

Hong Kong's first secondary school takes on 'big history': the inter-disciplinary education approach

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Course enables students to trace the history of mankind by looking at what science, geography, biology, archaeology and other disciplines have found, beginning from the Big Bang

Most, if not all, of us must have asked ourselves what we are here for. People have different answers, depending on their outlook on life. Putting aside any ideological perspective, history professor David Christian has created a course that addresses an even more fundamental question – what are we part of?

For 25 years he has been teaching the “big history” course at Macquarie University in Sydney. The course focuses on the history of the universe. It so impressed multibillionaire Bill Gates that he provided support to create the Big History Project website (bighistoryproject.com [1]) dedicated to the course and accessible to schools around the world. It enables students to trace the history of mankind by looking at what science, geography, biology, archaeology and other disciplines have found, beginning from the Big Bang dating back to 13.8 billion years ago. Big history is now available to high school and university students, albeit at different levels.

The high flexibility of the course and its easily customised content allows it to be delivered to students at different levels. Hundreds of schools are now teaching it to their students. Combined with the recent launch of the Macquarie University Big History: Connecting Knowledge massive open online course (MOOC) on Coursera (coursera.org/learn/big-history [2]), now almost anyone with access to a computer can take big history. A scholarship is opened to international students who have completed the MOOC course and want to pursue undergraduate studies at the Australian university.

An Oxford trained specialist in Russian history, Christian was born in the US, and educated in Britain and Canada. Few would have expected him to delve into the starkly different field of science but, in the 1980s, he made the leap from just covering 200 years of Russian history to the whole history of mankind, which he said inevitably called for answers on the origin of species and the planet.

“It’s a simple piece of logic that persuaded me that if we are to understand the role human beings have played on this planet we [need an] overall conception of the history of the universe on the whole,” he says.

“What we are doing is simply putting together the different stories from scientific disciplines that tell us about the past,” he adds, calling the distinction between science and humanities “overrated”. “One of the big problems about education today is we create audits between different forms of knowledge.”

Big history is a wonderful way of helping students to see the connection between different areas of modern knowledge, he believes. It has become a rising area for interdisciplinary research and knowledge base. In 2012, Macquarie University set up the Big History Institute to further research, educational endeavours and teacher training in the area.

As director of the institute, Christian built up his own science knowledge through extensive reading of good literature written by cutting-edge scientists aimed at the general readers.

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Paul Chu heads the HKCCCU Logos Academy, the first local school that has introduced the course to its students.

He does not expect students to believe totally what he has uncovered. The course is designed, after all, to foster critical thinking. “We require everyone to understand what science says, what it says is the evidence, that’s how science works, not dogmatic.”

Students are told, however, about the “massive evidence” for evolution. Christian says in the 21st century it is important for the young generation to know enough about modern science. “If we don’t understand how our world evolved, that’s potentially very dangerous because we control so much power; if we don’t fully understand the power that we control that is very dangerous indeed.”

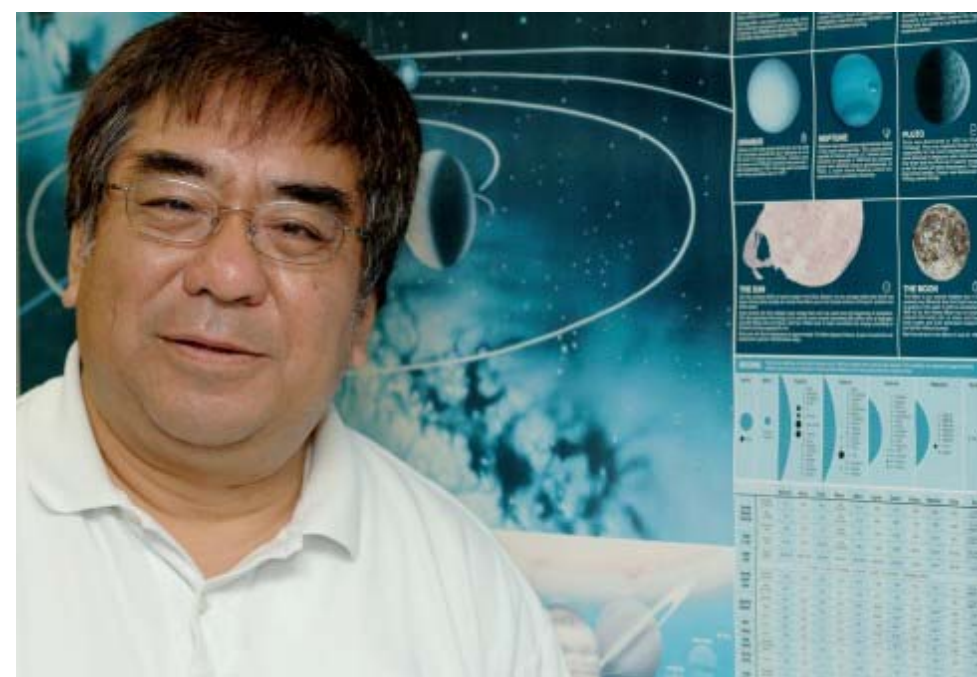
HKCCCU Logos Academy is the first local school that has introduced the course to its students. During the summer about 60 of its Form Two students took it online at home on a voluntary basis, after a brief face-to-face introduction by their teacher. The students spent a total of 45 hours on it and were motivated to find out more about the world, says principal Dr Paul Cho Hee-chuen, himself a physicist. “We want our students to be aware of different perspectives, be independent thinkers and judge for themselves what to believe in.”

But a packed curriculum makes it hard for schools to teach the course during regular time. Often neither is it feasible to add it to the schedule of senior students who are under heavy examination pressure.

p>Planning to roll out the course next year, the Chinese Foundation Secondary School is targeting junior form students. Its teachers have been engaged in discussion over how best and how much to teach them. The course materials are set to be put on the school's iCloud where additional knowledge gathered by its teachers is being stored.

p>“We may incorporate it into some subjects or offer it as a separate project for those who are interested. The course covers a lot of global perspectives and can help students become more self-directed in their learning,” says Dickson Ho Tik-shun, a science and biology teacher at the school.

He expects other benefits, too, besides an active learning attitude. “Students exposed to the course can bring new ideas to their class or school activities. It will enrich their experiences.”



Sun Kwok of the University of Hong Kong, which has offered a big history course since 2012, supports study that gives people a full understanding of human society and the universe.

At the University of Hong Kong, big history has been offered since 2012 as an elective to non-science majors, taught by lecturers rather than as a virtual course. HKU's science dean Sun Kwok describes the interdisciplinary offering as a “global movement”. “Universities and schools worldwide are promoting such kind of education that involves a macro-style teaching, combining disciplines of science and humanities,” he says.

Like Christian, who is due to give a public lecture at HKU next month, he supports study that gives people a full understanding of human society and the universe. “Nothing in this world is isolated from others. Climate change, for example, is caused by a number of factors.”

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Links

[1] <http://bighistoryproject.com>

[2] <http://coursera.org/learn/big-history>