17
Constructing a Survey Big History Course

Cynthia Stokes Brown

Abstract

This article provides an overview of the decisions to be made in constructing a survey Big History course, whether done individually as a sole instructor or collaboratively with a group of interdisciplinary instructors. Topics covered include choosing a title, choosing a textbook, clarifying student learning outcomes, sequencing the topics, and choosing activities and assignments. The faculty's experience at Dominican University of California is used as an example of collaboration.

Keywords: *survey Big History course; collaboration.*

Those of us who founded the International Big History Association have a dream: that of transforming the content of education worldwide by engaging students in learning Big History. For students, this story provides a framework for all their studies, a transformative understanding of history, and a means for grasping the immense challenge of our time – how to achieve sustainability. For faculty, knowing this story unites all disciplines and enables knowledge and ideas to flow freely within universities.

For faculty to begin to teach Big History, they must eventually come to the concrete task of constructing a syllabus for such a course. In this paper I want to discuss how this might be done. First, I will describe the process from the point of view of a sole faculty member attempting to teach Big History, followed by how the process looks if it is done in collaboration with a group of faculties from several disciplines.

As a Sole Instructor

A single person within any department or discipline who wants to teach Big History must decide first whether to teach it with or without explicit permission from higher authorities. This involves whether to start a new course with a new title or to use an existing course and title. It also entails whether to construct the course in one or two semesters. If one has explicit permission from some department or interdisciplinary program, then one can use the title 'Introduction to Big History'. If one does not have explicit permission and is in the history department, an easy route is simply to use the title 'World History' and add the cosmos, solar system, and evolution of life while condensing human history. Those in

science departments often use some variation of 'Epic of Evolution' or 'Cosmic Evolution' for a title. Here are further examples of titles that have been used by Big History professors: 'Global Past, Global Present: From the Big Bang to Globalization', 'Big History from the Big Bang to the Blackberry', 'Zoom: A History of Everything', 'Introduction to World Civilizations', and 'Whole Earth History'.

A second step entails choosing a textbook or constructing a reader, if one chooses that route. Until the summer of 2013, choosing a textbook proved difficult; there was none formatted specifically as a college textbook. In August 2013, McGraw-Hill published the first one, written by David Christian, Craig Benjamin and myself, entitled *Big History: Between Nothing and Everything* (Christian *et al.* 2014). This book is laid out with an introduction and thirteen chapters to be covered in one semester or in two, if one wishes to expand each chapter by adding supplementary speakers and materials. Other likely books to use as texts or supplements are: Christian (2004, 2011), Brown (2007, 2013), Spier (2010), or Chaisson (2006).

The usual next step in developing a syllabus would be deciding what the objectives, or student learning outcomes (SLOs), should be. This crucial step is sometimes postponed to the end of syllabus design, but tackling it near the beginning gives clarity and saves revisions. The sequence of topics and assignments must flow from being clear about what students are expected to do in order to demonstrate their learning from the course.

Big History instructors commonly use SLOs such as these formulated by Kevin Fernlund at the University of Missouri, St. Louis (personal communication):

1. Comprehension of the major developments in the history of the universe, and how we think about and imagine the universe, from the Big Bang to the present. Assessment: quizzes and final exam.

2. An understanding of Big History themes addressed in the course through defining, explaining, and/or analyzing them. Assessment: field exercises, reader's responses, and two logically and coherently organized essays written in university-level Standard English and crafted through a process of drafting, revising, and editing.

3. The ability to locate and evaluate appropriate secondary sources, and extract and synthesize research; additionally, students must demonstrate appropriate summarizing, paraphrasing, and quoting in accordance with standard documentation styles, for example, *The Chicago Manual of Style* or Turabian Assessment: The documentation of the two papers.

After the SLO's have been clearly stated, the sequence of topics can be laid out over the calendar of one or two semesters. Here one has

many choices – to follow closely the textbook, to modify its pace somewhat to add one's own interests, or to devise one's own sequence of topics and assign the text as it fits the topics.

In a survey of 13.8 billion years, one major question is how much time to allocate to history before the appearance of humans and how much after. Scientists may teach the course with humans appearing rather briefly at the end, as befits the actual proportion of our time here. On the other hand, world historians who focus on human history may briefly add a few weeks of astronomy, chemistry, geology, and biology to the beginning of their world history course.

In the new textbook, we have chosen to emphasize human history, with a substantial portion on the cosmos, Earth, and life history. Our textbook uses the first three chapters to describe evolution up through the common ancestor of chimpanzees and humans. Chapter 4 covers the development of *Homo sapiens* and the Paleolithic era, followed by eight more chapters on human history and a final one on the future of humans, Earth and universe. In sum, three chapters out of twelve, or one-fourth of the total, are devoted to science, with three-fourths to human history (Christian *et al.* 2014).

At the same time, our textbook uses a device called 'thresholds' for organizing the vast scales of history. We see an overall pattern of increasing complexity so far, with new properties emerging at certain periods of time that we call 'thresholds'. We view the whole of history through eight main thresholds, namely: 1) the Big Bang; 2) birth of stars; 3) death of stars; 4) emergence of solar systems; 5) emergence of life; 6) emergence of modern humans; 7) emergence of agriculture; and 8) modern industrialization. These thresholds make sense of the story and give students and instructors a handle on which to grasp. Of the eight thresholds, only the last three pertain to human history. This helps students put human history into something closer to the proper perspective, even as our textbook devotes multiple chapters to describing human activities.

After sequencing the topics, the beginning Big History instructor may decide to invite guest lecturers in areas beyond his/her own reach. Even experienced instructors choose to do this if time and resources allow, for it enlivens the course and expands everyone's knowledge.

After sequencing topics, an instructor is also faced with decisions about what kind of assessment and assignments to make. These may include assigned readings, reader's responses, quizzes, mid-term and final exams, short and long papers, power point presentations, or other productions. For a final, written paper many Big History instructors have found effective an assignment called a 'Little Big History'.

This idea for this assignment originated with Esther Quaedackers in 2006–2007, as she was teaching Big History with Fred Spier at the Uni-

versity of Amsterdam. Spier came up with the name for it. In the assignment each student is asked to choose an everyday object that is special and meaningful to them and to trace its development back to the Big Bang (or from the Big Bang to the present). If using the textbook, *Big History: Between Nothing and Everything,* this would entail taking the chosen object through each of the eight thresholds.

Students have amazed their instructors with the range of objects they choose to write about. One high school student wrote an insightful paper about the Little Big History of Cheez-its. Students at Dominican publish their best papers in an on-line journal, 'Thresholds', which contains student essays on green tea, body art, cars, yoghurt, flip flops, iPhones, and South Korea. By offering students a choice of a topic specific and dear to them, instructors can help their students personalize and make concrete the otherwise enormous abstractions of Big History.

In designing any syllabus, one must make at least preliminary decisions about how to present the material. Will the instructor lecture with power point presentations most of the time? Will students be expected to read the text and discuss it in class? Will students present material? Lead discussions? Engage in other activities? These are the usual decisions; they vary depending on size of class, level of students, instructors' preferred modes, *etc*.

Before concluding a syllabus in Big History, one may want to consider how to deal with the conflict between religious faith and scientific information that will arise for a varying proportion of students. In many classes a wide range of student belief systems will exist, for example, in regard to the central idea of evolution, from little or no knowledge of it and little or no acceptance, on the one hand, to much familiarity and full acceptance on the other.

One can choose one of two strategies, or something in between. One can say that there is so much content to cover in class that students can discuss the religious and ethical issues outside of class and in other campus venues. Or one can allocate some, or much, time for class discussion of these issues and can find ways to engage students in leading these discussions.

However one allocates class time for these discussions, one can explain that students need to understand the Big History story as one possible origin story. It is the one that their culture is currently based on; it provides the framework for their university studies; and it provides the trans-disciplinary skills needed by employers – three good reasons for knowing it. This course is designed to help them know and understand the modern scientific origin story, but only they can decide whether they want to believe it. One can assure them that one is not attempting to change their religious beliefs, only to help them think about the big

questions in a more informed, nuanced way. They can reject the reality of evolution, or they can accept it and add religious beliefs to the story, as they wish. The scientific origin story will change as the quest for knowledge continues.

It may be appropriate to remind students that reflecting on the big questions of human existence is what a liberal education is about. Being exposed to new ideas that conflict with old ones is supposed to happen during the university years. These questions cannot be resolved during one or two courses; they provide a lifetime of reflection and participation in the on-going human conversation about what is real and what is really important. In a Big History class students can practice conversing with people with whom they disagree – a skill not easy to learn but a necessary one if a democratic society is to succeed.

As an Instructor Collaborating with Others

To describe how multiple instructors can collaborate in designing a Big History survey course, I must rely on my experience at Dominican University of California, since 2010 the first university in the world to require all its freshmen to take two semesters of Big History. Since Dominican has about 275 incoming students each fall and small classes of about 20 students, it needed to have 12–18 professors from multiple disciplines prepared to teach these courses.[1]

In a nutshell, this happened at Dominican when the faculty decided to revamp the two courses of its Freshman Year Experience. Leading faculty members were familiar, through the university's Catholic heritage, with the call of the Catholic priest and university professor, Thomas Berry, for the story of the universe as the proper foundation of the college curriculum (Berry 1999).

Led by Mojgan Behmand, an English professor, the faculty in January of 2010 voted to implement two semesters of Big History as the common intellectual experience for all freshmen. In order to begin these courses in the fall, the administration funded a summer institute of seven days, in which the faculty could prepare itself for the challenge of teaching such material (Behmand 2012–2013).

Even before the institute, leaders made two key decisions: first, the survey course would be one semester and in the second semester students would choose a discipline of interest to them to examine through the lens of Big History. This would provide a review of Big History tied more closely to students' own interests. Second, faculty would teach the first semester's survey course from a common syllabus that they would design collaboratively at the first summer institute and would revise annually at following institutes.

[1] See the Big History website at Dominican University of California. URL: http://www.dominican. edu/academics/bighistory.

Almost 30 people attended the first summer institute in 2010, including several librarians, one biologist and faculty from history, art history, English, religion and philosophy, women's and cultural studies. The major content of Big History was presented and discussed, along with a draft syllabus, which the participants re-worked until they could all agree to use it, with minor individual tweakings to reflect each instructor's interests and knowledge.

For the first year of instruction the Dominican faculty chose to use both Christian (2004) and Brown (2007), since neither seemed quite right – the former too advanced for many of their students and the latter too slight for a semester's work. By 2011, the faculty could use a Preliminary Edition of *Big History: Between Nothing and Everything* as a text more appropriate for its students and, as an added benefit, as a way to provide invaluable feedback to its authors for the final revisions of the first edition.

The Dominican faculty felt that it had to include some skill components, such as writing and library use, in the Big History survey course along with all the content. It revised and clarified the chosen SLO's at every summer institute; here is the 2012 version:

Students will:

1. Employ major Big History concepts and the eight Big History thresholds from the Big Bang to the present in developing a perspective that emphasizes a view of themselves as embedded in the fabric of an interconnected world. Assessment: Little Big History paper written in university-level Standard English and crafted through a process of drafting, revising, and editing.
2. Demonstrate an understanding of Big History themes addressed in the course through identifying, defining, explaining, and/or analyzing them. Assessment: a mid-term and a final exam.
3. Demonstrate the ability to locate and evaluate appropriate secondary sources, and extract and synthesize research; while summarizing, paraphrasing, and quoting in accordance to the MLA, APA, or CMS documentation styles. Assessment: two library exercises and Little Big History paper.

When laying out topics on the semester's calendar, the Dominican faculty decided to devote almost half the time to science topics – six of thirteen weeks. They condensed the time spent on covering the agrarian civilizations by sampling only some of them. The fourteenth week they devoted to review and the fifteenth to the future, a favorite part of the course for students.

At Dominican, instructors have found that many students need to engage in concrete activities in order to assimilate the abstract ideas. Since instructors have shared at summer institutes the activities they

have devised, the course now features several key common activities, such as mixing the ingredients of bread to illustrate the idea of emergent properties, circling around outside in a grassy area to re-enact the accretion of planets around the Sun, and examining plastic mini-skulls of hominines and *Homo sapiens*. Outside of class students enjoy a night of stargazing organized by the San Francisco Amateur Astronomers; this proves to be a significant experience for many who have little or no experience looking at stars.

Faculty collaboration continues to be at the heart of Dominican's program, both for learning the content of Big History and for sharing pedagogical ideas and activities. The fourth summer institute took place in June 2013; lunch meetings are held weekly in the fall semester and bi-weekly in the spring. A day's retreat usually occurs at each semester's end. The faculty has found this collaboration to be the most engaging and helpful professional experience of their careers.

Outcomes

What do we really hope our students will take away from their Big History courses? We put down as learning outcomes something along the traditional lines that we can document – that students will be able to pass exams on a body of knowledge and that they will exhibit writing and analytical skills in a research paper.

Yet based on our teaching experience we have come to expect much more than this. We expect that their Big History course will be a transformative experience for many students, meaning that they will come out of it perceiving their everyday world, both natural and cultural, in new ways and will be able to act in new ways. Long-term assessment studies to document this transformative experience are underway at Dominican and Macquarie, but the short-term surveys and anecdotal evidence for this are already overwhelming.

Students are not the only ones affected by Big History. Instructors find that its large-scale insights change the way they teach other courses. For example, when history professor Martin Anderson taught his course, '20th Century Global History', he de-emphasized the political history and emphasized the environmental history. Many instructors feel they could hardly have taught their Big History courses without the built-in collaboration, which has made these courses for many the most enjoyable teaching experience of their career.

Even the institution itself has not remained immune to the effects of Big History. The librarians have had to learn about a new category of books and visuals. Students have begun to ask new questions in their other classes. Advisors must explain what Big History is. The staff wants to understand Big History. Dominican's president views Big History as the intellectual frontier of the twenty-first century and uses it to

help define the institution's identity. At the very least, the idea that science and the humanities can be combined into one story has become familiar across the campus.

The dream of a worldwide revolution in educational content comes true one course at a time. Although universities are bound by traditions and firmly divided by divisions and disciplines, there are always individuals in any department who by nature think holistically across the whole range of human knowledge. These individuals are gradually becoming more able to introduce large-scale, interdisciplinary courses into the curriculum as challenges from the world outside of academia demand them. Big History is the ultimate interdisciplinary course – the core of a liberal arts education in one course, featuring humans as a unified group. What could be more appropriate for today's global world?

I must conclude by saying that both scientists and historians increasingly realize that humans have only a very short time – possibly five years – to reduce drastically the CO_2 we are pumping into the atmosphere and the pollutants we are discarding into the environment, or our civilization is toast. Only a Big History survey can help us and our young people understand how we got into this dilemma and can energize us all into action.

References

Behmand M. 2012–2013. Sin Boldly! Or First Year Experience 'Big History' in 21st Century Liberal Education. *Thresholds: A Journal of Faculty and Student Publications on Big History*. Vol. 1. URL: http://www.dominican.edu/academics/bighistory. Date accessed: 22.5.2013.

Berry T. 1988. The American College in the Ecological Age. *The Dream of the Earth*. San Francisco: Sierra Club Books.

Berry T. 1999. *The Great Work: Our Way into the Future*. New York, NY: Bell Tower/Random House.

Brown C. S. 2007. *Big History: From the Big Bang to the Present*. New York, NY: New Press.

Brown C. S. 2012. *Big History: From the Big Bang to the Present*. 2nd edition. New York, NY: New Press.

Chaisson E. 2006. *Epic of Evolution: Seven Ages of the Cosmos*. New York, NY: Columbia University Press.

Christian D. 2004. *Maps of Time: An Introduction to Big History*. Berkeley, CA: University of California Press.

Christian D. 2011. *Maps of Time: An Introduction to Big History*. With a New Preface edition. Berkeley, CA: University of California Press.

Christian D., Brown C. S., and Benjamin C. 2014. *Big History: Between Nothing and Everything*. New York, NY: McGraw-Hill.

Spier F. 2010. *Big History and the Future of Humanity*. Oxford, West Sussex, and Malden, MA: John Wiley & Sons.