

## Questions and Answers with Keynote Speakers

### **Wataru Oda, the Educational Research Institute**

I have a question to Dr. Chuon Naron. Around the top, page 6, you talk about the top-down and bottom-up. Well, if we look at the Osaka or western part of Japan, you have to pass a certain exam in order to become a qualified teacher, so it seemed that the top-down is dominant in Japan. Also, we have a chief teacher below the principal, so there is a command of chain. I think the peer system is very important, but if the top-down becomes more dominant, I think it is too risky. What is your view on that?

To Prof. Abe, you talked about the importance of diversity, but for society-related subjects, especially to nurture children as individuals with sovereignty, that is quite difficult. Actually, patriotism being taught not self-motivated, interactive, and deep learning. Also, until 9th grade, self-defense forces might be taught in relation to constitution. I have been researching the subject of social sciences, self-defense forces in the context of article 9 used to be taught at ninth grade. But now, fourth graders learn about military or the self-defense force structures. In MEXT, maybe a top-down approach is actually taken. I would like to see more dialog or interaction. That is my view.

You talked about Akita prefecture not assigning chef teachers and having 40 children classroom. Maybe if you have any opinions about that, I would appreciate it if could you response to that.

### **Hang Chuon Naron**

About top-down, do you mean that you want to review the curriculum in order to make the curriculum focus on STEM, or on science? Or if you want to introduce active learning, critical thinking skill, problem solving skill, teacher training that is top-down. But the top-down may not be resulted in the school. Curriculum is important. Textbook is also important. Teaching material is important. Sometimes, we set the goals in the curriculum to introduce active learning in school and then to look at how to integrate, for example, for mathematics, literature, or science to have active learning. But if sometimes you provide training for the teacher but the teacher may not do it in the classroom. Why? Because sometimes active learning as teachers, “how you feel if you have new methods?” The teacher said “I have to work harder. I spend more time to research because using the textbook to teach is not enough”. It requires the teacher to work harder. It means that you must have the classroom to implement.

Number 1, the school principals must understand that. Number 2, you have superintendents or inspectors who go and check. Also, the teacher themselves should be trained, should be involved. That is why this is called bottom-up. Bottom-up means that in the classroom, at the school level, sometimes some initiatives already there. They are good teachers who know how to teach well using the active learning already, even if it is not a policy of the ministry. Then, we have to bring them to roll it out to other schools, and more importantly, to have a platform for the teachers. Even if you have active learning, but it means different things to different people, different things to different subjects. How to teach active learning for mathematics is very different for literature. Then, even if you have a prescription, the teacher will take only some. Then, innovation. The

teacher can – “Okay, I use this.” Some teachers, they say, “No, I do not need to have your methods of active learning, but I have my own way.” Maybe also good if it results in better learning outcomes.

That is why, to have that, we must coordinate between top-down and bottom-up. How we coordinate is that we must have superintendents that know the policy, know the curriculum, what we want in terms of critical thinking skill, problem solving skill. Then, make sure that that happens in classroom. The teacher, the school principal must be trained to do it. Basically, this is coordination. Thank you.

### **Noboru Abe**

Thank you. First of all, top-down versus bottom-up, including the case of Akita prefecture, let me address that. It depends on the definition of top-down, but as for me, bottom-up type teachers in different schools or collection of such teachers, I think improving the bottom-up approach is important. But on the other hand, the latest method or system of education, maybe the board of education taking the lead and making proposals, that could happen as well. It does not have to always be bottom-up. Top-down is not necessarily a forced approach. So, it is both in cycles, I think.

Top-down, if that is really forced, it would not work. It will collapse sometime in the future in the field.

I think the Ministry of Education taking the leadership, that is okay. However, if the ministry just forces something that does not work in the field, then the field will collapse. It would fail. I am sure that you know this. But at least on the prefectural level, the leadership, the board of education, in the case of Akita prefecture as well, it is quite strong. However, for teachers, they have collaborative research, and also they take proactive stance in coming up with some ideas. Then, the board of education might take note of that and that good practice might be spread to other schools.

I am sure that this can be addressed in the panel discussion in the afternoon. Both top-down and bottom-up should work well. It does not work perfectly routinely; however, hopefully a combination, structurally of both top-down and bottom-up, working together is the ideal.

The second point of your question. Basically, I did not talk about this, but whether it is geography or history, in the courses of studies, I think multifaceted approaches and viewpoints are very much encouraged, and I support that idea, because whether it is history or other subjects, there can be different approaches and different viewpoints. Children should learn those multiple viewpoints and then identify what they think is the best approach or understanding or viewpoints. That is the good approach.

I mentioned Finland. History classes in Finland are often taking that approach. I witnessed some. From the elementary school level, there is Professor Silandel of niversity of Jyväskylä that said, small children can become historian, a small historian. There will be history or some facts given by the teacher, but the students will actually do some research. Of course, if it is not enough, then there will be

advice given. But, then, children will do his or her own research. Then, as they get older, they will have more deeper learning.

So, I think it is about choice from multiple perspectives. If there is any textbook or programs or curriculum that really hinders children from having that freedom of choice, I think that should be rectified. At least, in social studies – well, what has been selected in terms of the textbook? In the case of Japan, different prefectures or regions select the textbooks. However, it is important that teachers actually look at different textbooks, maybe used in other prefectures. This is good in terms of selecting the right kind of materials. Unless you take a look at other options or textbooks, you do not even broaden your perspective.

About the final question, this chief teacher system has been introduced into Akita as well. However, it is more of a collegial, collaborative approach. It is not only one person serving as the chief and others subordinated. Rather, it is more like working together. Of course, this chief system is in place. Of course, the school principal, a good leader, a very good person to lead should be in place; however, it is not to force his or her views on the other teachers. If that leadership is expected, then that is good. If it works as a leadership system, I think it is acceptable.

**Tokumura Tokumura, (Domestic Strategy and Partnership Department  
JICA)**

I have been involved in the trainings for some time. I was involved in the human resource development from the perspectives of the dialog and the knowledge concretioncompetition, and I am very interested in the active learning. On page 14. We are talking about the reflection of what we learned. I did not understand the words “the reviewing in terms of meta-recognition” on page 14, The meta-recognition or the reviewing in terms of meta-recognition, I did not understand your concept, so could you please elaborate on that?

**Prof. Abe**

Thank you for your question. This reflection means multiple things. For example, let us say, in Japanese language and literature class, you learned something, and so you checked back on what children learned, but do not end there. For example, when you read haiku poems, what can you do next time? What method can you learn from this class today and use it next time? So, connotation – there is this meaning on the surface, but there are some deeper meanings hidden. Also, there are other applications from the learning. So, not being able to solve something, but what was the formula that you used in solving that, for example, mathematic problem? You can apply that elsewhere. You recapped that.

Also, what is different this time than what it was before? The introduction or the prelude was considered as only a prelude, but then, it had more metaphysical layer, and there is meaning of that as well, and how that relates to what is to be learned from here on. That is the meta-recognition kind of approach.

Also, this relates to what is the issue in the United Nations. For instance, some of the learnings in the class might be related to issues discussed in the United Nations or any other international issues. What children learn in the class could be related to societal problems that the world faces. Having that slightly different perspective on top of what exactly the subject was, I think it adds another layer.

Context of what children learned in the classroom, what does it mean in the bigger picture, that is what I meant by meta-recognition. Again, it is important that the teachers have thorough studies beforehand of the materials. Otherwise, it will stay at a very surface level.

### **Hang Chuon Naron**

On the way of learning, when we talk about active learning or enquiry-based learning, it can be very different approaches. For example, I visited one school, and they teach the students not by subject but integration of subjects. They call it fundamentals like mathematics, physics, chemistry, or maybe environment, and like Professor Abe said, link the learning to how to solve the social problem outside the school. Then, they pick up the topics. One group of students, they pick up economics, another group environmental issues, the third group poverty issues.

The economics group students, I gave them one book on the Cambodian economy. One year after that, the students organized themselves. They wrote a book on the Cambodian economy from their own perspective. But teachers must guide them how to do it, how to collect data, and how to analyze data. The students go out and learn from the real life and collect data and write their own book on the Cambodian economy. Then, they publish it for other school children from their own perspectives.

Another group of students looked at how to recycle waste and to help the economy, to solve the problem of waste management. They proposed a solution. It may not be sustainable, it may not need the business model, but important for them to think and how to find solutions. I think that maybe we can call this an active learning, but in a different way.

Another student learned in the public school subjects like physics. Then, she prepared her own material, did research, and then compiled it, and published it for other students. She took a pride because she gave some views. Not just the teachers but the students can do their own research and publish it as a booklet. I think writing is also a form of learning. Thank you.

### **Noboru Abe**

May I add? His Excellency mentioned something that is related to page 18, but page 15 of my slides, enquiry-based approach as a model case of Akita prefecture. But that is only a model. I am not saying that this is the only active learning model. As his Excellency said, research-oriented approach could be employed. For example, the children, the students themselves think about methods as well. That could be an approach.

Then, on page 23 of my materials, that is page number 30. But in any case, within the group, individual students will have an interaction and maybe some different views will be expressed. Then, that discussion might lead to some new ideas. Of course, there might be differences and then that leads to debates or discussions and that will evolve.

Of course, in the meantime, the teachers should give advice. It can take different forms, but as on page 23, these elements, I think, are the required elements for active learning. But research-oriented approach is fine as long as it takes, but it might just take too much time and not much learning. Maybe it is something that

requires a teacher to explain in only 30 minutes, and that might have sufficed. Then, time might be wasted if you just let the students do the research. You need to think about that time as well as the quality. Thank you.

**Lee, Ka Lun (Yidan Prize Foundation)**

My colleagues from the field of education are always interested in taking this step. They would like to know whether there are some key successful factors or some prerequisites for schools to become the future schools to take the model of active learning. Thank you very much.

**Hang Chuon Naron**

When I was appointed Minister of Education, I moved in from the finance ministry. I listened to the investors. They said, we need hard skill knowledge but also soft skill. They said that what we train students in the school does not meet the needs of the business people, because we need the workers who can think, not just the workers who just follow instructions. For me, how to transfer skill?

Then, we decided to create what we call new generation school. The school, number 1, they train the teacher well. We have to have the test for the teachers to get into the school, and invest more in the classroom. We have a coated classroom in color, say, literature, red; biology, green; physics, blue; and then have all the facilities like the laboratories, computer, train the teacher how to use computer to teach, not just computer lab, and teaching does not use computer. So, the computer is part of the teaching and learning. Digital tools are part of that.

Then, we encourage students to create club, to have different discussions. More importantly, teaching methods. Then, after 1 year I came back, I attended the Parent Nights. I see everything organized by the students, but the teachers guide them a little bit, but everything from showing, all the arrangement by the students. They have their emcee, they organize like fashion show for the parents. Then, we interview the parents. The parents also come out to speak.

So, I was impressed to see one year we changed the attitude of the student by just only changing the way we teach. The students have become more active. More interaction in the school, not just in group but also to have competition between the groups. They have to make presentation to the classroom. Then, even they make mistake, they have to understand why there is a mistake. In philosophy, one day you call it a mistake, another day in the future it can be true. But they must think through that.

Then, we interview the parents. We see change in our children because before they were not really interested, now they are very active at home. So, even the parent takes pride. It means that you can teach soft skill in the classroom, but we must have a teacher better trained and teaching method try-out. It is not possible to change the teaching method immediately. Initially, the teacher teaches and then we film them in the video, and then he or she has to review it. I am not happy with this; I have to improve more. So, improvement comes from the teacher.

I think that reshaping the school culture, the school environment is very important. Create an incentive for them to make improvement. It is not possible for us to force people to do it. So, it comes from the heart. It comes from the conviction that this is better for both of them, because the teachers also learn.

After 1 year, the teacher has learned a lot – the new method. The students also have learned a lot. Both teacher and student learn. It's not just the students who learn. And the school becomes better and recognized, and I think that is very important for the school director. Those achievements are recognized. I think that there are different ways of doing it, but most importantly, the outcomes are better, especially for the soft skill. I think not all the schools can do it. There should be environment to do it. Maybe more resources. That is why I think that only committed schools, committed school principals, and committed teachers, because when we do it, there is some resistance. “Why you do it? You know, it is fine.” I think there is resistance, but we have to manage that very well. We should show the result. Without showing result, you cannot implement big scale. Then, encourage those who are committed to do it. In economics, we call demonstration effect. If you could add something, you have to show demonstration. Those who want to do it, they come and do it, but the ministry can have the award, better school, outstanding teacher award, outstanding school principal award. We must recognize, but sometimes we cannot force. If not committed, you invest more, after that it is gone. Basically, reshaping the school culture is very important. Thank you.

### **Noboru Abe**

Thank you very much for this opportunity. One thing I would like to note as His Excellency, Dr. Hang Chuon Naron mentioned as well, I do believe, as the Minister said, it is important to train teachers on the university level so that we have college students who can naturally engage in active learning.

University lecturers must actively teach or encourage active learning in their lectures. It is not convincing for a college professor to say let us do active learning but still sticks to the traditional lecture method. My classes are for the most part based on active learning. We have to show the college students ways of implementing active learning, encourage students to do mock classrooms, to engage in critical thinking, feedback for each other. This must engage university professors as well to train teachers who can implement active learning.

Second point, as His Excellency noted as well, it is important to create training environments for active learning. I think education committees can spearhead such efforts to a certain extent. Of course, a single school can be committed or single educator can be committed to active learning, but there should be more wider opportunities to demonstrate active learning. His Excellency noted the demonstration effect. If I wanted to see good active learning, inevitably, some teachers would want to do the same, but it is hard to do this alone, so collaborative research comes into play. A younger teacher will become motivated if that workshop is successful. That is valuable, irreplaceable. So, on-site, on-the-ground training opportunities to experience active learning.

As Dr. Hang said, of course, there is resistance. Anywhere in the world there is opposition, there is resistance, but for the most part, I think people will be motivated to implement, carry out, and engage in active learning.

This is how we did at Akita on the university level. On the ground as well, there is a lot of collaborative research. There is a lot of collaborative research and quality active learning. Anywhere in Akita, there are workshops for the past 15 years. It

was a slow process, but we built it up to that there is active learning workshops everywhere.

### **KATUNGYE, Michael (Embassy of Uganda)**

I am very excited about interactive learning and innovative methods of teaching.

I do not know how many of us have seen an Internet joke that is circulated on platforms, you know. That is enacting a scene where the education system is in the court. A lawyer is arguing a case where his point is that – I cannot see people nodding their heads, the ones who have seen it. He is arguing the case that education is not catching up as fast as the world demands. What that lawyer tries to say is that at the end of the day in spite of all these good policies in interaction, all these policies in active learning, children, pupils and students have to pass the same exam as if they were all gifted the same way. Nobody trains people according to their skills that God gave them. Everybody teaches geography, everybody teaches history the way they did it 50 years ago. I am sure there have been changes. I am not an educationist myself but I know, in my country, the children will know more about the French Revolution, they will know more about the British whatever, they will probably even know more about Trump than they know about my politics. What is your take on that? It is not a question really – what is your take on that? Thank you.

### **Hang Chuon Naron**

Number one, the curriculum is based not on your own issues but curriculum maybe British-based curriculum in Uganda. The textbook inspired from maybe Oxford or Cambridge, not your own textbook. I think that is a big challenge, because when I go to schools in remote area and the student opens the book, it shows North Pole. The students in the very far village, they have no idea about North Pole, but it is in the textbook. So, we must make the curriculum and the textbook relevant to their own environment. That is why life skill is important. If it is agriculture, the students should know how to do agriculture. That is why the mismatch. I think education is slow. In economics, you can say labor market is stiff, not responsive. When I study economics, I really do not understand very much about why labor market is not responsive to the needs of the economy. When I became the education minister, I looked at what investor wants. They want not just hard skill but soft skill. They want the ability to think critically to solve the problem.

But linked to the another second issue, examination. Examination cannot evaluate soft skill. Examination evaluates the hard skill, your knowledge of mathematics or history or geography. That is the problem of how to integrate soft skill that you teach. Like entrepreneurship skill, you teach at school into the examination. This is the limit of examination.

I think that is why in Finland that is not based on examination, based on evaluation. The classroom teacher knows the students well, whether the students are bright, have both hard skill and soft skill. So, you do not need nationwide exam. But that requires very strong teachers, very strong education system that is not based on national examination but based on classroom evaluation. That is enough because the teacher can evaluate both hard and soft skill. I think that we need to integrate soft skill evaluation into the nationwide evaluation.

Examination is not enough because it cannot capture soft skill but also knowledge and hard skill. Thank you.

**Noboru Abe**

Thank you again for the question. One is, I completely agree with His Excellency, so I will not repeat that, but the second point, critical thinking, problem solving, and metacognitive ability, in order to gain these skills, evaluation has to be done differently. Students need to be evaluated in a different way from the past. Of course, to a certain extent, knowledge has to be evaluated. But there has to be more to evaluation.

One is to test logical thinking. An essay question would test the critical thinking, to give the students time to write about a certain topic. The topic has to be good. The exam has to be of good quality. For example, for a given issue, there is Policy A and Policy B, which policy do you support and why, with specific examples? Under certain conditions, this is not just knowledge that is being tested.

Also, in terms of literature, two similar works, “Which is better?” as an essay question. Provide the rationale for your answer by arguing rhetoric and so on in the literary work. This is a way to test the students problem solving, critical thinking, and metacognitive abilities. Otherwise, students cannot write the essay to answer that question.

Finally, the world is turning attention to such tests. The MEXT, Ministry of Education here in Japan is also encouraging, is testing such exams, essay exams, although on a pilot level. I think it is possible. We need more creativity, we need more effort, but essay questions are viable. After the students write an essay, there has to be ways of evaluating, assessing the essay. We do not want it to be subjective, we do not want different evaluations coming from different teachers, it has to be a standard evaluation on the essay written by the students. It has to be clear and transparent, evaluation assessments about the essay question.

Japan is still in the process of standardizing evaluation. Conventional university exams must change from evaluation and the exam itself. That is why I am studying myself ways of changing exams. Thank you for the very sharp question.