

Translated version of Prof. Ngo Bao Chau's talk to students at the HCMC Open University

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How we learn?

I am often asked by students and parents about “my secret of learning”. My answer often is “there is no such thing as secret but passion”. Answering like that is actually avoiding. It is neither wrong nor sufficient. I was supposed to answer like that because I had not thought about this matter sufficiently. But this question cannot be avoided forever. Neither should it be passed onto other shoulders by saying that: “this belongs to expertise of those who study educational science.”

Looking back to my life, I think so far I have done nothing but studying, then teaching and doing research. During that process, I am sure there were times when I got my own reflections of the matter. Yet, these reflections were never put in order and expressed clearly. Preparing for this talk is the best opportunity for me to do this kind of difficult but hopefully useful task.

I am grateful to the International Peace Foundation and Open University of HCMC for jointly organizing this gathering. Thank you all, students, ladies and gentlemen for coming here today. Your interest is a strong incentive for me to complete this talk.

The outline of my talk will center on three questions. First, what is fundamental incentive for learning? Second, we learn to know or learn to be human? Honestly I myself don't like this question, because it is obscured and multifaceted. But I will use its polysemy and decompose it into smaller questions about what to study. The last question is the title of this talk, how should we study? Of course, it is not my ambition to provide a sufficient and thorough answer to these three questions, but to rearrange my wandering thoughts into sub-optimal answers. I hope that by the end of the talk, we will have enough time for further discussion.

Inclination to the great and the good

The Three Character Classic that our ancestors used to study in ancient time started with the saying “Men at their birth, are naturally good”. By nature, humans are born good. Isn't that right? Just take a look at daily news, one would have doubts on the innate goodness of human. Early January in India, a 23-year-old girl was raped to death by six men on a bus. By the end of January in Bac Ninh province, people eagerly rushed to participate in a “pig chopping ritual”. The pity pig was chopped in half with its blood splashing to the cheers of the participants. These instances did not relate but reflected evilness of human. After all, killing pig is just an act of slaughtering animal for food,

which humans must do for survival. Raping stems from the basic instinct of creating offspring. Is it true that human at birth already possesses these two basic instincts which also contain the seed of evil, dire evil. At this point, it is impossible to believe in this “men naturally good at birth” statement.

If human was born with only two instincts then the two incidents mentioned earlier would not be rare, in contrast, they would be so popular that we could no longer feel shocked or emotional hearing about it. Perhaps I am an optimistic person who still believes that human is born with another yet instinct: the inclination toward advancement and goodness. Take a look at a newly born baby who looks like an angel, we would think he/she embodies saintly goodness. Yet what controls the baby is just his/her instinct of survival. I think inside the baby there is no such thing as a novel heart but an inclination to nurturing that kind of heart. Thus, if there is natural goodness in human at birth, it must be this inclination.

That inclination is developed through learning and itself the main push to learning. People might disagree with this view and say that studying aims for good life, for social status. I think this kind of thinking is unilateral. First, looking for a good life is also an expression toward advancement and goodness, yet once it transforms into an end to enjoy good life at the expense of other’s labor, this motivation toward advancement and good has been severely distorted. Secondly, I believe that most of us are incapable of striving for something that will only be realized in a very long term. We could learn because learning is a way to perfect ourselves, meaning that we learn with a pure inclination to advancement. Thus, it is social norms that often distort a motivation that is innately pure.

Note that social norm is not the only thing that spoils the inclination to advancement and good. Idolizing an individual, say a political leader, a soccer player, or Korean singer, is a form of advancement deterioration. The instinct toward advancement and good constantly works against series of bad instincts: laziness, jealousy, cheating, envy, complacency. Once spoiled, this instinct has less chance to be the motivation for learning.

Learn to know or learn to be human?

Recently, on media. a lot of people asked the question “should we learn to know or learn to be human?” or between the two, which one first. This question is in fact meaningless. Learn to know means to acquire knowledge. But learn to be human can be interpreted differently. In narrow terms, learn to be human is to learn living skills, the art of living, or simply civilized behaviors. In broader terms, it means learn to build up human personality. Yet this is too generalized and includes the knowledge acquiring part. Perhaps, the lack of clarity in this question makes media discussion on this topic misleading.

Again, in narrow terms, we can ask the question differently and make it clearer: “Should schools teach students knowledge or living skills or living arts?” It seems that today many lean toward the modern notion of “School should teach children living skills”. A classical perspective was clearly stated by German philosopher Hannah Arendt in her

paper ‘A Crisis in Education’, as follows: “school is supposed to teach children what the world is like, not the art of living”. I agree with this view and I will elaborate more on this in the next part.

Implicitly Hannah Arendt’s statement holds the answer for the question of learning to be human in broad terms. Learn to be human means learn about the world, the natural and human beings worlds, so that each individual is aware of their role in them, of all interactions between oneself with others, to exert one’s potential, to perfect oneself and make the surrounding world a safer and friendlier place.

Children acquire living skills through adults as role models

I heard a story that goes like this, an infant was taken away by wolf. Later on they found him. He already grew up as a human in shape but a wolf in characters. It was the inclination toward advancement and good that turned him into wolf-man. To him, mother wolf represented goodness, who breast fed him, found him food. A child growing up among wolves would of course become a wolf himself. The things that were good to him also good to wolf. If he kept on living with the pack of wolf in jungle, that would be fine. Tragedy came when people forced him to return and lived with other human beings.

In Laos and Thailand, there is tradition of sending children to live in pagodas for certain time, it might be three days, three months or three years. At pagoda, beside studying Buddhist text, the kids also learn to love the simple and neat life of monkship. When visiting these two countries, we are often surprised by the clean and well organized surroundings in countryside, even in poorest areas.

I would like to raise another example which is personal and trivial. My wife and I don’t watch TV, almost never. Perhaps that is why our kids don’t have the habit to watch TV. Parents never ban them from doing it at all. So in their free times, they just read books. If I want to watch TV with them, I have to bargain or persuade them.

This example reminds us that wheather we want it or not, as grown-ups, we are always role models to our children. In addition to giving them a house, providing them with food and clothes, parents must keep in mind that the way we behave today will be the way our kids behave tomorrow. The lesson of the broken wash-tub is still fresh to all of us.

What I want to say here is that if adults behave properly, then their children don’t have to attend those living skill classes. And parents should be responsible for educating their children behaviors, not school. Class lecturing by teachers are not as effective on kids behaviors as that of their own parents.

Of course, I don’t mean that schools don’t have the function of educating behavior for kids. Kids preserve a sacred place for teachers in their souls, even more sacred than their parents, thus behaviors of teachers at school would directly affect students’ behavior. Yet, parents still cannot put all responsibility of educating their kids behavior on teachers’ shoulders.

Role of humanity education and personality formation

When a child is born, the survival instinct completely controls her activities. To her, the whole world is just mom's breast-milk. As she grows up, she starts to be aware of the surrounding world, of others. Gradually, she understands that she is not the only one who needs to survive, so do others. This may sound obvious, yet it is a great transformation of thinking, the kid accepts the existence of other objects, other people as opposed to her own.

Accepting the existence of objects is the condition to differentiate good from evil. Good is to enjoy when others are happy, to sorrow when others suffer. By contrast, evilness is to enjoy at others' suffering, to sorrow when they are happy. By this meaning, when the child has not yet been aware of others' existence, the concepts of good and evil can not apply to her. Also, *the others* here need not be humans, it can be a bee, an ant or the poor pig in Bac Ninh. The cheers and excitement of those witnessing the cruel death of the pig do express evilness in its purest form.

Studying, according to Hannah Arendt, is to try to understand surrounding world, both natural world and human world. It forces one to be aware of the existence of others, which is the condition to distinguish good from evil. This is however not enough. There goes a saying "road to hell is paved with good intentions". Knowing good from bad is necessary but insufficient, it is even dangerous to assume that personality formation is simply to know good from bad. Most of the cases, it is not knowing good from bad that really matters.

To realize one's place in this world, one must ask himself most basic questions about human destiny, and tries to find out answers to those questions, or at least learn those answers that their ancestors already came up with. Distinguishing good from bad is one of those questions, but it is not the only nor most important one.

There are questions that may sound naïve such as "what are human basic needs? Are they freedom and justice?" Human also needs community and society, because each person cannot produce everything he or she needs. If freedom and fairness are basic needs, then how should society be organized so that freedom of each person and fairness among people are secured? To this point, we realize that this question is in fact more complicated than the question of knowing good from bad, if not more important.

Answering the question of humanity education actually goes beyond the framework of this talk and even my own capacity. In the next part I will narrow this question down and talk more about the role of humanity education in personality formation.

The fundamental mechanism for personality formation is to ponder a specific event that happened in a specific context, thinking over how decision was made, what was done, and the consequences and impacts of that event on others' lives and the life of the directly involved person. Man ponders by emotion rather than reasoning. People ponder most profoundly about things that happen to themselves or to their loved ones, because these

experiences leave strongest emotion. Generally speaking, experience of a young person, even though shared by his family, is not resourceful enough for him to build a strong personality. His experience equity would be more resourceful if he learned to put himself in history, where past stories were recorded truthfully, or in literature where great stories though hypothetical but always come from real experience of their writers.

On my personal blog page that I named “Keep Memories Alive”, I told a story of German pupils learning about the Nazi crime against the Jews. They learned it through textbook, reading diary of a young girl named Anne Frank who wrote while she was hiding in a closet to finally found herself caught and killed. The pupils visited Buchenwald concentration camp. The most surprising part of this story was that these German pupils also conducted investigation about the Jews who used to live in their neighborhood, to learn their names, how they got caught and killed. This exercise made the experience more personal. A few months after I wrote this story, I talked to a German photographer, who then said the German got to do what they had to, otherwise they would repeat the most horrible mistake they made in the past. Professor Ha Huy Khoai once commented: “The Germans are smart, they make their kids digest history! Any people fails to do this will have to learn again and again. Should any lesson be missed, the history would force them to recap it, and each repeated learning would cost them more than the previous one.” The cost here might be blood, not monetary term as when student take make-up exams.

I look at this story from a different angle. Real experience about the truth, no matter how painful it is, would make one stronger and safeguard him from those lies that are sweet but easily spoil his soul. Function of humanities education is not to speak highly of the good and criticize the bad, but to lead human toward the truth and be aware of lies from others and from oneself. One should be watchful over his laziness, selfishness and cowardice instincts that are masked with good intention that could lead human toward hell or a complete deterioration of his soul. Serious education of humanities brings out an attitude of making vigorous efforts as we look for the truth, together with the ability to ponder with reasoning. Because if we rely on emotion, we will be easily deceived.

I mentioned that the inclination toward advancement and goodness of human was easily turned to individual idolization, it can be in the form of worshipping a leader or even a Korean singer. The role of humanities education is to lead human along “the sign of intelligence”, toward the truth, goodness and beauty.

Scientific languages and attitudes

If the instinct of advancement and goodness is the motivation to learning, then it is not a tool. Humans express their understanding of surrounding world by words. We enjoy human’s wisdom that built up through language. There are two opposite attitudes toward language that leads to two opposite thinkings: one is religious view that considers words a subject of worship, the other is scientific attitude that considers expressions as means to form thoughts.

The Definition of Tao in Tao Te Ching (The Moral Classic) is an example of religious view toward expression. Tao should be described like this, like that, it is not this or that. Yet not a single time is Tao defined as what it is. The word Tao represents an indefinable sacred concept. People may only know its attributes, that it is about this or that, and as much as what it is not, they narrow the concept by negation, not knowing what it is or being able to define the concept by affirmation. The holiness of Tao lies in the fact that we cannot define it.

I cited the Tao Te Ching but did not mean to look down on the philosophical value of this great work. I just want to point out its religious stance against language compared to scientific view. Religious stance on language leads to general argument. In any circumstances, human would adopt it to explain what is happening and that would give them comfort. Yes people do need comforts in this life, don't they?

One of the greatest contributions of the ancient Greek culture to human thought is perhaps the invention of scientific attitude toward language, an example of which is the Euclid's Elements. When talk about a circle, we don't say that it is something like the sun, or the moon in full-moon, but we define circle as a closed plane curve consisting of all points at a given distance from a point within it called the center. Notice here that concept is always built upon assertion, what it is, not by denial, or what it is not.

Also notice that the circle here is not attached with any sacred attributes, it is just a name used to define a set of points at a given distance from a given point. Nor in reality, there is an exact circle, only proxy one. Euclid definitions are valuable within geometric boundaries. To some extent, geometry is a pure product of intelligence, a game of thought whose greatest value lies within its own limit. Because the rule of game includes some axioms, and some given logical deductions. A geometric statement can only be true or false, a proof can only be sufficient and logical or insufficient and mistaken. This is a kind of game where logical thinking is free to assert. And the discipline is still significant until now. For kids to be strong in logical thinking, nothing is more helpful than let them learn Euclid's geometry.

One advantage of a conceptual game with given rules is that things are clearly defined as true or false within the game. Another advantage is players can draw clear and detailed conclusions from the given set of axioms and concepts, then test and weigh it against empirical observations.

By this point, scientific propensity is much humble than religious propensity. Religious arguments are highly generalized and not concrete for empirical testing. In all circumstances religion asks people to believe and comply. On the contrary, scientific theory presents specific argument and facts for testing against reality and let reality makes final call. Being humble, always making oneself subjected to reality for judgment, affirmation or denial, according to Karl Popper, is a typical attribute of science, completely different from religious doctrines.

This humbleness constitutes dynamics of science. Religion would cease to exist once human lost his faith in religious doctrines. Yet by nature, scientific argument accepts denial, it keeps waiting for being denied by reality to just revive and transform itself into a new theory, more complex and applicable than the old one.

By nature, every scientific theory can only describe certain parts of the world, the more primitive, the narrower its applicability. Going beyond that applicable scope means to engage in a new game where humans have to invent new set of language, new concepts and to find a new rule of game. Yet it doesn't mean that the old theory would be necessarily eliminated as new one emerges. As long as objects move much slower than light, Newtonian mechanics still holds.

An explorer of the world thus, got to go back to the beginning of his journey to explore human world. This is a toughest choice. There have been misleading opinions in education that promoted an elimination of previous scientific theories to introduce students to the most advanced ones. In western countries during the 1970s there was a movement to rebuilt a whole mathematic curriculum based on the new presentation of modern math proposed by the Bourbaki group. The result of these mass experiences were not good. Overall observation showed that math level of students was much lower than before.

Recently, the extremist pendulum seems swinging in the opposite direction. People want to eliminate from teaching curriculum all those things deemed not necessary in daily life. I was surprised by a statement of a professor who said pupils do not need to study infinitesimal and integral, because nobody would use infinitesimal and integral in daily life. Yet thanks to the geniuses of Newton and Leibnitz, natural phenomena are described in an enlightening way under the form of differential equations. Eliminating integral derivative is like going back to the vaguely Metaphysical thinking of the medieval era.

The question is not bringing most advanced knowledge of science to students, it is simply impossible. Neither is the question about drilling students with calculating skills for daily life. What needed is to equip students with scientific thinking methodology: clearly shaping concept, relating the concepts to objective world, learning to make logical thinking, making judgment for concrete argument, and testing these arguments against the objective world.

Another attribute of a vigorous science is capability of making surprise. Euclid geometry is no longer capable of making surprising assertion, and by that it is a dead science. It is just an intelligent game for students to sharpen their logical thinking. Einstein observed that light is bended as it travels towards massive object, which is in line with the predictions of the general relativity theory. To our imagination this is a surprise, since linear line represents a transmission of light. The vigor of science shows that from a set of accepted concepts and axioms, by calculating and reasoning, one can bring unknown explanations of the known outcomes into light, or make prediction on unknown phenomena.

Once science assumes the task of describing and proving in favor of a given point of view and for political or religious causes, then no matter if the cause is good or bad, science in essence is losing the forces that make it dynamic. Assuming the “task” would affect social sciences more than natural sciences. Some commented that in those former socialist countries, natural sciences might have developed well while social sciences had little footprint in human civilization. Prof. Hà Huy Khoái once half-joked “In fact, there has not been social science in Vietnam”. His statement created strong reaction. Objectively, it does exist but is anaerobic and weak.

How to learn?

In the old time, for one to study the wisdom of saint and sages, the most important thing he needed was will. It was the will that led one catch light-bugs, put them in a jar as light-bulb for reading. In today learning, acquiring global scientific knowledge seems indefinite, and determination alone is never enough.

As I just mentioned, science is free from being self-conceit, never taking one theory absolutely right or as general truth. Each scientific theory is developed by calculations and argument from a small set of concepts and basic axioms. Each theory has its own logics and not self-conflicted, and conclusions drawn from it are just correct to certain objective setting. In some senses, each theory is an intelligent game, with clearly defined rule of game by which players can deploy their thinking capability to reach for outcomes that sometimes go beyond early expectation.

People rarely play game alone. For a game to be interesting, for players to try out every bit of their thinking potential and reach to unexpected outcomes and creativity, the game must have playmates and referee. To illustrate this point, I’d like to make a small suggestion but completely serious one.

Thanks to Internet, now people can search and download free of charge learning materials from the web. Some prestigious universities such as MIT and Stanford also created open courseware providing most of their teaching materials online free of charge. Instead of spending \$50,000 per year to go there and study, note that having \$50,000 would not necessary get you the admission, you now can access their learning materials, watching their lecture videos free of charge. Well, does it mean that you now can sit in Hanoi or Saigon and learn like an MIT or Stanford student?

I think unless you got fierce will, no matter if you were provided with all materials available out there, allowed to watch every lectures free of charge, alone at home, you can’t never learn. Following online lectures on your own is not an interesting game: no opponents, nor team-mates, no roadmap nor targets and rewards. These things are not related to the scientific content of the lectures but learners do need them to put forth their constant effort. Being alone learner, you can concentrate maximum for one, two day or even a week, but not longer. And you still need a team, a classroom, and teacher to maintain this learning endeavor.

My suggestion is that why don't you organize your learning collectively, why not come and learn those online materials together. We can just use those very online, free of charge materials in formal courses. Lecturers need not talk the whole session, they can show students these online lecture videos, which may require some Vietnamese subtitles muxing, then spend sometimes to answer questions from students, guide them on homework and finally organize serious exams. Of course, it is easy talk than do, but I don't think it is impossible. Cost of organizing such classes is perhaps not much, especially compared to the \$50,000 annual tuition at MIT or Stanford, or costs of those advanced programs proposed by MOET in recent years.

With this inspiring suggestion, I hope to bring out the importance of collective learning. Learning is an organized and collective activity. As mentioned earlier, without an organized team, human in general is incapable of maintaining his effort for long. Without debate, human would quickly get lost in subjective path, a path that certainly leads to an impasse. Human by nature is inclined to win, this instinct is necessary to create dynamics in debate, but also the factor that might spoil the discussion, making it a fight where people try to defeat others. Therefore, in a collective game, healthy rules of game are needed so that competition would incentivize each person to overcome themselves, not a reason to satisfy their aggressive instinct. And the game needs a referee who understands the rules and got authority to monitor the game. Also, it is the rule of game with constrains that makes players to strive for real innovation.

I observe that people destroy rules of game too easily. A small example is to write a letter of recommendation. This is a tough job which you cannot expect any reward in return but a sense of fulfillment. In order to recommend a colleague to an associate professor or professor status, usually the recommender must study the work of the recommended to see what is good, excellent, or just normal and then generalize its implications. Without those points, a letter of recommendation is weightless, recommender might be questioned of his seriousness or competency. It is a tough job and no one gets credit for being a good writer of letter of recommendation, because it is technically confidential. In summary, writing letter of recommendation is demanding, with no returns, but is a needed task to support a deserved colleague, or just simply to fulfill one's role. Writing a letter for students do take some time but not as much as writing a letter for colleague.

A student of mine in Hanoi once asked me to write him a LoR. As I was hesitate because I did not think he was such an outstanding student, he sent me his own LoR and asked me to just sign it. To my surprise, he said other faculty did ask him to prepare the letter and they just signed it. The action might be trivial to some, but to me it is these minor things that make the whole system corrupted.

When I prepared this talk, my intention was to share with you my wandering thinking on learning, not criticizing anyone, let alone our education system. Voices already raised concerning existing problems of the system, I don't see the necessity to add mine to this. However, if I must point out one problem, the biggest one, then it would be the corruption of the whole system.

Let me remind you about the Doi Ngo incident that we all knew. The incident was severely abnormal, the fact that an examinee caught his proctors violating the exam room rules by filming them is an unprecedented event in the history of human kind. That was a depressing story, reflecting clearly the decay of the system. Let's not lay the blame on any agency or individual, just think about it evenly. Allowing such thing to happen, there must be several people from central to local, inside and outside the education system who do not respect the rule of game. As a result, a graduation exam which meant to be a serious task, a solemn milestone over the great learning effort of students, now turns to be a joke, a joke that makes us cry.

America can be proud of their universities. Their universities are quite young. Chicago University where I work is just about 100 years old, same as Hanoi National University. Perhaps we need to answer the question "what was their secret of success?". For now we can say that the reason for their success is wealth. They have prominent professors, full and modern facilities. Yet, we are confusing between cause and effect for saying that. In early time, these universities were not rich, nor having outstanding staff compared to universities in Europe. There is no single answer to it, but it is worth it to mention a cause, which is the fair-play mentality where cheating of any form would be seriously punished.

I believe that it is hard to learn about honesty from textbook. For kids to be honest, we adults must learn to be honest ourselves, to be aware of our role model to them.

I talked about the need to organize learning, discipline and honesty. You can ask why I talk about schools as if they were military camps.

Discipline and honesty are not sufficient. What missing is the "passion" that I mentioned earlier. The passion to look for the unknown, the novelty, searching for explanation to things that are not yet understood. Where does this passion come from? I am not sure about the answer, and that is why I assume that human is born with an inclination toward advancement, or we already possess the seed of being passionate inside us. I think the question of where passion comes from is not as important as how to preserve it and prevent it from getting rotten. Passion and inclination to advancement are motivation for learning, and real learning nurtures this inclination toward the values of truth, goodness and beauty, of the love for truth, and happiness of discovery, to go beyond the known to break the unknown.

A friend of mine comments that, besides passion, let us not forget courage. Courage is what you need so that your laziness, cowardly temptation would not make you turn your back to truth. It is especially needed in your search for novelty. You may have your team, your fellows to learn and to advance together. However, based on my own experience, once you pass the boundary of the known to pursue the unknown, you would definitely need courage, because the search of novelty is usually a lonely journey, which can last several years.

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