The Cultivation of Reasoning Through Philosophy

MATTHEW LIPMAN

The best way to develop children's reasoning is to make philosophy a central part of the elementary school curriculum.

As the suspicion becomes widespread that the disappointing academic performance of a great many students is connected with a shortfall in cognitive skills, advocates of some disciplines have begun to take an interest in the situation. Among these disciplines is philosophy. For a number of reasons it is precisely to philosophy that the major responsibility for the improvement of reasoning should be entrusted.

For philosophy the challenge is hardly novel. Since its inception, philosophy has been the only discipline to provide the criteria—the principles of logic—that make it possible to distinguish better reasoning from worse. Philosophy has long been concerned with the improvement of reasoning proficiencies, clarification of concepts, analysis of meanings, and fostering of attitudes that dispose us to wonder, inquire, and seek meaning and truth. Indeed, one of the traditional definitions of philosophy has been that it is *thinking that devotes itself to the improvement of thinking*. In brief, the answer to the question of how best to cultivate children's reasoning is to make philosophy an essential part of the elementary school curriculum.

Matthew Lipman is Director, Institute for the Advancement of Philosophy for Children, Montclair State College, Upper Montclair, New Jersey.

"The cultivation of reasoning cannot be carried out unless we use criteria to distinguish better thinking from worse, and only philosophy provides such criteria."

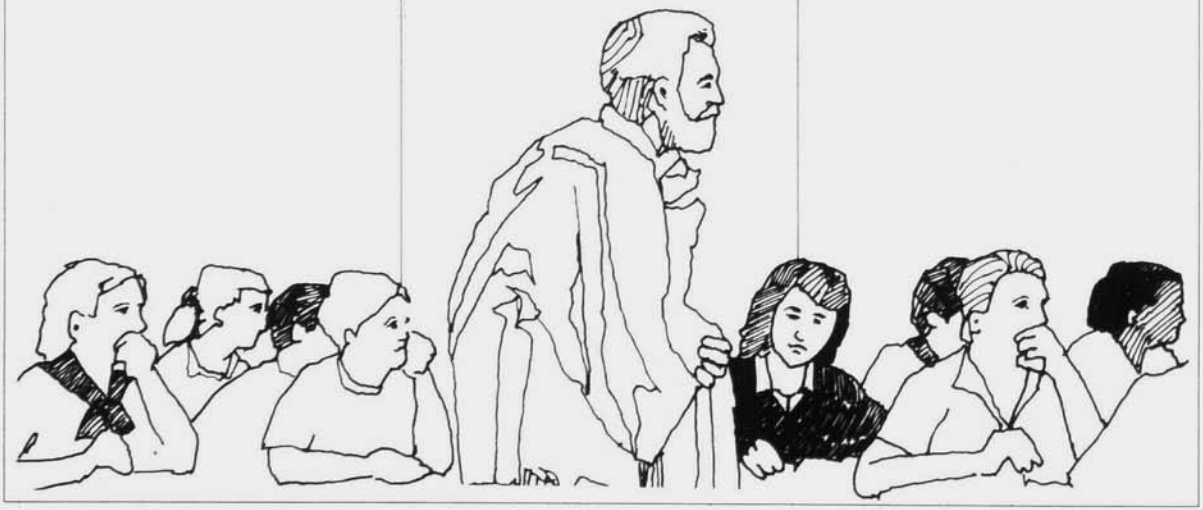
Teaching Philosophy in Elementary Schools

Philosophy does not have to be presented in the elementary school as it has been taught in the college or university. When it sheds its technical terminology and its history of systems of thought but retains its emphasis upon the logical discussion of ideas, philosophy is still philosophy. When it consists of cooperative, self-corrective intellectual inquiry, even though the students are in primary classrooms, it remains philosophy. When added to the curriculum, philosophy can make schooling genuinely *reflective* by motivating children to talk to each other in a disciplined manner about substantive matters and to think objectively about their own thinking.

Philosophy can be taught in many ways to school children from kindergarten through high school. At the Institute for the Advancement of Philosophy for Children, we have found that philosophical texts for students are essential. These texts are written in the form of novels rather than in the abstract, didactic form of traditional textbooks. The children who are characters in the novels are not taught the principles of logic but discover them in the process of discussing philosophical concepts of importance to them such as fairness, friendship, and truth.

The children in the classroom discuss these discoveries in a cooperative fashion. If some children offer generalizations, others may offer counterinstances; if some voice opinions without reasons, others promptly request adequate reasons. Gradually they come to discover inconsistencies in their own thinking. As time goes on, they learn to cooperate by building on one another's ideas, by questioning each other's underlying assumptions, by suggesting alternatives when some find themselves blocked and frustrated, and by listening carefully and respectfully to the ways in which other people express how things appear to them.

Through such disciplined dialogue a community of inquiry begins to develop in the classroom. As the participants in such a community fully appreciate the process, they internalize it and use it to approach *every* academic discipline in school. Moreover, when the self-corrective behavior of the group is internalized, it becomes a self-critical, self-correcting disposition in the individual, which may show itself behaviorally in increased capacity for self-control.



As a subject, philosophy is highly teacher-sensitive; not everyone can be sure of teaching it successfully. To teach philosophy requires several abilities—the ability to listen scrupulously to what children actually say and are trying to say, the ability to recognize the logical patterns of children's discourse and the philosophical dimension of their concerns, the ability to orchestrate discussions, and the ability to encourage children to think for themselves.

Teachers in our program attend two-and-a-half hour workshops once a week for a year while they teach philosophy in their classrooms for three 45-minute periods a week. During the year the teacher educator (always a philosopher) visits the classroom of each teacher six times or more. Beginning with a model session, the philosopher demonstrates the use of the materials to motivate a philosophical discussion among all the children while the teacher observes; then the philosopher observes while the teacher conducts lessons.

Teacher educators in philosophy must be skilled professionals who, in addition to having taught children, hold a doctorate in the discipline and have received special training to prepare them to work with children, teachers, and the curriculum. Without such a background, teacher educators are unable to convey to teachers an appreciation for the wealth of philosophical concepts that children are eager to discuss, nor can they effectively equip teachers with the abilities for sharpening children's reasoning.

Programs for Teaching Thinking

Philosophy for Children

Developer:	Matthew Lipman
Goal:	Improve children's reasoning abilities by having them think about thinking as they discuss concepts of importance to them.
Sample skills:	Drawing inferences, making analogies, forming hypotheses, classification.
Assumptions:	• Children are by nature interested in philosophical issues such as truth, fairness, and personal identity. • Children should learn to think for themselves, to explore alternatives to their own points of view, to consider evidence, to make careful distinctions and to become aware of the objectives of the educational process.
Intended Audience:	Children kindergarten through high school.
Process:	Students read special novels with inquisitive children as characters, followed by teacher-led discussion, using structured discussion plans, exercises, and games.
Time:	Three- to 40-minute periods per week.
Available from:	Institute for the Advancement of Philosophy for Children Montclair State College Upper Montclair, NJ 07043

"Reasoning . . . is *not* 'the fourth R.' "

Misconceptions About Reasoning

At this point two prevalent misconceptions about reasoning must be mentioned. The first concerns the relationship between primary reasoning skills and the so-called basic skills, such as reading, writing, and computation. These skills are indeed basic to subsequent educational development, for without them one could hardly become proficient in the academic disciplines that one begins to encounter in the middle school. But reading, writing, speaking, listening, and computation are actually incredibly complex and sophisticated megaskills, being orchestrations of vast numbers of highly diversified skills and mental acts that have previously been developed. Reasoning is not another of these megaskills; it is *not* "the fourth R." It is, instead, foundational, because it is fundamental to their development. Yet even these foundations, it turns out, are multi-leveled; and one of our major tasks is to unpack and order the galaxy of cognitive components that must be marshalled in even a single act of reading, writing, speaking, listening, or computation.

A second misconception is that, as we mature, our reasoning skills proliferate in quantity and improve greatly in quality. No doubt this is *partially* true but not *wholly* so. Throughout our lives we rely to a considerable extent upon the same primordial core of reasoning skills: the basic repertoire of reasoning skills of the adult is relatively unchanged from that of the child. We have found, for example, that the mean scores of college freshmen are less than one point above the mean scores of sixth graders on the New Jersey Test of Reasoning Skills. The situation is somewhat analogous to that which prevails with respect to a

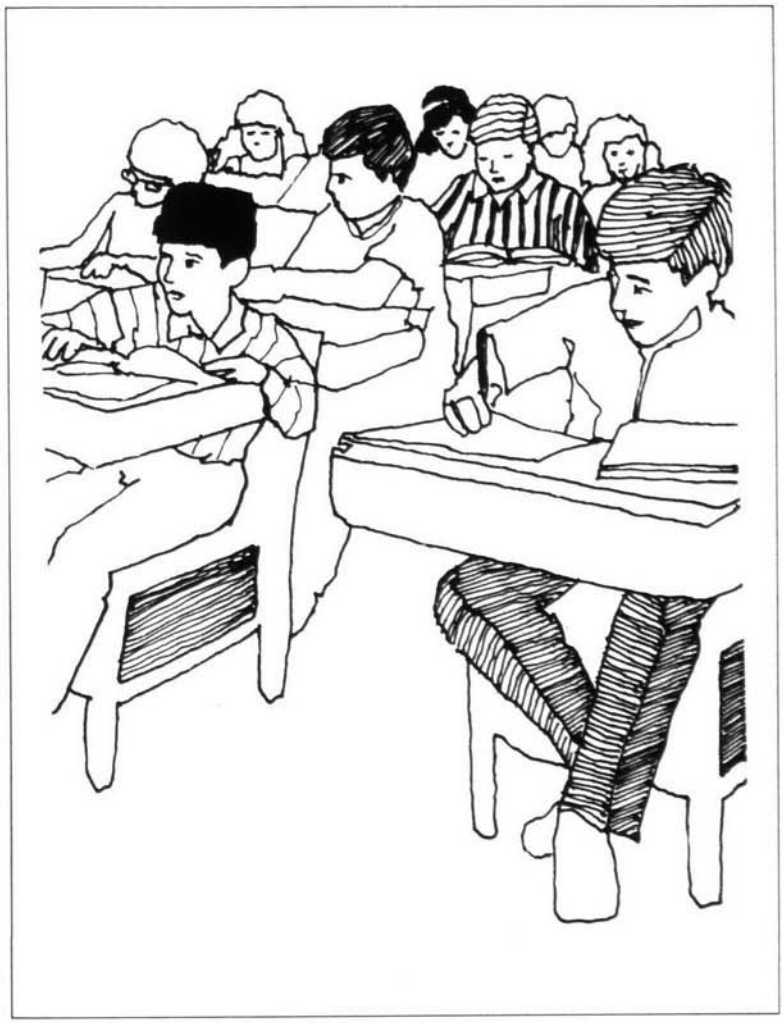
"He [an auto mechanic] uses nothing but these simple tools; but he uses them in such a calculating, strategic way as to solve the mechanical problem that we find incomprehensible and insoluble."

person's syntactical repertoire. Although the variety and complexity of human thinking is unlimited, the linguistic expression of these enormously diversified thoughts relies on the same set of basic syntactical structures. One employs the same subject-predicate structures and the same noun-verb structures whether one is a professor or a toddler. Similarly, even when we engage in the most elaborate kinds of thinking—long deductive chains, highly abstruse theoretical constructions, and the like—we demonstrate our familiarity with a relatively small number of mental acts, reasoning skills, and inquiry skills upon which the more elegant and sophisticated thought operations are predicated. Without the fundamental abilities to assume, suppose, compare, infer, contrast or judge, deduce or induce, to classify, describe, define, or explain, one's very abilities to read and write would be imperiled, to say nothing of one's capacities to engage in classroom discussion, prepare experiments, and compose prose or poetry.

There is good reason to stress the *continuity* of primary and higher order reasoning skills. The way in which that continuity occurs can perhaps be presented best by analogy. Consider an auto mechanic at work in an auto repair shop. His primary skills have to do with the use of the individual tools in his tool kit. He has one skill for using a screwdriver, another for a crescent wrench, and still another for pliers. These primary skills we share

with him; for we too know how to use these tools, although we are perhaps not as skillful. But we probably do not know—as he does—how to organize and sequence the use of these tools to repair the engine. He uses nothing but these simple tools; but he uses them in such a calculating, strategic way as to solve the mechanical problem that we find incomprehensible and insoluble. It is these skills of orchestration and improvisation, combined with an understanding of how the car is constructed as a whole and an understanding of the mechanical problem, that make the difference between him and us. So it is with reasoning skills—the primary ones we all possess or are supposed to possess. The higher order skills, however, are not different skills

Michael J. Sexton



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in performing logical operations but are concatenated ways of performing the same operations. Higher order reasoning skills are not superimposed upon classification, finding assumptions, drawing inferences, and so on. Rather, they are skills used in engaging in highly sophisticated classification, definition, inference, and the like, by employing the reasoning skills collaboratively and concertedly, rather than in the individualized way we do when we isolate them for study.

A Series of Philosophy Courses

A number of educators can now accept the view that it is not enough for students simply to learn the content of academic disciplines, to be truly educated, students must be able to *think* in those disciplines. For example, they must learn to think historically, algebraically, and scientifically and not merely to memorize what they were taught in history, algebra, or science.

The notion persists, however, that the proper route to this goal involves the identification of the reasoning and inquiry skills appropriate to the practice of each discipline and the subsequent assignment of the responsiblity for teaching such skills to the teachers of those disciplines. The teachers in these areas contend, quite rightly, that they cannot take time out from the teaching of their disciplines to teach the skills necessary to think in those disciplines. Such skills should have been acquired by the students earlier; one cannot wait until a discipline is taught for the students to acquire the skills necessary to learn it.

That is the reason a series of philosophy courses is needed throughout the K-12 school sequence. The cultivation of reasoning cannot be carried out unless we use criteria drawn from logic to distinguish better thinking from worse, and only philosophy provides such criteria, just as it is only philosophy that is experienced in teaching the role of reasoning in reflection and discourse.

Philosophy is dialogical; to engage in philosophical dialogue puts a premium on higher order thinking skills, simply in order to come to grips with the logical, epistemological, ethical, or aesthetic aspects of the problems under discussion. Practice in such discussion fosters the development of such skills in each and every participant. It would be absurd to claim that only philosophy cultivates classroom discussions. But certainly the kinds of discussions philosophy entails are more likely to cultivate the higher order skills than discussion in fields less concerned with fostering self-correcting methodologies of inquiry. By devoting a portion of each day to disciplined discussion of significant but unclear concepts, schools of the future will see to it that both primary and higher order thinking skills are readied for use well before they are needed, so that no student need enter a classroom cognitively unprepared.☐

For more information, contact the Institute for the Advancement of Philosophy for Children, Montclair State College, Upper Montclair, New Jersey 07043.

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