know the meanings of the ordinary language sentences we utter, or the number sentences on the page. But of course there is more to it than this. Let us take the arithmetic example further and ask what is involved in understanding an arithmetical process (say, the process of multiplying together two 2 digit numbers). More precisely, let us ask what abilities and what dispositions a child must demonstrate if she is to be counted as understanding the process of long multiplication. We use the word “disposition” to mean a tendency to behave or think in a certain way and we take an ability to be tied to and demonstrable by some form of overt behaviour.

To count as understanding the long-multiplication process then, students must be able to say what the multiplication sign means, and what aggregates in the world the numerals pick out. Secondly, they must be able to go through the sequence of steps which make

up the long multiplication process. Now the process involves multiplying each digit of one number by each digit of the other. More precisely it involves the following steps taken in the following order. (1) Multiplying the number in the unit position of the multiplicand by the multiplier and recording the result. (2) So multiplying the tens digit of the multiplicand (3) recording the result with the appropriate displacement of digits to the left, and finally, (4) adding together the two products thus derived. A student must be able to go through this sequence of steps, in the prescribed order, before we would count her as understanding the process of long multiplication.

Yet surely this is not enough. We can find the answer to a long multiplication problem by simply *memorizing* the steps (1) to (4) and their order, and then applying them. And of course, we can memorize the multiplication tables without being clear about the meanings of the number sentences we chant. But understanding cannot amount to mere memorizing. What more there is to understanding deserves a paper (or two) in itself, but for now we need only point to what is widely agreed to be a necessary condition for understanding, viz. an ability to articulate reasons.¹

On this view, understanding the process of long multiplication involves being able to give the reason why each of the requisite steps is taken (why for example, the digits in the tens line of the calculation are shifted one place to the left), as well as being able to give the reason these steps are taken in the order they are. On this model then, understanding is tied to an ability to articulate reasons and meanings.

But why bother with the reasons behind the steps in the long multiplication process, when arriving at the correct answer does not depend on knowing these reasons? We will go to the trouble to get at the reasons only if we *want to know* why it is that the steps work. We have to *care* about more than the right answer. Here, being in a position to articulate reasons and meanings depends upon a sense of curiosity, on an intellectual desire to find out what it is about the world that is captured in the steps of the calculation. This is a desire rooted in a general impulse to get to the bottom of things; a general desire to get at the truth, for the sheer satisfaction this affords.

It is this concern for truth that drives individuals to seek meanings and reasons so that understanding an arithmetical process depends on an underlying intellectual curiosity; on caring about truth for its own sake.² This underlines a second necessary feature of understanding, viz. that understanding is an active process, involving the *construction* of reasons and meanings. The active nature of understanding is stressed by Dewey:

...[N]o thought, no idea can possibly be conveyed as an idea from one person to another. When it is told, it is to the one whom it is told, another given fact, not an idea...Only by wrestling with the conditions of the problem at firsthand; seeking and finding his own way out, does he think. (Dewey, 1916, chapter 12)

To summarise the argument so far: the claim we are engaged in explicating is that if students are to come to understand the world and the things in it (including themselves and other people), they must engage in philosophical inquiry. We have argued for a robust concept of understanding which involves caring for truth, underlying an ability to state reasons and meanings.

Philosophical Inquiry and Resource-based Learning

We now turn to the notion of *philosophical inquiry* and shall begin by contrasting philosophical inquiry with what is commonly termed *resource-based learning*. Here is a resource-based learning question: “What do plants need in order to grow?” This example derives from an interaction overheard between two children a number of years ago:

When my younger son, Jack, was in Year 1, his class studied plants as part of their science curriculum, investigating the question “What do plants need in order to grow?”. The investigation took the form of an experiment in which each child grew a plant from a seed placed on cotton wool in a petri dish. Some of these seeds were watered, others were not, some were placed on window sills, some in dark cupboards etc. Jack’s plant was in the cupboard. The experiment continued for some weeks and as it neared its conclusion, Jack became more and more excited about what his plant would look like when he eventually opened the cupboard door. He arrived home breathless, exclaiming, “I’ve got a really special plant- it can grow in the dark!” Unfortunately his older brother, Gus was in

earshot, and he responded immediately with: “Don’t be ridiculous-everyone knows green plants need light to grow. You’ve just done something wrong – someone’s opened the cupboard, or somehow or other, light’s got in. It’s stupid to think you can do a proper experiment – for that you need a proper laboratory. Anyway, the answer to your question is in your science book. All you have to do is look it up or wait till the teacher tells you – that’s a lot quicker – and that way, you’ll get it right. That’s what’s important!”

The question ‘What do plants need in order to grow?’ can be answered straightforwardly - solely, in fact- by a process of *resource-based learning*, a process which involves no more than information gathering; no more than looking up (in some way or another) an answer. And if the answer can be looked up, why bother to think it through for yourself? We are back to the arithmetical example.

What we find here is a stifling of curiosity, of the very impulse which drives the process of understanding. Matthew Lipman argues that it is not only older brothers who are good at this, but schooling itself. Young children, Lipman argues, have a natural sense of inquiry, a natural sense of curiosity, a keen desire to understand their world and their place in it. They ask ‘Why?’ a lot.³ They actively search for reasons, they want to get somewhere with their thinking. And presumably there are good evolutionary reasons for this. Young children derive a great deal of satisfaction – even joy – from investigating what they find puzzling. When they are very young, their questions, their methods of investigation and of course the answers they come to are crude - hands squelching in the mud puddle: so that’s what it feels like! But the sheer satisfaction; the joy of finding out, of getting to the bottom of things, is there and it is this experience which nourishes children’s curiosity, which keeps it alive. Without this experience, the desire to get at the truth for its own sake will wither. And as children grow older, this is just what appears to happen. As Lipman, Sharp and Oscanyan (1980, p.12) put it, ‘...[t]he lively curiosity that seems to be part of the child’s natural impulse is sooner or later beaten or battered out of him by the intransigencies of the educational system.’

We would argue further, that the cause might well be found in the curriculum’s overwhelming emphasis on resource-based learning, which does not in itself involve a grasp of reasons why. The answers to resource-based learning questions are recorded

somewhere; they are generally agreed upon and already laid down. The children's task is to find them. The children then, have little motivation to think these issues through for themselves. At most, children are finding and recording other people's meanings, not constructing meanings and reasons for themselves. Even were they to attempt such constructions, they would soon be discouraged. The answers to these questions have been furnished by a process of experiment and observation, of data collection, to which children are likely to have little access. Even when children attempt to replicate an experiment, they know that it is not *their* experiment which will reveal the answer; the answer has already been decided and if their results do not tally with it those results will be explained away as experimental error. Resource-based learning is highly unlikely to involve children in constructing meanings and reasons: it is unlikely to result in understanding.

Of course, resource-based learning clearly does involve *some* reason giving. Children wanting to find out what plants need in order to grow must have a reason for concentrating their search on certain factors or in certain places rather than others.⁴ Similarly in order to gather information efficiently, children need to know the meanings of the concepts they encounter: in deciding whether plants need oxygen in order to grow for example, children must know some of the properties of the substance that is picked out by the word "oxygen", and they must know what natural processes are included in the concept of plant growth. Resource-based learning clearly does involve meaning-seeking and reason-giving. But the reason-giving and meaning-seeking are directed not at the phenomena up for investigation but at the task of finding information about those phenomena. Children may well gain understanding from a resource-based learning task, but it will be understanding of how to find out about *x*, not an understanding of *x* itself.

We define philosophical inquiry as the questioning of underlying assumptions, assumptions whose truth or falsity cannot be decided by appeal to experiment and observation. Philosophical inquiry is inquiry in which data gathering makes up only a small part of the task. In contrast to resource-based learning, philosophical inquiry is necessarily *active*. It is directed at issues whose resolution depends less on data gathering than on the formulation of arguments.⁵ And on the whole, these issues are still up for grabs. Here are some examples: Are thoughts and feelings real?; How did

the world begin?; What is friendship?; What is time?; Should society uphold divisions of labour along gender lines?

These are the issues which arise out of the life of the classroom: A child comments “Blue is a boy’s colour” or cries because “Josh says he is not my friend”, or complains that she has been unfairly treated. These questions arise out of the children’s experience, and resolution of them depends on the formulation of good arguments.

On the whole, the data these arguments trade in are derived not by sophisticated collection techniques but from children’s own experience. The data are as accessible to children as to anyone else. Equally, the logical techniques of argument analysis, the techniques which allow us to distinguish good arguments from bad can be taught and executed in the classroom with little difficulty. Children can be shown how to think through these issues for themselves. Moreover the *motivation* is there: the issues are not yet decided; there is no answer to be looked up. And on the whole they are issues which children see the need to resolve.

They are questions which arise for all humans; they arise from the fact that humans are self conscious, able to reflect on the content of our consciousness, and on the relationship between our experience and the rest of the world. The point belongs to Socrates. For Socrates, to think reflectively is to manifest most completely what it is to be human. We can (and do) ask about the nature of our consciousness, both in general, and in its various aspects. We ask about the nature of our sense impressions; where they come from, how reliable they are, what we can infer from them about the external world. We can question the aetiology and nature of our emotions. We can wonder about the nature of thought itself, and about what makes for effective thought. And we can reflect on our own mortality, and wonder about the purpose of it all. Most crucially perhaps, we can try to shape the ideas we arrive at into a single, coherent world view; a view which makes for consistency of beliefs and rational action.

Of course such questions form the essence of philosophy. We want to argue that when children come to think fruitfully about such questions, they again experience the joy of discovery, which in turn nourishes the disposition to care for truth. And there is an overwhelming mass of evidence to show that children *can* be helped to think fruitfully

about these deep (and as yet undecided) issues.⁶ We would argue then, that the more children engage in philosophical inquiry, the more likely it is that they will come to care for truth. This completes the argument for premise 1.

We now turn to our second premise: *It is highly desirable that children develop an understanding of the world and the things in it.* The reasons stand out clearly, and we need do no more than sketch them there. There are at least three reasons:

The first is that individuals who seek to clarify meanings will be clearer about where disagreements lie; less likely to be drawn into disagreements which are purely verbal.

The second, is that where individuals are disposed to look for reasons, and to distinguish good from bad reasons, they are more likely to be open to ideas that differ from theirs and less inclined to prejudice, bigotry and fanaticism. The more people are disposed to furnish and seek out reasons, the more just our society will become.

The third reason why understanding is important is this: caring for truth brings its own rewards: satisfaction, the joy of discovery. Where we fail to nourish the disposition to care for truth, children are denied a good. We are back to Socrates: “The unexamined life is not fit to be lived by a human being”. (Apology38a) Perhaps this is the most telling of the reasons. Enough of premise 2. Understanding is a good, and it is most likely to be brought about by engaging children in philosophical inquiry. It follows from these two premises that teachers ought to engage children in philosophical inquiry. We are left with the question “How might philosophical inquiry best be fitted into the school curriculum?”

Philosophy in the learning areas: theory

As is well known, there exists a considerable body of material designed to engage children in philosophical inquiry. The most comprehensive of these is Matthew Lipman’s Philosophy for Children programme.⁷ This, like almost all school-based philosophy curriculum materials⁸ is based on narrative, and designed to be taught as a separate area of the curriculum, albeit one which has numerous links to the existing curriculum areas. We want to argue that it is worth considering another model: philosophy embedded in the existing curriculum areas. We do not wish to deny the value, the remarkable depth, complexity and comprehensiveness of the narrative-based curriculum material. Of course Lipman’s work stands out here. But we think there are reasons for trying a different approach, for developing materials which fit into the

current curriculum areas. Elsewhere, we have examined the arguments in support of separateness and the use of narrative.⁹ We have claimed that these arguments fail to establish any marked advantage for the standard approach. Here, we will simply go on to put the case for the alternate model which embeds philosophy in the existing curriculum areas.

Our starting point is Lipman's own argument in support of narrative. Lipman argues that stories can be written (as his own are), to model the philosophical attitudes and skills we want the children to internalise. (Of course this is an argument for using specially written stories, rather than narrative *per se*.) Such modelling clearly is useful. But surely real people make the most potent models. Ideally we want *teachers* to model the skills and dispositions which underlie philosophical thinking. In fact we would argue that where teachers fail to do this, it is unlikely that children will come to think philosophically *whatever* curriculum materials they have. It seems to us that very often teachers do fail in this, and that what is most often missing is a caring for truth for its own sake. Admittedly this is speculative, based not on any careful empirical study, but on limited and unstructured, if extensive observations and impressions of both teachers and student teachers. The suggestion seems plausible, nevertheless. If we want children to engage in philosophical thinking, we must first develop this disposition in teachers

The best way to foster this sense of curiosity may be to show teachers the philosophical issues underlying the topics they already teach. This may well show them that in these areas there are legitimate and important questions to which they have no answers (perhaps even no way of proceeding towards an answer). They may take on the questions, as the slave boy did in the *Meno* and they too may come to experience the joy of discovery. Again, this suggestion awaits empirical research findings.¹⁰ The approach is possible though, because the existing curriculum areas employ concepts which hide a host of philosophical issues. In the final section of the paper we shall examine briefly a few current curriculum areas and some of the philosophical issues they encompass.

Philosophy in the learning areas: practice

Let us begin with (what is known in Australia at least) as *Studies of Society and Environment* (SOSE), encompassing the fields of History, Geography and Economics.

In the primary school curriculum we know that SOSE is, on the whole, resource-based learning focused: students are faced with the task of researching (in accordance with guidelines, most often in the form of a set of research questions) topics such as Endangered Species, Rainforests, River systems; Food, Refugees, Child labour and so on. Here, the emphasis tends to be squarely on empirical questions, questions such as ‘What is happening to our river system (or the world’s tropical rainforests, or biodiversity...); ‘What causes can we identify...?’; or ‘What can we find out about the traditional culture of our local Aboriginal peoples, or Child labour or...?’¹¹

But embedded in each of these topics is a great many philosophical questions. Here are some of them:

Should the logging of old-growth forests be halted?

Should we change some features of our lifestyle (curb our consumerism, e.g.) for the sake of the environment and future generations?

Should we buy eggs laid by battery hens?

Should the Australian government compensate aboriginal peoples for past wrongs?

These questions all come from the same branch of philosophy, viz. Ethics. And as *ethical* questions they can *only* be answered by a process of philosophical inquiry. We would argue that these questions matter in more ways than one. The questions have consequences in the form of good or harm for the people affected by them, as do all ethical questions. But they also matter in this sense: unless such questions are raised within the SOSE curriculum, the very *point* of the curriculum area is lost. For if we ask ourselves ‘Why teach any SOSE topic, the answer always comes back to this: *‘for the betterment of society’*.

This point is best illustrated by means of an example. Suppose I am teaching an upper primary class and as part of my SOSE curriculum decide to tackle the topic of ‘Food’, with the dual objectives of fostering students’ awareness of beliefs and practices other than their own, and developing their awareness of decisions which need to be made about production and consumption. I can see how an awareness of others’ food practices might lead to open-mindedness and tolerance. I can see too how an understanding of the choices individuals and governments have available to them in

relation to food production, consumption and distribution, coupled with an understanding of the factors relevant to those choices, might lead to more informed, and therefore responsible individual choices. And tolerance, together with more responsible choices makes for a better society. As a teacher I take it that this is the rationale behind our curriculum framework objectives.¹²

How might I develop this topic in order to meet these objectives? Suppose I begin with different food practices. Perhaps we could start with a survey, historical or otherwise, of the different eating practices and food customs of different cultural groups. And keeping in mind the desirability of encouraging students to analyse and evaluate topics of study, we would also look closely at *why* the practices of different groups have developed differently. At first sight this would seem sufficient to bring about the tolerance I am after.

But this is not the case. Consider what is assumed here, viz., that a mere awareness of differences, coupled with an understanding of the circumstances that have led causally to the differences, is sufficient to deliver tolerance. But it is not. The fact that there is historical and social difference does not mean that none of these different practices are wrong. Nor of course does it mean that some *are* wrong. Mere difference, even coupled with an understanding of historical circumstances implies nothing one way or the other about rightness or wrongness. For all our analysis and evaluation, we have not acquired grounds for tolerance. If our study is limited to a survey of different eating practices and food customs and consideration of why these practices and customs have developed differently (no matter how interesting the study might be) it will be insufficient to bring about the tolerance I am after. The logical grounds for tolerance come from asking the additional ethical question “Are there any food practices which are morally wrong?” This ethical question cannot be answered by collecting data about what people believe or do, *or* about how people have arrived at these beliefs and practices. It can only be answered by a process of rational argument about what makes actions right or wrong. The grounds for tolerance come from *ethical* inquiry.

A parallel argument can be made with respect to the second objective I have taken on, viz., helping children understand the decisions which need to be made about food production, consumption and distribution. Here we will merely sketch the argument.

My aim in the classroom might be to inquire into the circumstances of food production. Once children understand that barbeque chickens are pumped with hormones, that steak comes from cows, that eggs most often come from battery hens, that the unblemished apple depends on spraying with noxious chemicals or genetic modification, and the effect packaging and transportation has on the environment, they will be able to make informed, and therefore better choices not only about what they eat, but also about the desirability of government policy on chemical control and genetic modification, as well as on the treatment of animals and recycling or modes of transportation. But again, what I, as the teacher have in mind here are *morally*, as well as nutritionally better choices. And knowledge about the circumstances of food production and distribution will not in itself deliver morally better choices. Informed choices are not necessarily morally better. Morally good choices depend on asking additional ethical questions about our responsibilities to the environment, to other sentient species, to future generations and so on. Again, the logical grounds for better choices are furnished by ethical inquiry. Moreover, by ignoring the ethical questions embedded in the SOSE topic of 'Food', the point of the topic - its very purpose - is lost.¹³

It is equally important to emphasise here that it is just this process of ethical inquiry which furnishes rational grounds for the judgement that there are (or that there are not) some food practices which are morally wrong. It is the formulation and justification of such judgements that we are working towards in a SOSE unit on (say) the topic of food. To teach such a unit without attention to the embedded philosophical (here ethical) questions then, is to encourage students to accept conclusions for which they lack adequate grounds. And the consequences of doing so are dire: the disposition to accept conclusions in the absence of argument runs directly counter to the dispositions we have argued are educationally important, viz., curiosity, and a striving for understanding. We now turn to a second curriculum area, Mathematics.

Philosophy in Mathematics

We want to make two quite obvious points in relation to inquiry within Mathematics. First, there are a great many opportunities to ask questions which have to be thought through. This is because there are very many different ways in which the basic theorems of mathematics can be applied. If for example, the topic is Pythagoras' theorem, as well

as setting straight forward application questions, we could we can set a problem such as this one.¹⁴

Hexagon ACBCDEF has the following properties:

- i. Diagonals AC, CE and EA are all the same length;*
 - ii. Angles ABC and CDE are both 90 degrees;*
 - iii. All the sides of the hexagon have lengths which are different integers.*
- a. What is the minimum perimeter of ABCDEF if
 $AC = \sqrt{85}$?*
 - b. What is the smallest length of AC for which ABCDEF has all these properties?
What is the minimum perimeter in this case?*

Of course this is just the sort of problem which teachers (rightly) set in order to test students' understanding of the basic mathematical ideas.

Were we to do an internet search for a solution to the Hexagon problem, we would probably come up empty handed. (We've tried.) If we searched for long enough, we may be able to find a solved problem a bit like it, then generalise from the method used in this solved case, modify the method appropriately, and apply it to the set problem. This process, in itself will necessarily involve a great deal of thinking through, and this is the sort of thinking which will shed light on the set problem itself. However finding a relevantly similar problem is likely to take so long (if it succeeds at all) that this strategy will have little to recommend it.

The Hexagon problem requires a great deal of thinking through, and finding a solution to it is very likely to result in understanding. However (and this is our second point about inquiry in Maths), the problem may well fail to *matter* to students. This may be because the question is simply of no interest to them. And even if students do see the problem initially as an intellectual challenge, it may well be perceived as too difficult: many students are likely to feel that they lack the mathematical skills to deal with it.

Yet the philosophical questions embedded within mathematics do not present the same technical difficulties. Consider this dialogue from Lipman's novel, *Kio and Gus*, designed for use with children in Years 2-5.

The next day, Gus comes over. We sit in the apple tree. It's easy to climb up into an apple tree because the branches start out so low to the ground. Grandma and Suki are not far away.

I look up and say, "Hey, look, there are four clouds in the sky!"

Gus says, "So?"

"And there are four of us", I say

Again, Gus says, "So?"

"And there are four chickens crossing the road! Isn't it strange? Everything's fours today!"

"Things don't have numbers", Gus says. "maybe they have names, like Roger [Kio's cat] and Tchaikovsky [Gus' horse]. But numbers are only what we make up when we count."

"Why do we count?" I ask.

Gus says, "I don't know. I guess to find out how many different things there are. If everything were the same, we wouldn't need numbers."

"Or names either", I say

Just then my grandmother puts her fingers across her lips and points to the chimney of the house. We know that a squirrel has been living there all winter. But now we see that it's a mother squirrel, and she's carrying her babies, one-by-one, over to the big rock near the tulip tree. She carries four baby squirrels to the rock, and then she runs back and forth like she's kind of crazy.

"Grandma!" I whisper. "What's the matter with her?"

Grandma whispers back, "She's not sure if she's gotten all her babies out."

No one says anything for a minute. Then I whisper again, "Grandma! She can't count!"

Like she's talking to herself, Suki says, "Poor thing - you'll never know for sure, will you? (Lipman, 1984, pp. 20-21)

The children in this story raise a number of philosophical questions. One of these is the question 'Why do we count?' A second question of the same sort is the question, 'Where do numbers come from?' Are numbers part of the world, like shapes, so that just as things have shapes they have numbers? (This is Kio's suggestion.) Or are numbers just made up by us, as Gus believes? Another way to put this question is whether numbers are human inventions, or whether they were discovered. Again, we need to think hard about this. It might help here to think first about language. Is the word 'dog' e.g., an invention or discovery? We also need to be careful to distinguish *numerals* from *numbers*. A third philosophical question raised by Kio and Gus is whether animals can count, and a fourth, the question 'Can you imagine a world in which counting would be impossible, even for creatures with brains equivalent to ours?'

Again, to make progress with these questions, we have to engage in philosophical inquiry.

It seems clear that although the questions identified above are asked in a manner appropriate to young children, they are serious questions which can be posed to individuals of any age. They are philosophical questions, and their great strength in this context is that they arise out of ordinary human experience; they are questions which (as well as being fundamental to the field of Mathematics) can be pursued fruitfully in the absence of specialised knowledge about maths or anything else. And, as argued earlier, they are questions which are likely to puzzle people, to arouse their curiosity. They are the kind of questions which foster understanding.

And of course there are many, many more such questions. Mathematics is full of intriguing concepts. Take the notion of *infinity*, e.g. How can it be that the divisions on my ruler can each be divided again, and those smaller intervals can themselves be divided again, and that this process of division can go forever? This of course is the basis of Zeno's famous paradoxes –the many variations on the 'hare and the tortoise' paradox.

To sum up: Mathematics houses a rich store of genuine inquiry questions, appropriate for students of any age level. By raising such questions in the classroom, we are likely to foster one of the intellectual dispositions necessary for engagement in the pursuit of mathematical understanding.

We have still to consider the curriculum areas of Science and the Arts.¹⁵ Rather than engage in detailed discussion here, we shall simply list some examples of philosophical questions in these learning areas.

- Science:** Can a scientific theory ever be proved true? (or false?)
Are quarks /electrons....real?
- The Arts:** What makes a great work of art?
Could a painting by a gorilla ever count as a great work of art?
Or a piece of music composed by a computer?
More generally, are there objective standards in Art?

We shall end with a quick word about methodology. Lipman argues that philosophical inquiry is most effective when it takes the form of *dialogue between peers*¹⁶. Why *dialogue*? It is because the most direct link to thinking is talking - students can voice their thoughts effectively even if they have trouble doing so in writing. But dialogue here doesn't mean just *any* kind of discussion. Rather, it is talking which is disciplined by the rules of logic. You could of course, do it on your own ('talk' to yourself), and we all do this to some extent or other when we have a problem to solve, philosophical or otherwise. But as Vygotsky, showed, such dialogue is more effective when carried out in collaboration with peers.¹⁷

Lipman talks of a *community of inquiry* - a group bound together both by a shared interest in certain puzzles, and a shared commitment to resolving these puzzles by recourse to the rules of argument. This is how he describes such a community:

If some children offer generalizations, others may offer counter-instances; if some voice opinions without reasons, adequate reasons are promptly requested. They gradually come to discover inconsistencies in their own thinking. As time goes on, they learn to cooperate with one another by building on one another's ideas, by questioning each other's underlying assumptions, by suggesting alternatives where some among them find themselves blocked, and so on. It is through such disciplined dialogue that a community of inquiry begins to develop in the classroom. (Lipman,1985, p.37)

Importantly, wide-ranging studies by researchers working in the fields of cognitive psychology and Philosophy for Children provide strong empirical support for Vygotskian theory, and in addition demonstrate that participation in community of (philosophical) inquiry style discussions is effective in fostering the development of the skills of argument.¹⁸ Just as importantly, findings from our own quantitative studies with pre-service teachers and primary school students provide evidence that ethical reasoning skills and dispositions can be effectively fostered when philosophical inquiry is embedded within the learning area of SOSE.¹⁹

Conclusion.

We have argued that that if both teachers and children could be brought to appreciate the philosophical issues which are fundamental to every area of the curriculum, to tackle them in the classroom, and to do so fruitfully, then children (and teachers) are likely to come to better understand the subject matter of the learning areas, and indeed, the world. They will be better off and we would argue, so will society as a whole.

REFERENCES

- Anderson, R, Nguyen-Jahiel, K, McNurlen, B, Archodidou, A, Kim, S, Reznitskaya, A, Tilmanns, M & Gilbert, L (2001) The Snowball Phenomenon: Spread of Ways of Talking and Ways of Thinking Across Groups of Children, *Cognition and Instruction*, 19, 1, pp. 1-46.
- Kuhn, D & Udell, (2003) The Development of Argument Skills, *Child Development*, 74, 5, pp. 1245-1260.
- Anderson, R, Nguyen-Jahiel, K, McNurlen, B, Archodidou, A, Kim, S, Reznitskaya, A, Tilmanns, M & Gilbert, L (2001) The Snowball Phenomenon: Spread of Ways of Talking and Ways of Thinking Across Groups of Children, *Cognition and Instruction*, 19, 1, pp. 1-46.
- Baron, J. (1990) Harmful Heuristics and the Improvement of Thinking, in *Developmental perspectives on Teaching and Learning Thinking Skills*, edited by D. Kuhn, (Basel, Karger) Vol 2, pp.28-47.
- Cam, P 1993, *Thinking Stories*, Hale and Ironmonger, Sydney:
- Collins, C. (2005) *Education for a Just Democracy: the Role of Ethical Inquiry*, PhD thesis, (Adelaide, University of South Australia).
- Collins, C. & Knight, S. (2005) Cultivating reason-giving: an alternative paradigm, *The Australasian Journal of Critical and Creative Thinking*, 13, 1&2, pp. 1-33.
- Collins, C. & Knight, S. (2006) Where to S&E? *The Social Educator* 24, 3, pp. 15-18.

- Department of Education and Children' Services (2000) *South Australian Curriculum Standards and Assessment Framework*, pp. 251 - 323.
- Dewey, J. (1916) *Democracy and Education*, (N.Y., Macmillan)
- Dewey, J. (1967) *The School and Society*, (Chicago, The University of Chicago Press).
- Institute for the Advancement of Philosophy for Children, Montclair, New Jersey; R *Research report*. Available from Internet: <http://cehs.montclair.edu/academic/iapc/research.shtml>
- Knight, S. and Collins C. (2000) The Curriculum Transformed: Philosophy Embedded in the Learning Areas, *Critical and Creative Thinking*, 8, 2, pp. 8-14.
- Lipman, M. (2003) *Thinking in Education*, 2nd edn, (Cambridge, Press Syndicate of the University of Cambridge).
- Lipman, M., Sharp, A. & Oscanyan, F. (1980) *Philosophy in the Classroom* (Philadelphia Temple University Press).
- Lipman, M. (1984) *Kio and Gus*, First (Montclair, NJ, Mountain Foundation).
- Lipman, M. (1985) Philosophy and the Cultivation of Reasoning, *Thinking*, 5 (4).
- Morris, K. (1992) *Teaching Philosophy with Picture Books* (London, Infonet Publications).
- Paul Richard W. (1990) Critical and Reflective thinking: A Philosophical Perspective, in *Dimensions of Thinking and Cognitive Instruction*, (Ed) BF Jones and L Idol Lawrence (Hillsdale NJ, Erlbaum).
- Plato *Pythagoras and Meno*, translated by WKG Guthrie(1956) (Harmondsworth, Penguin).
- Tishman, S., Jay, E. & Perkins, D. (1993) Teaching Thinking Dispositions, *Theory into Practice*, pp 47-153.
- Vygotsky, L. S. (1972) *Thought and Language*, M.I.T. Press

NOTES

¹ This tying of understanding to the ability to articulate reasons has a long history in the West, reaching back to Socrates (see e.g. Plato's *Pythagoras and Meno*, translation: Guthrie (1956)). More recently, we can point to Dewey (1967); Paul (1990), Baron (1990) and Lipman (2003), among others.

² This caring for truth for its own sake is one of seven "good thinking dispositions" listed by Tishman, Jay and Perkins (1993)

³ As Lipman and colleagues put it, 'A snail is fascinating to [young children] - or a mud puddle - or the dark spots on the face of the moon. It is only gradually that a crust or scale will grow over their minds, until from marvelling at everything, they marvel at nothing.' (Lipman, Sharp and Oscanyan, 1980 p.12)

⁴ It is for example like looking for flour on the supermarket shelves. We will do better if we know that flour is used for baking than if we do not. Such knowledge gives us a reason to search one aisle rather than another. (Incidentally, this example brings out some of the more basic skills which make up reason-giving: classifying, recognising instances, recognising relevance etc.)

⁵ This is the philosopher's sense of 'argument', where an argument is simply reasons put forward in support of a conclusion.

⁶ A survey of relevant research findings can be accessed at <http://cehs.montclair.edu/academic/iapc/research.shtml>

⁷ See, for example, Lipman (1984)

⁸ See also eg. Karin Murriss (1992); Phillip Cam (1993).

⁹ See Knight and Collins (2000)

¹⁰ Collins (2005) has made a start here in the area of social and environmental education.

¹¹ See Collins (2005) pp.116-117

¹² These objectives are in line with the South Australian Curriculum Standards Assessment (SACSA) framework for middle and upper primary levels: 'Level 2.7: Describes the diversity of practices, customs and traditions of groups and communities.', and 'Level 4.11: Identifies factors that should be analysed by consumers, producers and governments regarding their decisions about goods and services, including people's work.' (DECS, 2000, pp 251 & 323 respectively).

¹³ This argument is spelled out more fully in Collins & Knight (2006).

¹⁴ Taken from the *2006 Maths Challenge Stage, Mathematics Challenge for Young Australians, Intermediate Level* (Australian Mathematical Olympiad Committee).

¹⁵ It is not difficult to extend this idea to all curriculum areas. Consider for example Technology (Could a computer be conscious?); Health and Physical Education (Should less money go to elite sport?, What, if anything, is wrong with drug use in sport?); English (Are there objective standards in literature?).

¹⁶ Lipman (1985)

¹⁷ See Vygotsky (1972).

¹⁸ See for example Kuhn and Udell (2003); Anderson et al (2001); Collins and Knight (2005)

¹⁹ This large-scale intervention is reported in Collins' (2005) doctoral thesis.