



petitions. Yet, several academic measurements, including the PISA test [an evaluation of education systems launched in 1997 by the OECD and used by more than 70 countries worldwide], still show that Thai students on average are very poor in sciences and mathematics.

"That has alerted the authorities, including the IPST and the Ministry of Science and Technology, making us realise that we really needed to do something, and one thing is to change the learning format in the school system."

Dr Pornpun explained that scientific knowledge should not come mainly from textbooks.

With guidance from teachers, students should learn sciences in a hands-on way, with experiments and an integrated, project-based approach. Meanwhile, IPST has also invested heavily in co-producing science shows on television, seeing that it's significant to present science to the masses in an "edutainment" form.

"Today, television plays a very important role in delivering knowledge to people because it reaches every household. Shows like *Sci-Fighting* [co-produced by Work Point and IPST, and mostly viewed by schools upcountry] are good examples of inspiration and opportunity in science learning that's been expanded to students in rural areas," Dr Pornpun said.

The increasing popularity of science TV programming is also widening the circle of role models for Thai kids, which is usually seen as limited to actors and singers. Thanks to this on-screen evolution, the experts who work in the lab or tinker with gadgets are now considered "cool".

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*Mega Clever*, the first in this wave, was a smash hit when it first aired on Modern Nine TV in 2006. It was co-sponsored by the National Science and Technology Development Agency (NSTDA) which then had a mission to create public awareness that science is a matter of daily life. The content reflected this, targeting audiences of any age and gender. The German science programme's prime-time ratings ended up being as high as soap operas which



The 10-minute *Young Scientists* show is aimed at kindergarten children.



*Sid The Science Kid* is an award-winning educational animated TV series.

it aired against.

The programme ended few years ago, but was brought back again in the middle of this year. Other television programmes about science and technology have since been broadcast on free TV channels including Thai PBS.

NSTDA's Media Division team later produced the *Baan Nakwittayasat Noi (Young Scientists)* programme, initiated by HRH Princess Maha Chakri Sirindhorn, which was broadcast on Thai PBS every Sunday morning. The team developed the story and designed the characters, animation and experimental process based on the German content. Targeting kindergarten pupils, the 10-minute programme's content was about the simple science that is all around in two parts, science animation for the first three minutes, and seven minutes devoted to the real experiments with children's participation.

According to NSTDA Science Media division director Kritsachai Somsaman, the programme encouraged children to think and work the way scientists do by building on the kids' curiosity, inspiring them to think and figure out solutions by themselves through the experiments. The programme also won the animation category at the Manee Mekkhala Awards last year. A second season of *Young Scientists* is a work in process.

"Science comprises two major parts, which are the scientific method, and the content, which is the consequence of the scientific method. However science learning in Thailand has been mistaken in focusing more on the content rather than the scientific method," said Namchai Chewawiwat, NSTDA Science Media division's deputy director.

Good scientists must not believe in something without being open to changing their minds, but always study and accept new information that accords to the scientific method encompassing observation, assumption, verification and conclusion. The *Young Scientists* programme deals with these practices.

Besides the *Young Scientists* programme, NSTDA is going to create a show by applying the *Xvolution* board game, developed by the team at NSTDA's Science Media. The programme aims for audiences to enjoy learning about dinosaur fossils in Thailand in the form of game show.

Although the first season of *Young Scientists* recently ended, other science-heavy shows by NSTDA, including *Sawasdee Saravit (Hello Science)* that takes the audience to events throughout the country; *Jaxa Aerospace Mission, Hubblecast* that helps solve galaxy evolution mysteries, and *Science Guide*, a travel

show with science, can be viewed on internet TV at nstdachannel.tv, where a great deal of science and technology content is available for 24 hours a day.

Dr Pornpun believes this increased availability and access complements the IPST's main mission, which is to improve the quality of science and technology teaching. She says the institute is not only focused on students' academic achievements but also improving thinking among the mass audience.

"It doesn't mean that you have to be scientifically rational only if you want to work in a field of science, because it's an essential living tool. Scientific knowledge will make you think logically and that can be applied to everything in your life," Dr Pornpun says.

She believes that there is an art to making people interested in the subject since sciences in their pure forms can be difficult to understand.

"At the end of the day people would prefer entertainment," she says.

Weerana Oranraktham, the executive director of Thailand Content Broadcasting Network (TCBN) which produces several educational programmes including *DeScience* on Mahidol Channel, agreed. "There are three factors that we have to keep in mind when making a science-based show. First, the content must be relevant to the audience's life. Second, it must be entertaining. And third, it must be easy to understand. I personally think that some dramatic touch will help make science more catchy and pleasurable."

The veteran TV producer said that the positive developments in Thai TV content proved that Thailand can produce shows that are as popular as they are educational. However, she sees herself "in a battle with junk programmes" — shows that mislead audiences and aim solely to suck money out of their pockets.

"It would be very nice if we had a news programme in which journalists and scientists discuss current news issues together. There are many science scholars who are also a good entertainers and able to explain to audiences the real cause and effect of each event from their scientific point of view," said Weerana.

NSTDA's Namchai added: "Our ultimate goal is to have people decreasingly responding to nonsense matters, have them understand that natural matters are common, a flower growing in the middle of banana tree is just a genetic disorder, nothing supernatural so people

need not worship."

At the moment Thai PBS, together with NSTDA, is working on a reality show that centres around science. Thai PBS programmes bureau director Suwit Sasanapichit explains the philosophy behind the collaboration: "To be a knowledge-based nation, as opposed to an emotion-based society, we need less money-driven media and more science-orientated programmes.

"Because science is a truth-seeking process based on experimentation, it is verified knowledge. More science programmes on TV mean more chances for all kids in Thailand to be rationally sound and for the country to have a better future."

To create a science-based society and improve the academic quality of our youth requires support from government, the community, the school system and the family.

"Even though kids today have a lot more channels to further their knowledge, whether it be the television, internet, science camps, museums or even their surroundings, they still need someone to guide them through the learning process," Dr Pornpun said.

"One of the easiest ways is for parents to watch television programmes with them and teach them what's scientifically valid and what's not."

Besides educating young minds and curious adults, authorities also hope to establish a new batch of academic role models. Science TV programmes are one way to change this, and ensure kids have broader alternatives.

"We are building new role models for society, to have people comprehend that jobs in science are fun and there is something more than what they have seen," said Namchai of NSTDA.

#### Some science-based educational programmes for kids on free TV that are currently popular:

**Modern Nine** ● *Sci-Fighting*  
● *Mega Clever*

**Channel 11** ● *Sanuk Kid, Sanuk Wit*

**Thai PBS** ● *Kid Wit Adventure*  
● *iSci*  
● *Sid The Science Kid*