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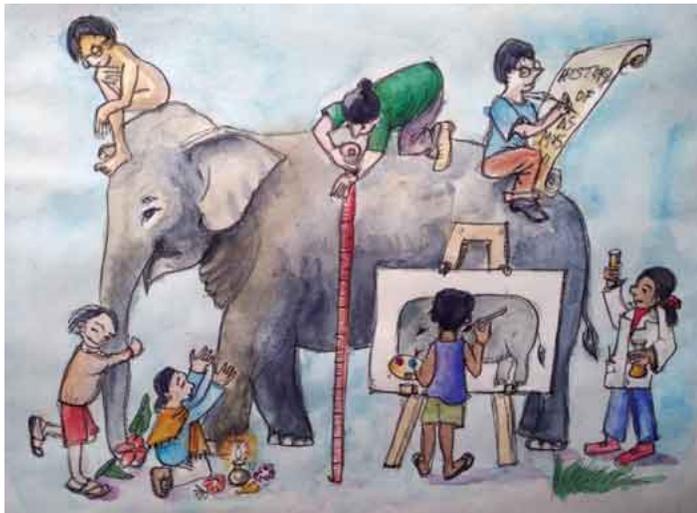
## Curriculum, and Forms of knowledge

Prakash Iyer

**Ira:** The conversation we had the other day is constantly running in my head. I have a few doubts.

**Anubhuti:** Yes, we spoke so much about disciplines and then I suddenly sprung the idea of forms of knowledge; which left me with some fundamental questions too that I had to think through.

**Ira:** What is the difference between disciplines and forms of knowledge? You said they have the same names as some disciplines, but they are not, disciplines. Then what are they?



### Forms of knowledge

**Anubhuti:** Well, let me try and say this differently. For a moment imagine there are no disciplines, schools, or subjects. Would we “know” anything? Of course we would. We see the world around us, we see events happening – things move, people behave in certain ways, some of us accept one religion, and others accept other religions etc. – we establish reasons why things happen, we determine causes, when we do enough thinking we feel justified that we “know”. We possess knowledge. But that is a whole lot of knowledge. Is everything the same kind of knowledge?

Hirst says depending on the “way we know”, we can classify knowledge into seven forms. What does he mean by “way we know”? We can reduce way of knowing to answering two fundamental questions: ‘What do you mean?’ and “How do you know?”.

**Ira:** Why do you call these fundamental questions? We ask these questions all the time, in various situations. If someone says, “The earth revolves around the sun in an elliptical orbit,” I would ask both these questions.

**Anubhuti:** Hey, that is a very useful example to explain forms of knowledge. To answer the first question, I would explain what ‘revolve around’ means, what ‘orbit’ means, what ‘ellipse’ means. Then say, the sun and earth are two natural objects with no mind (they don’t decide what to do, they are made to do this). Their behaviour has a repetitiveness and consistency in it. They always behave in the exact same manner. Humans have observed this happening for ages now. To arrive at this conclusion, we have observed the phenomenon enough number of times so that we can conclude this happens all the time. I am employing basic concepts of two kinds.

The first kind of concept is ellipse, repetition, pattern, shape, size, etc. These are mathematical concepts that can be used independently of the sun and earth. In fact, we know them in our mind alone, even if we do not see them outside. They are related to each other in a certain way. Circle, ellipse, oval, all of them have definitions. There are rules that determine and control the meaning of these concepts. Moreover, I can apply these definitions to validate whether a particular shape is a circle or oval. If some shape does not meet either definition, we would say that thing is neither circular nor oval. This is the mathematical form of knowledge.

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The second kind is the definition of natural objects, causes, effects, hypothesis (does this happen always?), observation (conditions we set up on how to observe and how many times to observe), what conditions to observe in etc. These are concepts and methods that are natural science.

To answer the second question, "How do you know?", we are using two kinds of concepts and two kinds of methods: mathematics and natural science.

**Ira:** If I ask, "How do you know that this is what people thought in 500 years ago?" or "Why are people bothered so much about this phenomenon?"

**Anubhuti:** You see these questions are of a different kind. These are about human beings. The objects of study are humans and human behaviour. Other concepts related to human behaviour in this example are past, time, present, society, politics. We use different basic concepts to answer these questions, these concepts are related to each other in the sense that they are about human beings: behaviour, motivation, curiosity, culture, politics, etc. So the methods of determining and validating knowledge are different too. Hirst calls knowledge that comes in this form, as human sciences and history.

So based on basic concepts, conceptual relationship and methods of validation, Hirst says knowledge can be classified into seven distinctly different forms: mathematics, natural science, human sciences and history, religion, ethics, aesthetics, and philosophy. Each has different distinct concepts and conceptual relationships, and specific methods to validate knowledge about those objects of study.

Religion has basic concepts like faith, creation, divine laws, etc. and tries to answer questions like, "Was the universe created with a purpose?" "Does God exist?" "Is the universe real or an illusion?" "What is the purpose of human life?" etc. Mathematics is the study of ways of seeing the world around us through numbers, sets, patterns and the method of validation is logic.

Ethics is the study of what is right and what is wrong. In moral education we ask questions like "How do we decide if something is right or wrong?" Aesthetics is the study of beauty and uses entirely different methods. Questions asked in aesthetics are "What is beauty? What are the criteria for beauty?"

Philosophy asks basic questions like "What do you mean?", "How do you know" about everything: facts, values and other forms of knowledge. These questions are also asked of all other forms of knowledge. That is why sometimes we do philosophy of science, philosophy of religion, moral philosophy, etc.

#### Difference between forms of knowledge and disciplines

**Ira:** Disciplines are distinct from each other but they overlap in some ways too. Psychology, sociology and history use many similar methods. Do forms of knowledge overlap with each other too?



**Anubhuti:** Human beings created disciplines, based on particular domains that they felt the need to focus on. Physics, chemistry, biology are all disciplines that are based on the form of knowledge, natural science. But there is a clear separation of what is studied by a discipline. Biology focuses on living organisms, whereas physics and chemistry study inanimate natural objects. Based on the object of study, each discipline introduces some concepts, rules and methods of determining and validating knowledge. In a sense, we have to be disciplined, and adopt a way of thinking and rules of the discipline. Hence the word, Discipline.

Disciplines overlap with each other in terms of methodologies used, even the objects of study. On the other hand, forms of knowledge are "mutually irreducible", "none of them is ultimately reducible in character to any of the others, either simply or in combination". The way we need to think is, these are the basic classifications of knowledge that we have created, and classification necessarily means one thing is totally different from the other. Forms of Knowledge are at a higher level of generality than disciplines. The basis for formation of each are entirely different.

But yes, forms of knowledge are related to each other. In reality, we often use multiple forms of knowledge to answer one practical question. Disciplines do too. In fact, there is no discipline that does not use

mathematics and philosophy.

For example, if we want to know where the earth will be two months from now, and which side of the earth will face the sun, and which season will it be on that side of the earth, we can predict all this using mathematics alone. We observe the earth's rotation and revolution, translate this generalization into mathematical concepts. Then mathematics takes over and does other generalizations and even predictions for science.

#### Forms of knowledge, disciplines and school subjects

**Ira:** That is why you see (or do not see) multiple forms of knowledge in any discipline. You have to be philosophical to determine them and see them.

Subjects are different things altogether. They are also ways of organizing knowledge in a curriculum. They are different because the purpose is different. How do we teach children the humungous amount of knowledge! For that, just forms of knowledge is not enough, we need to

know development psychology, the socio-political context, and most importantly how to relate this abstract knowledge learnt in a school with the world we live in.

So school subjects consider all these criteria and organize knowledge in a form that can be taught to children.

**Anubhuti:** A simple way of saying this is, school subjects are administrative means of organizing knowledge. Dewey provides an interesting and useful framework to think of the curriculum. He says, the curriculum should be based on the child's experience in the real world out there. Children have many experiences in their "real life". Knowledge should be seen as a means for them to find answers to these questions. Of course, these questions are not of the "I want to know" kind alone, but of the "What should I do?" kind too. It could be, "My parents ask me to go to school regularly, but my friends ask me to bunk class and go to a movie with them. When they say, "Let us bunk class and watch a movie, what should I do?" School curriculum should be teaching ethics and morality for the child to be able to answer this question herself. Of course the nature of questions children face will change with their age.

But this principle of organizing the curriculum does not go against the classification of knowledge into seven forms. In fact, Hirst argues that the basis should be forms of knowledge. That does not mean we should not merge two forms in one subject; but that we should be aware of forms of knowledge when we create the curriculum and teach children. We could organize the curriculum such that it is clear what kind of concept and methods we should teach in order to answer one kind of practical question. In the above example itself we can see at least two different forms of knowledge involved: ethics and human sciences (sociology and psychology being the disciplines).

To answer the ethical part of the question, you need different concepts and methods (right/wrong, obedience/disobedience, desires/duty, etc.). The social and psychological parts of the question need to be dealt with as human science questions.

**Ira:** Usually school syllabi are organized to take students towards one discipline or other. Higher education is totally mapped to disciplines, because the focus is on getting them the right job. I have heard even primary school children are coerced to focus on some disciplines and consider others as mere hobbies. Actually, thinking of forms of knowledge and organizing curriculum based on them makes it possible to see knowledge as knowledge, and the need for all forms of knowledge. Basing curriculum only on disciplines limits the curriculum's aim merely to getting jobs.

**Anubhuti:** Hamm calls this the breadth of knowledge criterion. He says, all children should learn at least the basics of all seven forms of knowledge. Teaching biology and leaving out ethics would make them bad doctors. If children learnt engineering well because their science was good, but lacked ethical and aesthetics education, it would make them bad people building ugly things.

**Ira:** Building the curriculum education on the foundations of all the seven forms of knowledge can make them complete human beings; maybe more complete than us.

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