Getting on the internet bandwagon

SPECIAL writer **Lorena Binisol** attended the "Revitalization Strategies in Japan" and "4th Industrial Revolutions" workshops in Japan recently where she interviewed David Sehyeon Baek, a Korean General Manager of CCEI-Gyeonggi (Centre for Creative Economic & Innovation) based in Korea.

He spoke about the 4th industrial revolution and how the new generation needs to be equipped with advanced technology in order to suit the style of living in the future.

Gearing towards the 4th Industrial Revolution.

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>
> – David

Daily Express (DE): As you enlightened us during this workshop in regards to prepare well for our future generation. What exactly are the things that we should do?

David: Well, more than anything else, we need to think about what technology or skills our children will need in the future. It doesn't matter whether your country is a developing country or advanced country... all nations need to work to improve their internet connectivity. I am not saying that internet is everything. However, the whole world is gearing towards that.

There are artificial intelligence (AI) such as robots, cloud server, smart farm, smart factory, smart city, etc., we need all this internet connectivity to be up-to-date in order to be part of this trend. These are viable and useful for the next generation's life.

Just see how the world evolved from one revolution to another over the decades. The first industrial revolution was pointing at mechanisation, waterpower, steam power. Then the second industrial revolution was going towards mass production, assembly line and electricity. The third industrial revolution was computer and automation. And today, we are talking about fourth industrial revolution which is all about cyber physical systems.

In terms of education – what skills are children going to need for the future? There are countless of things but teaching our children the right and relevant skills for the future is going to be very important. We need to set up a different education system than what we have now.

Memorising facts is not bad, but it doesn't require your intelligence and creativity much.

In the first place, why do we need to learn something? It is because we need to know how to resolve problems.

Remembering facts in great detail can be done by the computers. So, what I am saying is that the computer can take over the job as collecting and storing information, remembering data and so on.

So, what can human do? They can focus entirely on learning problem-solving method. Isn't that the main purpose why we give them education? It is all about solving matters and making it easier for us to live in this complex world.

Therefore, young children, school going children need to be taught how to solve problems while they are in their tender age.

We all learn English, and we all try to teach English to our children while they are young, not because we love America or UK, but because we all know that, if our children speak English, they might have a better chance with jobs, international activities, and so on.

Same goes to learning computer languages or coding is not something really special or unique. They are just another new language for the future. Let's think that learning how to program is not everything. It is just a part of the future life.

Learning coding doesn't mean that all children are going to spend the whole day learning it only. Children have to have time to play, learn how to socialise with one another, learn how to dream or use their imagination. I am saying they still lead a normal life, just that their learning subjects are added with coding and programming lessons in preparation for their future usage.

As we can see, future coding is going to be indispensable. Mathematics, science, and technology are subjects those are going to be important pillars in the future, and actually they already are even now.

In the United Kingdom in 2013, the government announced that computing programmes of study should be part of their curriculum in elementary schools. For instance, they include understanding what algorithms are, how to create and debug simple programmes, use logical reasoning to predict the behaviour of simple programmes, use technology purposefully to create, organise, manipulate and retrieve digital content and so on.

So, by saying all these, we need to ask ourselves what is going on in the future? Is it necessary to let our children be taught on all these things while young? Whether you like it or not, the answer is yes! We need to as it is all for their own good.

Japan is now preparing for the 4th industrial revolution by inventing robots for many usages. One of them is in the medical sectors. These are in preparation for our future generation. Cyberdyne company in Ibaraki, Japan

In school, science and technology should be given prior attention. I am not saying literature is not important. But it is equally true that science and technology will be more useful than literature.

DE: So, what can we (in developing countries, or even under developed countries) do to be able to live alongside these modernity?

David: Learn as fast as possible. As developing countries, this is not to suggest they should 'westernised' their way of living. But as we all know, whether we like it or not, we cannot just destroy all the computers and disconnect the Internet to go back to 'good old days.'

You know that it's not going to work that way or going to happen like that. As the saying goes, "If you can't beat them, join them." If you cannot stop the world trend, it will be in your best interest to try your best to know what's going on in other part of the world.

Try to learn as much as you can from other best practices. Learn as fast as possible or learn as much as possible, grasp as much as you can by reading good books on this new trends and observe what the other advanced countries have done or achieved.

By saying all these, in order to make this internet connectivity to happen, all the policy makers should be learning about what exactly the '4th industrial revolution' is all about and all the possible changes to take place in the future so that they can be well alert and prepare their people for the changes systematically.

In my opinion, education should centre on software, programming, computer skills, digital education, ICT, coding, science, technology, math, etc. I understand that those subjects seem to be too much, but it is because the old or current generation did not go through this kind of education during their time, therefore, it seems to them, these new subjects are heavy and difficult. But the fact is, these subjects are needed in order to live in the future style.

DE: You said Korean children as young as four years old are already exposed to coding and computer programming. Is this part of government directive or this is the new option for the parents nowadays?

David: Like I said, why do we insist our children to learn English? Because we want them to have better choice, more job opportunities in the international levels, right. So, learning all these new subjects like coding and programming is not something really special or unique. Treat them just like any other subjects being newly introduced to the school, as these are the future subjects.

These are relevant and useful in preparation for the future living.

Learning coding doesn't mean that all children are going to spend the whole day learning just it only. They still have to have time to play, learn how to socialise with one another, learn how to dream or use their imagination.

However, let's not forget that in the future coding is going to be indispensable. Maths, science, and technology are going to be important pillars in the future, and actually they already are even now. In the UK, 2013, the government announced that computing programmes of study should be part of their curriculum in elementary schools.

For instance, they include understanding what algorithms are, how to create and debug simple programs, use logical reasoning to predict the behaviour of simple programs, use technology purposefully to create, organise, manipulate and retrieve digital content, etc. So we need to ask ourselves what is going on.

So, if people asked me whether it is necessary for young children as young as four years old to learn about coding and programming? My answer is 'No'. But, the fact is that, this is the world's latest trend and it's a strong flow that we cannot go against.

Just think of coding and programming computer is not the only subjects they will learn from school. Children will have to learn physical education, music, literature, and so on, but education on coding or how to do computing programs or logical reasoning will be crucial and indispensable.

DE: At what age will be the right age to start?

David: I believe it depends on each country's social agreement. In Korea, I think Korean parents do not want their children to be left behind and, so they want to educate their children as early as possible in some cases, as young as four years old, but this is not a compulsory. Just that most parents want these subjects to be introduced to their children in a tender age.

DE: What do you think of those in the 3rd world countries, how would they participate in this fast moving digital world when they do not even have the basic IT.

David: I know it's not going to be easy. However, that's the reason why the role of the government is important. Policy makers or decision makers need to take quick action.

The government needs to check whether they have enough budget, whether they have qualified teachers, whether they are building the right system for the future. The parents also need to be well informed on this. Parents need to find out from other already-anticipated with the new phenomena.

I believe the role of journalists is important also, because they need to let the people know what is going to happen in the future sooner than later. There are so many things to prepare for the future.

Yes, I know well that developing countries will need a lot of preparations. However, that's the reason why it's going to be important to talk to people about this, continue to let people know about digital age, pretty much in every media.

Educating teachers or finding right teachers is going to be vital to secure the future of our children.

It's going to be tragic if our children learn something unrelated to the future and later they find out what they learned is actually useless in the future. All those subjects such as math, science, technology, coding are simply important. Have a right curriculum, try to find good teachers (not only educating them), secure the right budget, collaborate with foreign partners who know well about these subjects, and so on.

Believe me, there are always right people or human resources, and that you need to know how to make good use of them.

DE: What is the latest innovation in Korea that soon to be known to the world?

David: I wouldn't say Korea is the leading country for innovation or things like that. However, we are trying our best to be on par with some other advanced countries such as Japan.

Look at 'Global Information Technology Report 2016' published by World Economic Forum. The most digital savvy countries in the world are Japan, Luxembourg, UK, Switzerland, Netherlands, USA, Norway, Sweden, Finland, and Singapore.

Korea is doing its best to catch up. So we need to look at these countries to learn, to absorb, to understand what the new trends are going to be.

In Korea, 5G is emerging quickly, everything has become on-line, thanks to the strong Internet, and I can tell you there are many 'world-first' things in Korea. However, it's not absolutely important to be world first; it's going to be more important to know how to use them to benefit our daily lives.

They are now (Koreans) working on driverless cars, robots with AI, 5G, smart farm, smart factory, smart city, etc., trying to build a system for the 4th industrial revolution age.

In fact, the world MP3 player was invented in Korea in 1998 by one startup. VoLte, or Voice over Long Term Evolution was also invented in Korea for the first time in the world in 2012. Voices were transmitted in the network separate from the network for data prior, but through this VoLte, voices are transmitted in the data network together with data. However, what I want to emphasise is that being the world first is not as important as being the one who takes full advantage of it by accepting it into the current system and popularising it in every walk of life.

Let's look at the world. Let's look at what other fellow countries are doing. We need to be well-informed of all those changes that are going to happen.

The workshop was organised by Asian Productivity Organization (APO) in helping to disseminate latest information on productivity, innovation and creativity. Apart from the workshop, participants from various Asian countries were also exposed to visiting Cyberdyne Studio in Tsukuba, Ibaraki prefecture neat Tokyo.

Cyberdyne is a robot manufacturer established by a professor, Dr. Yoshiyuki Sankai of University of Tsukuba, Japan, in order to materialize his idea to use robot suit in the field of medicine, caregiving, welfare, labour, heavy works, to ease and in giving benefits to the people. With this new innovation, it has helped solved many problems that humankinds are not able to perform due to the limitation.

Cyberdyne is an example of a company creating products that are useful and practical for the usage in the 4th industrial

A robot by the Cyberdyne Company in Japan.